MID-CURRITUCK BRIDGE STUDY

REEVALUATION OF FINAL ENVIRONMENTAL IMPACT STATEMENT STUDY REPORT

March 6, 2019

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STIP No. R-2576
Currituck County
Dare County

US Department of Transportation
Federal Highway Administration

North Carolina Turnpike Authority
a Division of the North Carolina Department of Transportation

Table of Contents

Table of Contents (continued)

Table of Contents (continued)

Table of Contents (concluded)

List of Figures

List of Tables

REEVALUATION OF FINAL ENVIRONMENTAL IMPACT STATEMENT

1.0 Introduction

The North Carolina Department of Transportation (NCDOT), in cooperation with the Federal Highway Administration (FHWA), is evaluating proposed transportation improvements in the Currituck Sound area, including construction of a Mid-Currituck Bridge.

This reevaluation of the Mid-Currituck Bridge Study Final Environmental Impact Statement (FEIS) considers changes that have occurred in the project setting, travel demand, area plans, laws and regulations, and other information or circumstances since the approval of the FEIS in January 2012. It considers whether the FEIS and its Preferred Alternative decision remains valid or whether additional analysis, such as a supplement to the FEIS, is necessary to advance the Mid-Currituck Bridge project to the next stage, the preparation of a Record of Decision (ROD).

As indicated in Title 23 of the Code of Federal Regulations 771.129(b), a written evaluation of a FEIS is required before further approvals may be granted if major steps to advance the action (e.g., authority to undertake final design, authority to acquire a significant portion of the right-of-way, or approval of the plans, specifications and estimates) has not occurred within three years after the approval of a FEIS. Although project development activities have been on-going since the FEIS was approved in January 2012, the ROD has not been approved. As such, this reevaluation has been prepared to meet FHWA requirements.

FHWA regulations state that an EIS shall be supplemented whenever the Administration determines that: (1) Changes to the proposed action would result in significant environmental impacts that were not evaluated in the EIS; or (2) New information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS (23 CFR 771.130[a]). The regulations also state that a supplemental EIS is not necessary where changes result in a lessening of adverse environmental impacts (23 CFR 771.130[b]).

1.1 Project Description

The proposed action is defined as a bridge across Currituck Sound from the mainland to the Outer Banks. A bridge across Currituck Sound is a part of the Preferred Alternative identified in the FEIS. The proposed action is included in the North Carolina Department of Transportation's (NCDOT) *2018 to 2027 State Transportation Improvement Program* (STIP) (August 2017) as project R-2576.

1.2 Alternatives

In addition to the No-Build Alternative, the FEIS considered the following detailed study alternatives described in Section 2.1.2 of the FEIS:

- ER2, which was developed to achieve maximum transportation benefits using the existing roadways, while minimizing impacts to communities along those roads.

- MCB2, which was developed to examine the travel benefits of combining a Mid-Currituck Bridge with substantial NC 12 and US 158 improvements.

- MCB4 which was considered to identify the extent to which network congestion and travel time could be improved, as well as other associated benefits, if only a Mid-Currituck Bridge were built.

- Two options for ending the Mid-Currituck Bridge on the Outer Banks: Corridor C1, which would end at the southern end of Phase I of the Corolla Bay subdivision (included in the Preferred Alternative) and Corridor C2, which would end approximately 0.5 mile south of the Albacore Street retail area.

- Two options for the mainland approach to the bridge: Option A, which would place the toll plaza with the US 158 interchange and bridge Maple Swamp and Option B, which would cross Maple Swamp on fill and place the toll plaza in Aydlett.

- Various options for improving hurricane clearance times: The Preferred Alternative included on the mainland, reversing the center turn lane on US 158 between the US 158/Mid-Currituck Bridge interchange and NC 168 and on the Outer Banks adding approximately 1,600 feet of new third outbound lane to the west of the NC 12/US 158 intersection. ER2 included, for evacuation use only, a third outbound evacuation lane on US 158 between NC 168 and the Wright Memorial Bridge.

The characteristics of the FEIS Detailed Study Alternatives, including the options considered with each alternative, and the Preferred Alternative are illustrated in Figure 2-1 to 2-11 of the FEIS. The Preferred Alternative was MCB4 with bridge Corridor C1 and Option A.

As noted above, this reevaluation considers whether the FEIS and its Preferred Alternative decision remains valid. To accomplish this, it focuses on the assessment of the Preferred Alternative and ER2. The other detailed study alternatives are not revisited for the following reasons:

- MCB2: As indicated in the October 2010 *Preferred Alternative Report*, MCB2 was not carried forward because it had the most impacts, had little public support, and could not be funded at that time. It essentially consisted of building both MCB4 (selected with refinements as the Preferred Alternative) and the NC 12 and US 158 improvements in Dare County included in ER2. It was noted that should the ER2 improvements included in MCB2 and not in the Preferred Alternative be pursued in

the future, they could be built without additional impact over that defined for the Preferred Alternative and ER2. The reasons for not pursuing MCB2 remain valid.

- Corridor C2: As indicated in the October 2010 *Preferred Alternative Report*, Corridor C1 was included in the Preferred Alternative rather than Corridor C2 because:
  - It is the shorter of the two corridors.
  - It would be the furthest from the marsh islands in Currituck Sound.
  - It would have lower impacts to submerged aquatic vegetation (SAV) and potential SAV areas.
  - It would affect no Coastal Area Management Act (CAMA) wetlands.
  - It would avoid terminating the bridge and bringing its traffic onto NC 12 in an area with an existing concentration of traffic going to and from retail businesses.

  These findings remain valid because there has been minimal change in the natural and community characteristics of the part of the project area that includes Corridors C1 and C2 since the FEIS was approved.

- Option B: Option A was chosen over Option B because it would have lower natural resource and hydrologic impacts and it would have lower community impacts. Environmental resource and regulatory agencies, public comments, and Currituck County preferred Option A for these reasons. These findings remain valid because there has been minimal change in the natural and community characteristics of the part of the project area that includes Options A and B since the FEIS was approved.

The design of both the Preferred Alternative and ER2 are being revisited because updated design year (2040) traffic forecasts are lower than the design year (2035) forecasts used in defining the Preferred Alternative and ER2 in the FEIS. The lower forecasts allow the travel benefits offered by each alternative to be achieved with fewer improvements, potentially reducing the cost and potential environmental impact of both alternatives. Thus, a revised comparison of these two alternatives is appropriate. Finally, the No-Build Alternative is redefined based on the 2018 to 2027 STIP (August 2017).

1.2.1 No-Build Alternative

The No-Build Alternative assumes that the proposed project would not be implemented. The No-Build Alternative consists of the existing road system and notable projects within or near the Mid-Currituck Bridge project area, which are funded for right-of-way acquisition and/or construction in the STIP's 10-year planning horizon.

1.2.1.1 No-Build Alternative Defined in the FEIS

The No-Build Alternative in the FEIS includes the following projects listed in NCDOT's 2009 to 2015 STIP within or near the project area. These projects were reasonably

foreseeable planned improvements and were expected to occur independent of the alternatives being assessed for the Mid-Currituck Bridge project. The projects were as follows:

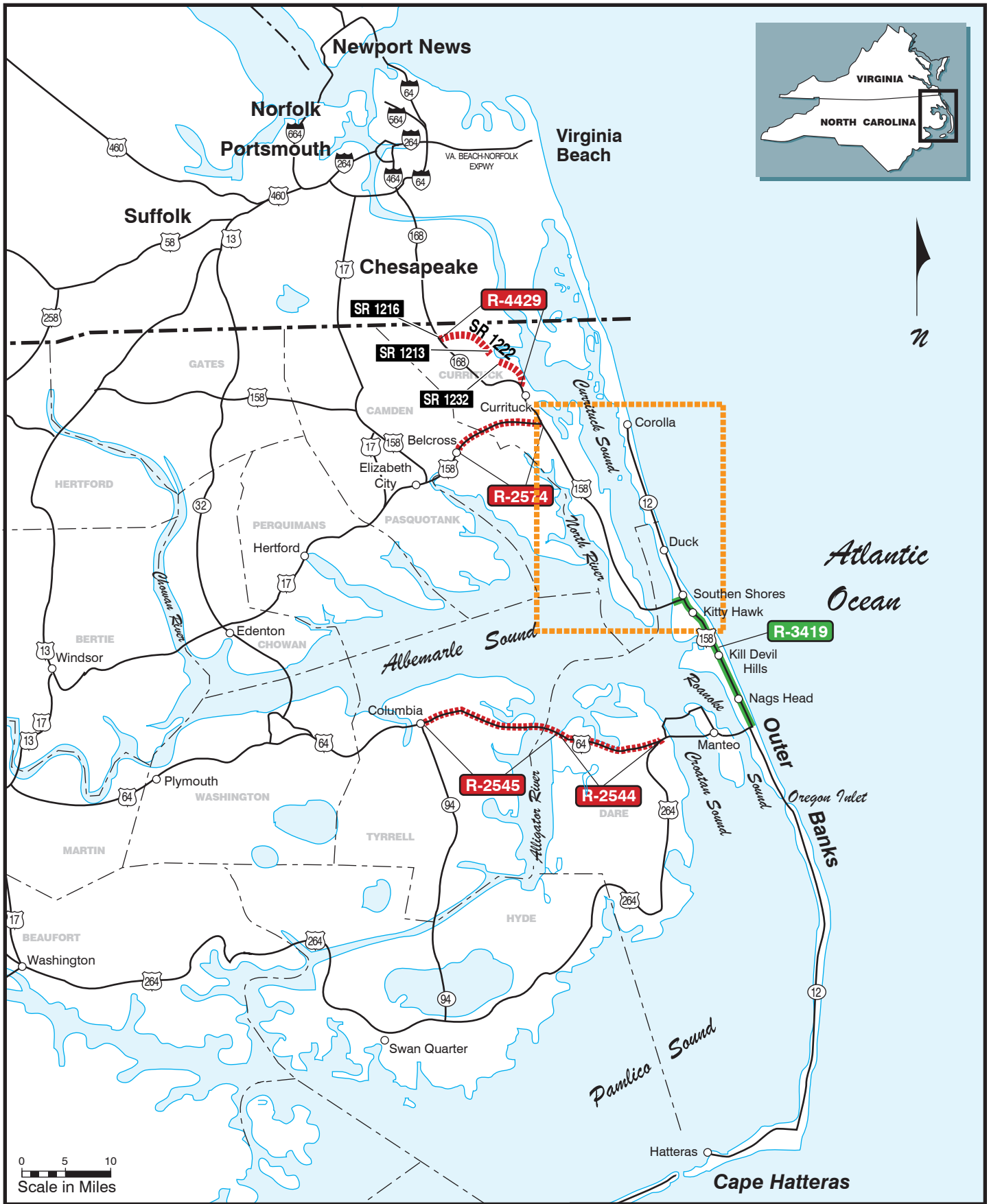
- **Project No. R-2545** — Widen US 64 to multi-lanes from east of Columbia to east of the Alligator River
- **Project No. R-2544** — Widen US 64 to multi-lanes from east of the Alligator River to US 264
- **Project No. R-2574** — Widen US 158 to multi-lanes from east of NC 34 at Belcross in Camden County to NC 168 in Currituck County
- **Project No. R-4429** — Upgrade SR 1222 from NC 168 to north of SR 1232 and from SR 1213 to SR 1216

Figure 2-13 of the FEIS and Figure 1-1 of this reevaluation study report show the locations of these STIP projects.

1.2.1.2 Current STIP Projects

The 2018 to 2027 STIP (August 2017) was consulted to identify changes to project programming from those presented in the FEIS. Of the STIP projects shown in Figure 2-13 of the FEIS as a part of the No-Build Alternative, the 2018 to 2027 STIP shows projects R-2544 and R-2545 (widening US 64 to four lanes from Columbia to Mann's Harbor) as unfunded future year projects (post-Fiscal Year [FY] 2027). R-2574 (widen US 158 to multi-lanes east of NC 34 at Belcross in Camden County to NC 168 in Currituck County) is shown as funded for right-of-way acquisition and construction from fiscal year (FY) 2023 to 2027. Construction of project R-4429 (upgrading SR 1222 from NC 168 to north of SR 1232 and from SR 1213 to SR 1216) was completed.

The 2018 to 2027 STIP adds project R-3419, access management improvement to US 158 in Dare County. It is described in the *Dare County Comprehensive Transportation Plan* (CTP) as improving the existing 5-lane US 158 to a 4-lane divided boulevard from US 64 to the Currituck County line (Wright Memorial Bridge). The plan also says: "It is recommended by the steering committee that a corridor study be completed for this portion of US 158 in order to determine exact cross sections for various segments of the facility. During this corridor study, it is recommended that the following four intersections along US 158 be examined for possible improvements: US 158 and NC 12, in Kitty Hawk/Southern Shores; US 158 and Kitty Hawk Road (SR 1206), in Kitty Hawk; US 158 and Colington Road (SR 1217), in Kill Devil Hills; and US 158, US 64 and NC 12 (Whalebone Junction). The intersection at US 158 and NC 12 in Kitty Hawk/Southern Shores is in need of capacity related improvements." The location of R-3419 is shown in Figure 1-1. Utility work and right-of-way purchase is funded for FY 2025. Construction



LEGEND

- Mid-Currituck Bridge Project Area
- 2009 - 2015 STIP Projects included in 2012 FEIS No-Build Alternative
- New 2018 - 2027 STIP Project included in reevaluation No-Build Alternative

Past and Present STIP Projects

Figure

1-1

funds are allocated for FY 2027 and future years. US 158 from the Wright Memorial Bridge to the intersection of US 158/NC 12 was included as a six-lane superstreet in the FEIS as a part of Mid-Currituck Bridge project alternatives ER2 and MCB2. The 2018 to 2027 STIP also includes several bridge replacement, safety improvement, and non-thoroughfare street improvement projects within or near the Mid-Currituck Bridge project area that do not affect thoroughfare capacity or access.

1.2.1.3 Revised Definition of the No-Build Alternative

Two of the four 2009 to 2015 STIP projects included the No-Build Alternative in the FEIS (R-2544 and R-2545) are removed in the 2018 to 2027 STIP and therefore lack federal authority for funding or construction. Therefore, they are no longer considered reasonably foreseeable planned improvements for defining the No-Build Alternative for the Mid-Currituck Bridge project and are no longer included in the No-Build Alternative. The third (R-2574) is funded in the 2018 to 2027 STIP and remains a part of the No-Build Alternative. A State Environmental Assessment (EA) prepared for the project in June 2016 defines the project as a four-lane expressway with no interchanges. The fourth (R-4429) was completed prior to the release of the FEIS and as such is a part of the existing road network and the No-Build Alternative.

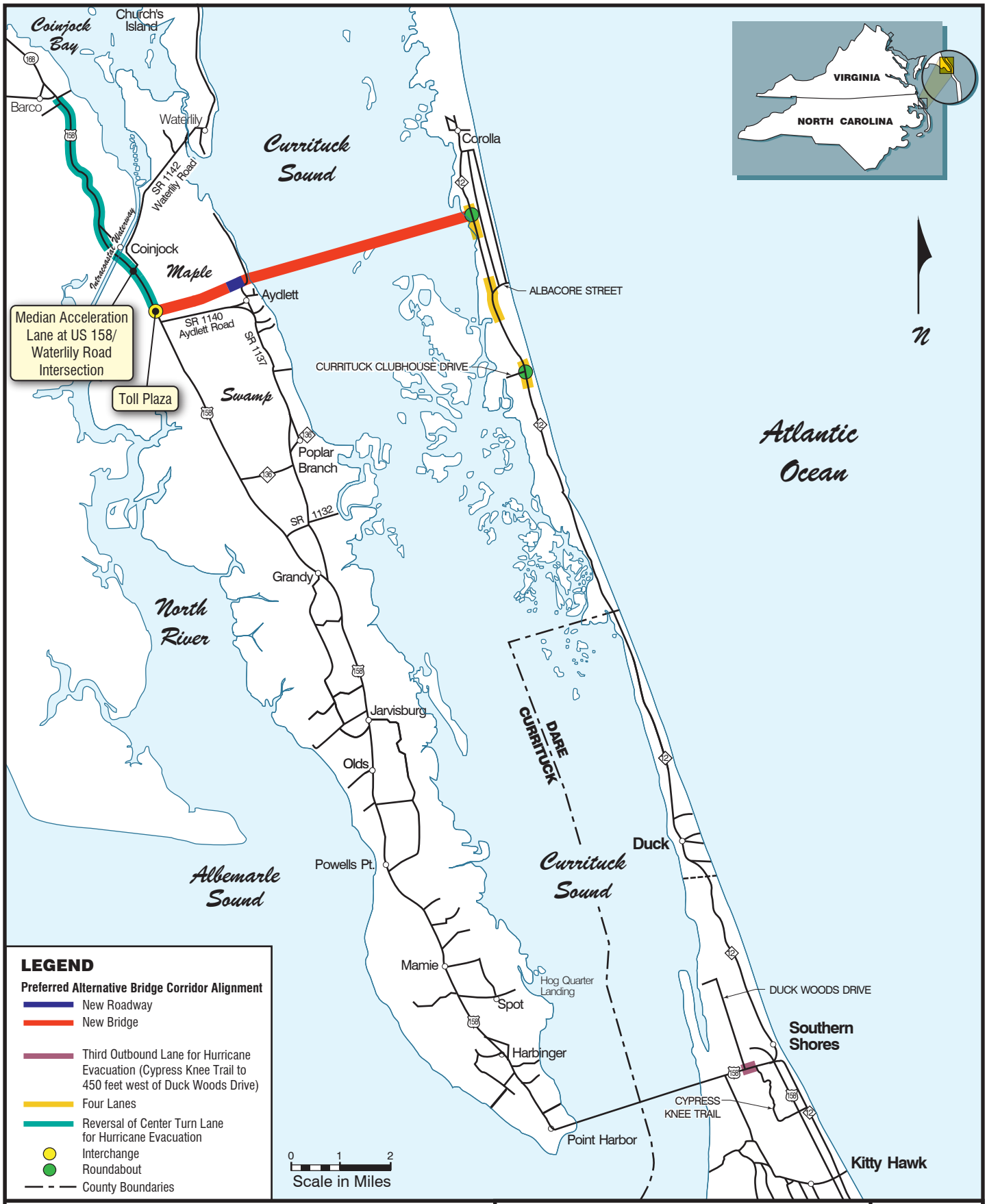
Finally, the 2018 to 2027 STIP adds R-3419. Thus, it is now assumed to be a part of the No-Build Alternative. Based on the *Dare County CTP*, this project is defined in the No-Build Alternative as a four-lane superstreet with improvements at major intersections, including the US 158 intersection with NC 12. This component of the No-Build Alternative is within the Mid-Currituck Bridge Project's project area between the Wright Memorial Bridge and just south of the NC 12 intersection with US 158. In this area ER2 (revised design described in Section 1.2.3.2) includes a six-lane superstreet and improvements to the NC 12/US 158 intersection.

1.2.2 Preferred Alternative Description

As noted above, as a part of this reevaluation, the design of the Preferred Alternative was revisited because updated design year (2040) traffic forecasts are lower than the design year (2035) forecasts used in defining the Preferred Alternative in the FEIS. The lower forecasts allow the travel benefits offered by the Preferred Alternative to be achieved with fewer improvements. The updated traffic forecasts are discussed in Section 2.4.

1.2.2.1 Preferred Alternative (FEIS Design)

The Preferred Alternative (Figure 1-2) identified in the FEIS is alternative MCB4/C1 with Option A. Also, to reduce hurricane evacuation clearance times, the Preferred Alternative includes reversing the center turn lane on US 158 between the Mid-Currituck Bridge interchange and NC 168 and 1,600 feet of new third outbound lane on US 158 in Dare County. The Preferred Alternative also includes several design refinements to MCB4/C1 with Option A to help avoid and minimize impacts. These refinements are reflected in the findings of the FEIS. Refinements were made in response to government agency and public input and comments on the Draft Environmental Impact Statement (DEIS).



Preferred Alternative (FEIS Design)

Figure
1-2

The Preferred Alternative's design identified in the FEIS consisted of:

- A 4.7-mile-long, two-lane toll bridge with 10-foot shoulders across Currituck Sound, with approach roads, in Currituck County;

- A mainland bridge approach road placed approximately 500 feet north of the powerline that parallels Aydlett Road. The bridge approach would intersect US 158 with an interchange. A toll plaza would be within the US 158 interchange.

- The mainland bridge approach road would include a 1.5-mile-long bridge over Maple Swamp. Drivers traveling between US 158 and Aydlett would continue to use Aydlett Road. In Aydlett, the approach road would pass through Aydlett on fill (approximately 3 to 23 feet high) and bridge Narrow Shore Road.

- Also on the mainland, a median acceleration lane would be built at US 158's intersection with Waterlily Road. This safety feature would allow left turns to continue to be made at Waterlily Road and US 158. Bulb-outs for u-turning vehicles also would be provided at a re-aligned US 158/Aydlett Road intersection and the US 158/Worth Guard Road intersection to provide greater flexibility for local traffic in turning to and from existing side streets near the US 158/Mid-Currituck Bridge interchange.

- A bridge approach road on the Outer Banks that ends in the undeveloped Phase II of the Corolla Bay subdivision. In May 2015, the Board of Transportation authorized the advanced purchase of this property at the request of the property owner. It was purchased February 2016 as a FY 2016 right-of-way expenditure. The bridge approach would connect with NC 12 at an intersection approximately 2 miles north of the Albacore Street retail area.

- Widening NC 12 for approximately 2.1 miles, plus left turn lanes at two additional locations over approximately 0.5 mile. The 2.1 miles of NC 12 widening would be concentrated at three locations: the bridge terminus, the commercial area surrounding Albacore Street, and Currituck Clubhouse Drive.

- Roundabouts would be built at the bridge terminus and Currituck Clubhouse Drive. A signalized intersection would be at Albacore Street. NCDOT is now in the process of making an advanced purchase of the portion of the subdivision east of NC 12 from which new right-of-way is needed to accommodate the roundabout at the bridge terminus.

- Marked pedestrian crossings would be provided along NC 12 where it would be widened. They would be placed at locations identified by Currituck County plans. The county's *Connecting Corolla Bike, Pedestrian, Access & Wayfinding Plan* (Currituck County, 2013) identifies pedestrian crossings at the following streets affected by the Preferred Alternative's NC 12 improvements: North Harbor View Drive, Albacore Street, and Schooner Ridge/Currituck Clubhouse Drive. The Preferred Alternative

also would include pedestrian crossings at the bridge terminus (one across NC 12 and one across the bridge approach road).

- Hurricane evacuation clearance time reduction features:
  - On the mainland, reversing the center turn lane on US 158 between the US 158/Mid-Currituck Bridge interchange and NC 168.
  - On the Outer Banks, adding approximately 1,600 feet of new third outbound lane to the west of the NC 12/US 158 intersection in Dare County to provide additional road capacity during a hurricane evacuation. The additional lane would start at the US 158/Cypress Knee Trail/Market Place Shopping Center intersection and end approximately 450 feet west of the Duck Woods Drive intersection, a total distance of approximately 1,600 feet. From this point, the new lane would merge back into the existing US 158 westbound lanes over approximately 300 feet.

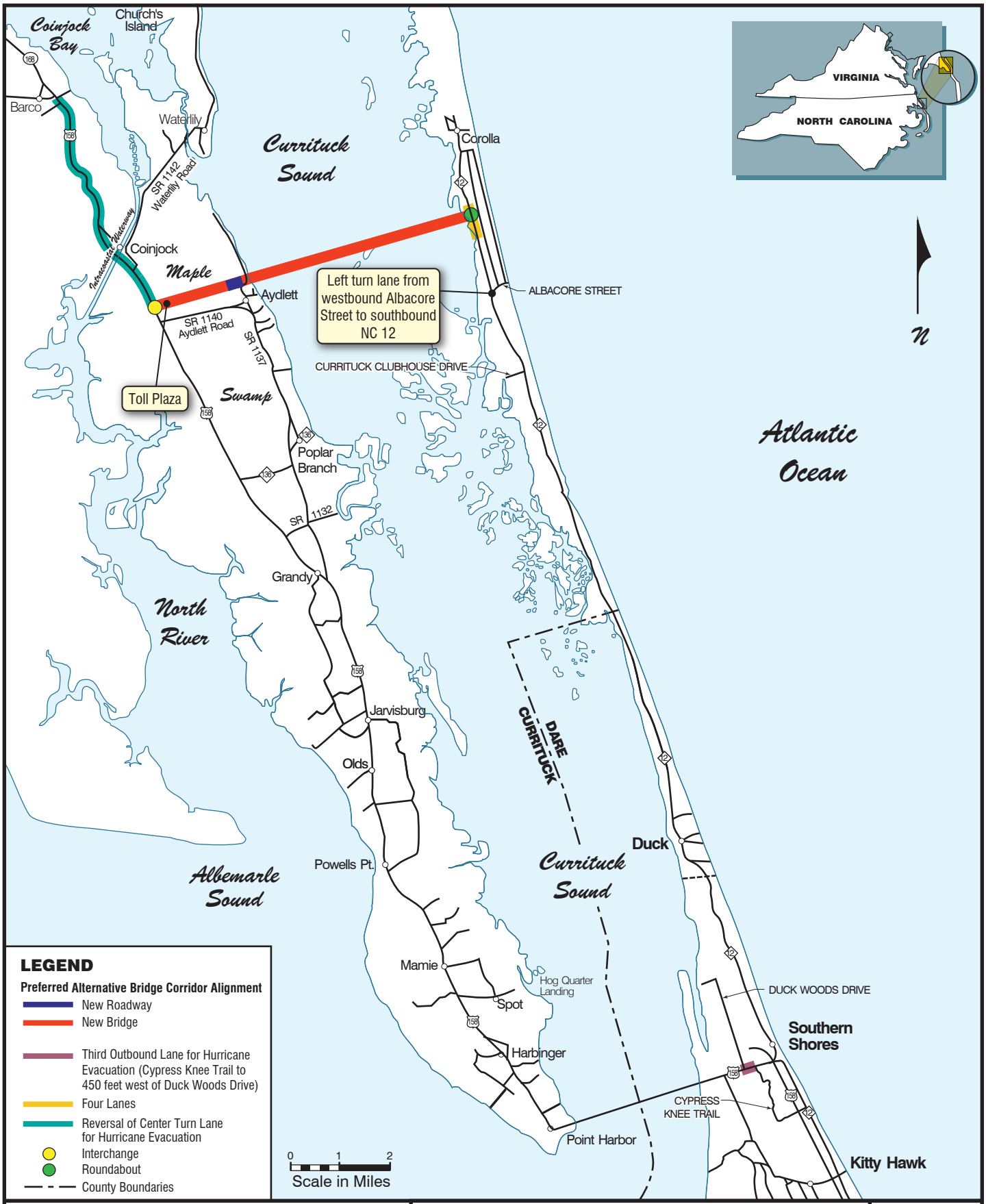
1.2.2.2 Preferred Alternative (Revised Design)

The revised design for the Preferred Alternative considered in this reevaluation differs from the FEIS design in two primary ways:

1. A revised interchange between US 158 and the mainland approach road, including the associated toll plaza. The design revision eliminates the need for a median acceleration lane at US 158's intersection with Waterlily Road.
2. Elimination of most improvements to NC 12 south of those associated with the Outer Banks bridge terminus.

Specific characteristics of the Preferred Alternative's revised design are (Figure 1-3)

- A 4.7-mile-long, two-lane toll bridge across Currituck Sound, as described above for the FEIS design except for the use of 8-foot shoulders instead of 10-foot shoulders. The Maple Swamp bridge also has 8-foot shoulders instead of 10-foot shoulders. This change was made as a cost savings measure. The revised shoulder width meets NCDOT design standards.
- A mainland bridge approach road placed between Aydlett Road (SR 1140) and approximately 430 to 720 feet north of the powerline that parallels Aydlett Road. The bridge approach would intersect US 158 with an interchange. A toll plaza would be just east the US 158 interchange.
- The mainland bridge approach road would include a 1.5-mile-long bridge over Maple Swamp. Drivers traveling between US 158 and Aydlett would continue to use Aydlett Road. In Aydlett, the approach road would pass through Aydlett on fill (approximately 3 to 23 feet high) and bridge Narrow Shore Road, as described above for the FEIS design.



Preferred Alternative (Revised Design)

Figure 1-3

- A bridge approach road on the Outer Banks that ends at what was the undeveloped Phase II of the Corolla Bay subdivision, as described above for the FEIS design.

- Widening NC 12 for approximately 0.7 mile, in the bridge terminus area between Devils Bay (entrance to the Corolla Bay subdivision) and North Harbor View Drive.

- Roundabout at the bridge terminus at NC 12.

- Left turn lane on Albacore Street for drivers turning from Albacore Street to southbound NC 12.

- Marked pedestrian crossings on NC 12 at North Harbor View Drive, as well as at the bridge terminus at NC 12 (one across NC 12 and one across the bridge approach road).

- Hurricane evacuation clearance time reduction features as described above for the FEIS design.

1.2.3 ER2 Description

ER2 as defined in the FEIS is illustrated in Figure 1-4. As noted above, as a part of this reevaluation, the design of ER2 was revisited because updated design year (2040) traffic forecasts are lower than the design year (2035) forecasts used in defining ER2 in the FEIS. The lower forecasts allow the travel benefits offered by ER2 to be achieved with fewer improvements.

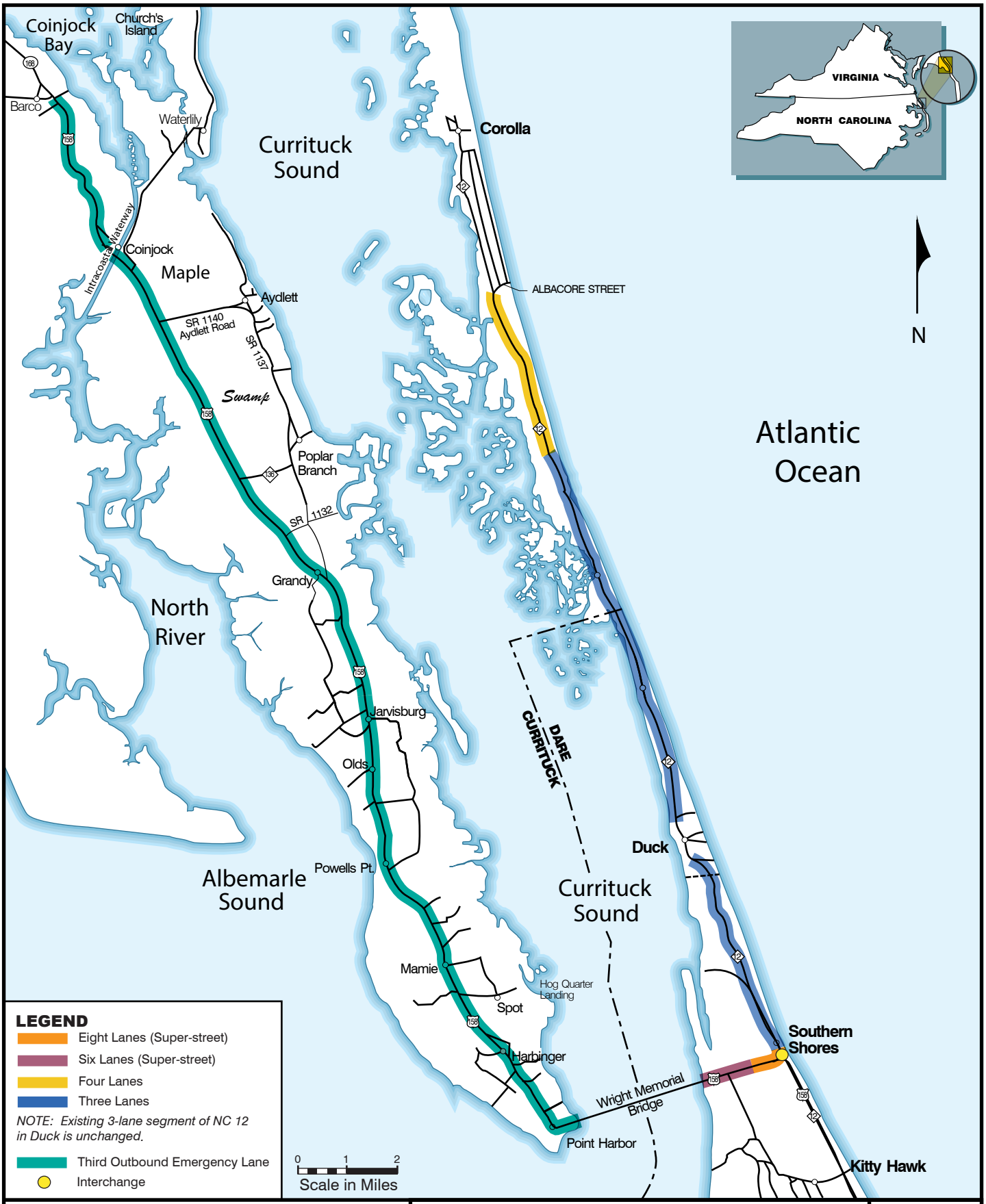
1.2.3.1 ER2 (FEIS Design)

The basic features of ER2 as defined in the FEIS are:

- Adding for evacuation use only, a third outbound evacuation lane (see FEIS Figure 2-3) on US 158 between NC 168 and the Wright Memorial Bridge as a hurricane evacuation improvement. Using the existing center turn lane as a third outbound evacuation lane also was considered, but as documented in the FEIS, it was found that a 27-mile lane reversal associated with ER2 would be a massive undertaking that would be beyond what local personnel from the counties, NCDOT, and the Highway Patrol could handle, and thus not a realistic option (see Section 2.1.10.4 of the FEIS).

- Widening US 158 to a six-lane superstreet (FEIS Figure 2-4) between the Wright Memorial Bridge and Cypress Knee Trail that widens to eight lanes between Cypress Knee Trail and the Home Depot driveway (both locations indicated are just west of the existing US 158/NC 12 intersection).

- Constructing an interchange (FEIS Figure 2-4) at the current intersection of US 158, NC 12, and the Aycock Brown Welcome Center entrance, including six through lanes on US 158 starting at the Home Depot driveway and returning to four lanes just south of Grissom Street (which is just south of the existing US 158/NC 12 intersection).



ER2
(FEIS Design)

Figure
1-4

- Widening NC 12 to three lanes (two travel lanes and a center lane for left turns; FEIS Figure 2-5) between US 158 and a point just north of Hunt Club Drive in Currituck County (except for the existing three-lane section in Duck, which will be unchanged) and to four lanes with a median from just north of Hunt Club Drive to Albacore Street (see FEIS Figure 2-6).

1.2.3.2 ER2 (Revised Design)

The revised design for ER2 considered in this reevaluation differs from the FEIS design for ER2 in two primary ways (Figure 1-5):

1. Fewer proposed improvements on NC 12.

2. A revised intersection instead of an interchange at the intersection of US 158 and NC 12.

Specific characteristics of the ER2 revised design are:

- Adding for evacuation use only, a third outbound evacuation lane on US 158 between NC 168 and the Wright Memorial Bridge as a hurricane evacuation improvement as described above for the FEIS design.

- Widening US 158 to a six-lane superstreet between the Wright Memorial Bridge and Grissom Street east of the existing US 158/NC 12 intersection.

- Improving the intersection of US 158, NC 12, and the Aycock Brown Welcome Center entrance, including requiring drivers wishing to turn left from southbound NC 12 to eastbound US 158 or to turn left into or out of the Visitor Center to make a right turn and then use U-turn opportunities in the US 158 median on either side of the intersection. Left turns would be allowed from eastbound US 158 to northbound NC 12.

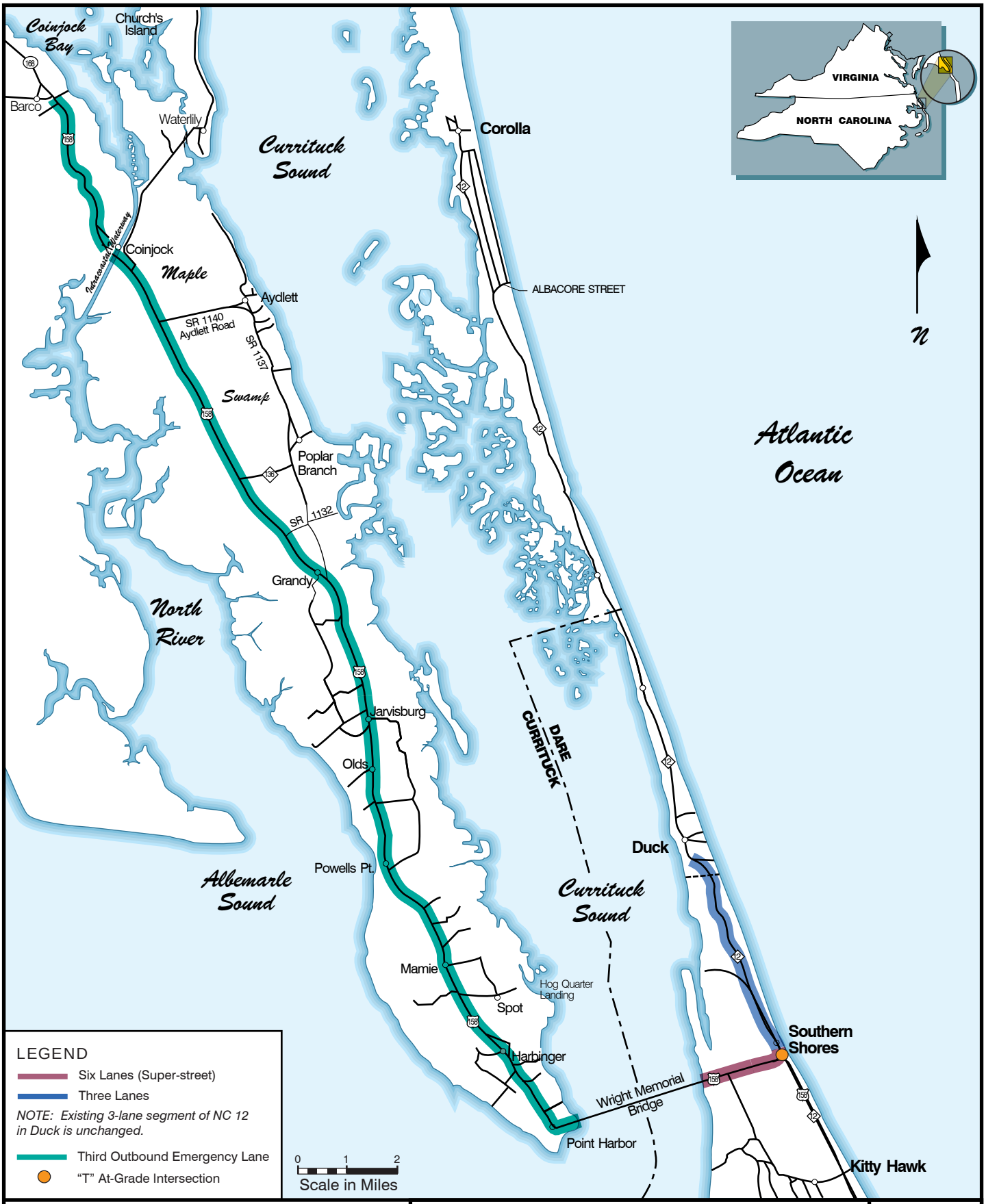
- Widening NC 12 to three lanes (two travel lanes and a center lane for left turns) between US 158 and the existing three-lane section in Duck, which begins at Plover Drive.

1.2.4 Cost

The total cost (in year of expenditure dollars) for the Preferred Alternative and ER2, presented in the FEIS, including the cost of construction, environmental mitigation, bridge drainage treatment, pedestrian and bicycle features, right-of-way, and utility relocation were identified in the FEIS as:

- Preferred Alternative: $502.4 to $594.1 million

- ER2: $416.1 to $523.4 million



ER2 (Revised Design)

Figure 1-5

A cost estimate review workshop was conducted in December 2011 for the FEIS' Preferred Alternative, as required by FHWA for projects with a cost of over $500 million. The cost of ER2 was below this cost threshold. The workshop included subject matter experts from FHWA and NCDOT and the project study consultant team to review the cost and schedule estimates for the FEIS's Preferred Alternative. FHWA Its findings also were included in the FEIS. The objective of the review was to verify the accuracy and reasonableness of the total cost estimate and schedule, and to develop a probability range for the cost estimate that represented the project's then current stage of development. The cost estimate review completed in December 2011 yielded an estimate of total project costs ranging from $507.8 million to $588.1 million. That estimate falls within the probable range of costs published in the FEIS and presented above.

The total cost for the revised designs of the Preferred Alternative and ER2 would be:

- Preferred Alternative $439.1 to $605.4 million
- ER2: $277.9 to $288.1 million

These costs were prepared by NCDOT based on the revised designs.

As required by FHWA for projects with a cost greater than $500 million, another cost estimate review workshop with FHWA was conducted from January 23 to January 25, 2018 to review schedule and cost assumptions for the revised Preferred Alternative. ER2 remains below the $500 million threshold. A Monte Carlo simulation, which is a risk-based modeling technique, for the Preferred Alternative resulted in a 70 percent confidence level at $531.08 million in the year of expenditure (YOE), which equates to $485.48 million in current year (CY) costs. Prior expenditures of $40.48 million are included in both the YOE and CY total project cost estimates. The total confidence level range of YOE costs is from approximately $439 million to $605 million, although a final cost at either of the extremes is unlikely to occur.

A breakdown by type of cost using the costs from the 2011 and 2018 cost estimate review workshops is shown in Table 1-1.

Translating current costs into year-of-expenditure dollars allows for the effects of inflation to be incorporated. For this project, construction costs were inflated to the mid-point of construction; all other costs were inflated to the mid-point of the period in which the expenditures were assumed to occur. At the time of the FEIS estimate, the construction contract was assumed to be awarded in March 2013, with a completion date of November 2017. The construction costs and effects of inflation for the revised designs for the Preferred Alternative reflect current schedule assumptions, award of the construction contract in November 2018 with completion in May 2023. The anticipated year-of-expenditure estimate was revised to account for the effects of inflation per the updated schedule. The model used in the 2018 Cost Estimate Review also considered the

Table 1-1 Workshop Cost Breakdown for Preferred Alternative

Cost Category	2011	2018
Construction	$465.71	$463.61
Environmental Mitigation	$1.83	$1.64
Right-of-Way	$16.67	$13.97
Utilities	$12.32	$11.37
TOTAL COST	$496.53	$490.59

Notes: Costs are shown in the millions and do not include prior expenditures ($40.48 million as of November 30, 2017).

effects of inflation if the project was delayed by 12 months; the cost of a one-year delay is approximately $12 million, or about $1 million per month.

1.2.5 Financing

1.2.5.1 Preferred Alternative (Revised Design)

In 2013, the General Assembly, as part of the Strategic Transportation Investments (STI) Law (Session Law 2013-183 and House Bill 817) withdrew the annual state appropriations or "gap funding" for the Mid-Currituck Bridge project. The STI also established the Strategic Mobility Formula, a new way of allocating NCDOT's major revenue sources based on data-driven scoring and local input. The Mid-Currituck Bridge project was scored using the new criteria. Thus, NCDOT has allocated project funding in the 2018 to 2027 STIP that demonstrates the state's reasonable ability to fund and deliver this project.

A preliminary Plan of Finance has been developed using total project costs in anticipated year-of-expenditure dollars, in accordance with FHWA Major Project Guidelines. The funding and associated project costs shown in a preliminary Plan of Finance are different than those costs programmed in the STIP, primarily because of the way inflation and agency costs are handled. The costs in the STIP are not in-year of expenditure dollars but in dollars valued at the time the STIP was prepared, as is customary for the STIP. It is possible that, during a competitive bidding environment with value engineering principles applied, that the construction cost may be lower than estimated in the preliminary Plan of Finance.

A total project capital cost of $531.08 million was used in the preliminary Plan of Finance. This cost represents the 70 percent probability that the project will cost less than this amount; accordingly, there is a 30 percent chance that the project will cost more. The preliminary Plan of Finance describes one potential funding scenario for the project.

In addition to the project's capital costs, funds will be needed for debt service reserve funds (DRSF) for both a Transportation Infrastructure Finance and Innovation Act (TIFIA) Loan and the Toll Revenue Bonds, as well as capitalized interest. The amounts

estimated to be required for these funds are $2.06 million (TIFIA Loan DRSF), $4.54 million (Toll Revenue Bonds DRSF), and $30.00 million for capitalized interest. Other miscellaneous finance costs and contingencies are estimated to be $1.15 million. The inclusion of the financing costs to the project's capital costs brings the total estimated cost in the preliminary Plan of Finance to $568.8 million, including prior expenditures.

Funding sources could include a loan from the US Department of Transportation via TIFIA, toll revenue bonds, Grant Anticipation Revenue Vehicle (GARVEE) bonds, and State Matching funds. The preliminary Plan of Finance assumes a TIFIA Loan in the amount of $186.9 million. Toll revenues would be used to repay this TIFIA Loan. In addition, toll revenue bonds are expected to generate approximately $149.7 million in proceeds for project construction. The preliminary Plan of Finance assumes that NCDOT would issue $147.0 million in GARVEE bonds, along with State Matching funds of $44.7 million to complete the project funding requirements. In summary, the $568.8 million of project funding assumed in the preliminary Plan of Finance includes the following sources:

TIFIA Loan (backed by toll revenue):	$186.9 million
Toll Revenue Bonds:	$149.7 million
GARVEE Bonds:	$147.0 million
State Matching Funds	$ 44.7 million
Prior Expenditures	$ 40.5 million
TOTAL:	$586.8 million

Again, the preliminary Plan of Finance presented here is one possible way to finance the project. If one or more of the funding sources is not available in the amount assumed, then the additional funding will come from a combination of the remaining funding sources or other reasonably foreseeable funding sources.

1.2.5.2 ER2 (Revised Design)

The $191.7 million in GARVEE bonds and State Matching Funds allocated in the Preliminary Plan of Finance described above are not supported by toll revenues and would be available to fund a non-tolled alternative. The non-tolled ER2 alternative is expected to cost between $278 and $288 million. In this case, there would be a funding gap of between $86.3 million and $96.3 million between the estimated cost and the available funding. Therefore, available funding would not be adequate to construct ER2.

1.3 Basis for Choosing the Preferred Alternative and Changes Affecting this Reasoning

MCB4 was identified by FHWA and NCDOT as the Recommended Alternative in the DEIS (Section 2.6). Based on public comments received on the DEIS and in coordination with environmental resource and regulatory agencies, MCB4/C1 with Option A was identified as the project's Preferred Alternative, as documented in the FEIS. The FEIS'

Preferred Alternative also included improvements to parts of NC 12, hurricane evacuation strategy and improvement, and refinements to MCB4/C1 with Option A to help avoid and minimize impacts. See Section 1.2.2.1 for more detail.

Based on updated 2040 traffic forecasts discussed in Section 2.4, revisions were made to the design of the Preferred Alternative. They are described in Section 1.2.2.2.

The inclusion of the Preferred Alternative in the FEIS was based on consideration of travel benefits; community, cultural resource, natural resource, and other physical characteristic impacts; and financing. These bases for choosing the Preferred Alternative are presented in FEIS Section 2.6. Changes affecting the findings presented in Section 2.6 of the FEIS were the updated 2040 traffic forecasts (Section 2.4), updated travel findings (Section 3.0), the revised design of the Preferred Alternative (Section 1.2.2.2), changes in the project setting and impacts (Section 4.0), and changes in the approach to financing (Section 1.3.6). These revised findings were compared with the same types of revised findings for ER2 (see the same referenced sections except design revisions to ER2 are discussed in Section 1.2.3.2). NCDOT and FHWA decided that its Preferred Alternative would remain unchanged except for the specific design revisions presented in Section 1.2.2.2.

The reasons for this decision are presented in the sections that follow. This list is organized by issues as they are presented in the FEIS. Also, this list does not represent all benefits or impacts of the Preferred Alternative, just those elements that differentiated the Preferred Alternative when compared to the other detailed study alternatives.

1.3.1 Travel Benefit Considerations

The Preferred Alternative offers the greatest summer travel benefits, primarily on the summer weekend. Those travel benefits include:

- Less severe congestion, with traffic demand during periods of congestion generally not exceeding the capacity of the road.

- A shorter duration of congestion on NC 12 in Dare County, 10 to 12 hours versus 13 to 15 hours on the summer weekend with the No-Build Alternative. ER2 would not reduce the duration of congestion on NC 12.

- Travel demand not exceeding the capacity of NC 12 on the summer weekend make it unlikely that queues on NC 12 would back up onto US 158, unless there is a crash or other lane blockage. Such backups disrupt US 158 traffic and cause temptation for visitors to use local streets in Southern Shores to bypass a portion of NC 12.

- The greater travel time benefit, including the 11-minute travel time from the Currituck County mainland to its Outer Banks over the Mid-Currituck Sound Bridge and a reduction in average summer travel time on existing roads from Aydlett Road

to the Outer Banks' bridge terminus by 64 minutes (from 136 minutes to 72 minutes). ER2 would reduce travel time by 19 minutes (from 136 minutes to 117 minutes), but would not offer the very short travel time to the Currituck County Outer Banks offered by the Preferred Alternative. The traffic forecasts indicate that in 2040, 2.8 million trips would pass across the Mid-Currituck Bridge, including 18,000 on each summer weekend, each taking advantage of the 11-minute trip from the mainland to the Outer Banks.

1.3.2 Community Impact Considerations

- With the Preferred Alternative, neighborhood and community cohesion impacts would involve the creation of a visual barrier in Aydlett. The use of the revised C1 corridor presented in the FEIS with the Preferred Alternative (including the revised design) would pass through what was the unimproved (streets and utilities are not installed) Phase II of the Corolla Bay subdivision. NCDOT made an advanced purchase of the land in February 2016 with the approval of the Board of Transportation. Neighborhood and community cohesion impacts would be minor with ER2. ER2 would not affect Aydlett or the Corolla Bay area.

- The Preferred Alternative is consistent with area CAMA land use plans in that they include a Mid-Currituck Bridge. In addition, the Preferred Alternative does not widen NC 12 in Dare County. Since the preparation of the FEIS, the Town of Southern Shores has updated their CAMA land use plan (July 2012). The new plan supports the construction of a Mid-Currituck Bridge. No other CAMA land use plan updates have occurred in the project area.

- Reducing the amount of NC 12 four-lane widening as described for the Preferred Alternative in the FEIS and the revised design presented in this document compared to the amount of widening proposed for MCB4 in the DEIS addresses citizen and local government concerns related to pedestrian crossing of NC 12. The widening of NC 12 would be least with the revised design for the Preferred Alternative. This reduction in widening greatly reduces the need for infiltration strips within a permanent drainage easement along a widened NC 12 and reduces the potential for adverse community impacts along NC 12 in general.

1.3.3 Cultural Resource Impact Considerations

- The Preferred Alternative with reversing the center turn lane on US 158 to improve hurricane evacuation clearance times would have No Effect or No Adverse Effect on properties listed on or eligible for inclusion in the National Register of Historic Places (NRHP). These findings are unchanged because historic and archaeological resource findings from cultural resource surveys in 2007, 2008, and 2009, as well as additional archaeological studies conducted in 2011 for the Preferred Alternative, have neither changed nor has the impact area of the Preferred Alternative expanded beyond the cultural resource survey area since the preparation of the FEIS. This conclusion was affirmed by the State Historic Preservation Office (HPO) in a July 20, 2015 letter (Appendix A). In a letter dated April 7, 2017, the HPO affirmed the same conclusion for ER2.

1.3.4 Natural Resource Impact Considerations

- The Preferred Alternative would have no impact on CAMA wetlands. Also, no wetlands on the shoreline of Currituck Sound would be affected. There have been no notable changes in the location and extent of CAMA wetlands since the preparation of the FEIS. These conclusions were affirmed in the field by a representative of the NC Department of Environmental Quality (NCDEQ), Division of Coastal Management (DCM) in March 2016.

- The Preferred Alternative (revised design) seeks to avoid and minimize impacts to jurisdictional waters, as practicable. Wetland fill impacts, calculated as including the area within 25 feet of the slope-stake line, were estimated to be 7.9 acres in the FEIS for the Preferred Alternative and was updated to 8.3 acres in response to a US Army Corps of Engineers (USACE) request to account for potential grubbing at Maple Swamp bridge piers made in their FEIS comment letter of March 12, 2012. Based on a re-delineation of wetlands in 2016 and 2017, this impact is now estimated to be reduced to 4.2 acres with the revised design of the Preferred Alternative. Wetland fill impacts incurred by the revised design for ER2 would be 8.5 acres, compared to 12.6 acres of wetland fill impacts incurred by the FEIS design for ER2.

- The construction approach described for the Preferred Alternative in Section 2.4.2 of the FEIS seeks to minimize construction related impacts to Currituck Sound, as practicable, through the use of temporary open trestles and barges. This finding is unchanged since no changes in the construction approach are proposed.

- A preliminary stormwater management plan for the Preferred Alternative described in Section 2.1.7 of the FEIS for the Preferred Alternative is designed to minimize impacts to Currituck Sound from bridge runoff. A final stormwater management plan would be developed during final design, documenting implementation of current best management practices (BMPs) in compliance with NCDOT's National Pollutant Discharge Elimination System (NPDES) permit for the protection of aquatic and terrestrial resources. Preparation of the final stormwater management plan would be conducted in consultation with environmental resource and regulatory agencies.

1.3.5 Other Physical Characteristics Considerations

- The Preferred Alternative would have the least number of homes (which is 5 reduced from 23 in the FEIS) that would experience a traffic noise impact as defined by FHWA's noise abatement criteria and NCDOT's 2016 *Traffic Noise Policy*. ER2 would impact 392 residences (which is 294 reduced from 686 in the FEIS). On the Currituck County mainland with ER2 at 291 impacted receptors, an impact is shown because existing noise generally already exceeds the FHWA criteria for traffic noise impact. The addition of the hurricane evacuation lane to US 158 on the mainland would generally result in an imperceptible noise increase (no more than 1 dB[A]).

- The Mid-Currituck Bridge component of the Preferred Alternative would reduce the impact of accelerated sea level rise on travel on the Outer Banks north of the

Dare/Currituck County line by providing an alternate route to and from the Outer Banks if sea level rise were to result in a breach in NC 12 near the Dare/Currituck County line.

- The Preferred Alternative (either design) would result in a negligible impact on the surface water and no impact on the groundwater hydrology in Maple Swamp or on storm surge elevations. This remains the case because no changes have been made in the design of these alternatives since the preparation of the FEIS that would add fill to surface waters or Maple Swamp. The impact was minimized with the Preferred Alternative by bridging Maple Swamp.

1.3.6 Financing and Design Considerations

- The FEIS concluded that the Preferred Alternative with the features noted in Section 2.1.2.5 of the FEIS could be financed using the funds that can be raised from the three sources (i.e., state appropriation bonds, toll revenue bonds, and private equity) discussed in Section 2.3 of the FEIS. The most recent preliminary Plan of Finance represents one potential funding scenario for constructing the Preferred Alternative. This Plan includes a combination of toll revenue bonds, a TIFIA loan, GARVEE bonds and State Matching funds. The ability of the State of North Carolina to build, operate, and maintain the Preferred Alternative is not affected by this change, as discussed in Section 1.2.5. The funds allocated in the preliminary Plan of Finance for this project that are not supported by toll revenues ($191.7 million) would not be adequate to construct ER2, which as indicated in Section 1.2.4, would cost $278 to $288 million.

- The Preferred Alternative would have the fewest changes in current access to residential and business properties.

- With the Preferred Alternative, hurricane evacuation traffic control measures would be needed on US 158 only for approximately 5 miles between the Mid-Currituck Bridge and NC 168, plus for 1,600 feet west of the US 158/NC 12 intersection, instead of the 27 miles with ER2, reducing environmental impacts.

1.4 Summary of Changes in the Environmental Impact since the Preparation of the FEIS

The settings for the Preferred Alternative and ER2 have not changed notably since the release of the FEIS. The revised designs generally reduced impacts because fewer improvements would be made to NC 12. The full discussion of changes in the setting of the Preferred Alternative and their effect on impact findings in the FEIS is presented in Section 4.0.

Primary changes in the environmental impact of the Preferred Alternative since the preparation of the FEIS are:

- Reduced community and business impacts because of fewer improvements to NC 12.
- New impervious surface decreased from 71.5 acres to 64.3 acres.
- Impacts to biotic communities overall are reduced with the following exceptions that resulted from the US 158 interchange redesign, which emphasized minimizing wetland fill impacts:
  - Agricultural land used rose from 15.3 acres to 22.0 acres.
  - There is now a 0.1-acre pond impact.
  - Wetland clearing associated with the Maple Swamp Bridge rose from 25.5 to 32.9 acres
- Based on SAV surveys conducted in 2018 and the revised design, the acres of SAV beds shaded changed from 3.8 acres to 3.5 acres. The acres of potential SAV habitat shaded changed from 4.8 acres to 5.1 acres. NCDOT remains committed to the measures described in the FEIS to mitigate potential temporary and permanent impacts to SAV and potential SAV habitat.
- Based on updated jurisdictional resource delineations in 2016 and 2017, as well as the revised design, the acres of wetlands filled have dropped from 8.3 acres (as updated from the FEIS based on USACE comment) to 4.2 acres.
- Five noise-sensitive receptors would be impacted rather than 23.
- Two electric transmission line towers would need to be relocated. The number was four in the FEIS.

Primary changes in the environmental impact of ER2 since the preparation of the FEIS are:

- Reduced community and business impacts because of fewer improvements to NC 12, except for a potential for increased home, business, and outdoor advertising sign relocations.
- New impervious surface decreased from 89.0 acres to 33.7 acres.
- Impacts to biotic communities overall are reduced except for:
  - Five additional jurisdictional streams were identified during 2017 surveys that connect to US 158 roadside ditches. The hurricane evacuation lane would affect with fill a total of 99.6 feet of these streams, but the total acres of impact would

be less than 0.1 acre. Clearing during construction would occur on 218.5 feet of these streams.

  - Bridge shading at Jean Guite Creek increases from 36 feet to 42 feet or 0.1 acre.

- Based on updated jurisdictional resource delineations in 2016 and 2017, as well as the revised design, the acres of wetlands filled have dropped from 12.6 acres to 8.5 acres.

- With fewer improvements on NC 12, the number of noise sensitive receptors impacted would drop by 167 to 65 receptors.

2.0 Updated Information since the Preparation of the FEIS

This section describes updated data gathering efforts and updated studies conducted for use in determining whether any of the conclusions reached in the FEIS would change, including:

- If the need to construct the project remains
- If the FEIS remains an accurate analysis of the anticipated project impacts with both the Preferred Alternative and ER2
- If the Preferred Alternative presented in the FEIS (as revised to account for the updated 2040 traffic forecasts) can be reconfirmed as the Preferred Alternative.

2.1 Project Setting

2.1.1 Community Characteristics

To determine if notable changes in the community setting of the Preferred Alternative have occurred since the preparation of the FEIS, a field survey was conducted in February 2015 and conversations were held with Currituck County officials. Minor changes were found. The findings of that effort are presented in Section 4.1 of this reevaluation study report and are used to reconsider FEIS material related to land use characteristics and features; neighborhood and community cohesion; quality of life; relocations; effects to the existing business community; access to neighborhoods and communities; effects to parks, recreation opportunities, and other community services and facilities; and effects on pedestrian and bicycle provisions. Field survey findings also were used in the reassessment of noise, visual quality, and hazardous material and underground storage tank findings (presented in Sections 4.4.1, 4.4.5, and 4.4.6, respectively, of this reevaluation study report).

Data from the 2010 US Census and other current sources of demographic data for the project area related to overall population, age, poverty, English proficiency, housing, and employment was assembled. The US Census data was previously assembled through the 2000 US Census and presented in the November 2011 *Community Impact Assessment Report* in Tables 5-1 to 5-12. The demographic data's primary use in the FEIS was to aid in the determination of whether concentrations of low income, minority populations, or limited English proficiency populations would suffer disproportionately adverse human or environmental effects. Section 3.1.5 of the FEIS concluded that there would be no disproportionately high and adverse direct impacts to minority, low income, or limited English proficiency populations associated with the Preferred Alternative. A reassessment of this finding, including the 2010 US Census and American Community Survey information used in the reassessment, is presented in Section 4.1.5 of this reevaluation study report.

Crime rate statistics were presented and used in the impact assessment in Section 3.1.11 of the FEIS. Updated statistics are presented and considered in Section 4.1.11 of this reevaluation study report.

2.1.2 Cultural Resources

No new cultural resource surveys were required because the location and scale of the Preferred Alternative did not change since the FEIS was prepared. This conclusion was affirmed by the HPO in July 20, 2015 and April 7, 2017 letters (Appendix A).

2.1.3 Natural Features

Appropriate aerial images; web sites of NCDEQ, National Marine Fisheries Service (NMFS), and the Mid-Atlantic Fishery Management Council; the Natural Heritage Program database; and representatives of the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), Currituck National Wildlife Refuge, and Currituck County were consulted to update information related to water resources, logging in Maple Swamp, Significant Natural Heritage Areas (SNHA) (now called Natural Heritage Natural Areas), terrestrial habitat, CAMA Areas of Environmental Concern (AEC), and potential changes in environmental protection requirements. The findings of this new research are reflected in various subsections of Section 4.3 of this reevaluation study report.

Portions of the previously approved Section 404 jurisdictional boundaries within the Preferred Alternative's and ER2's proposed right-of-way and slope-stake (edge of earthwork) plus 25 feet boundary were inspected in the field in February 2015 and January 2017, respectively, to determine the current condition and accuracy of the wetland boundaries delineated in 2009. Numerous minor changes were noted. Thus, updated wetland delineations were conducted in 2016 and 2017. Wetland impacts of the Preferred Alternative (revised design) and ER2 (revised design) are updated based on these delineations in Section 4.3.6 of this reevaluation study report.

Three threatened and endangered species listed by USFWS were added for Currituck County since the FEIS: Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), rufa red knot (*Calidris canutus rufa*), and northern long-eared bat (*Myotis septentrionalis*). These species are described and potential impacts assessed in Section 4.3.8, including the outcome of informal consultation with the USFWS (Appendix A).

A red-cockaded woodpecker (RCW) evaluation was conducted in the area of the Preferred Alternative. The assessment consisted of a stand evaluation within the project area to determine if suitable foraging or nesting habitat is present. Pines 60 years in age or older within the Preferred Alternative's (either design) project area were surveyed for the presence of RCW cavities. Field work was conducted March 16 to 17, 2016. The study found no suitable foraging or nesting RCW habitat within the Preferred Alternative's project area and that there are no known RCW trees or clusters within 1.0 mile of the Preferred Alternative's project area. Survey findings are presented in Section 4.3.8. The full survey methodology, the tree stands evaluated, and survey results are

presented in a *Red-cockaded Woodpecker Habitat Evaluation Report* (Environmental Services, Inc., March 2016).

Federal Flood Insurance Mapping (dated 2005) that designates flood hazard areas was used for the FEIS. Preliminary updated maps were released on June 30, 2016 for Dare County and in January 2016 for Currituck County. These maps are used to assess the floodplain impact of the revised designs in this reevaluation study report in Section 4.4.7.

Submerged Aquatic Vegetation surveys were updated in 2017 for the portion of Currituck Sound crossed by the Preferred Alternative.

2.2 New and Updated Plans

2.2.1 Land Use Plans

Since the preparation of the FEIS, the following updated CAMA land use plans and land use-related plans were prepared:

- Town of Southern Shores – *CAMA Land Use Plan Update* (Town of Southern Shores, 2012)
- Currituck County – *Connecting Corolla Bike, Pedestrian, Access & Wayfinding Plan* (Currituck County, 2013)

These plans and their relation to the proposed project, including the Preferred Alternative, are described in Section 4.1.6 of this reevaluation study report.

2.2.2 State Transportation Improvement Program

The STIP for 2018 to 2027 (August 2017) was consulted to identify changes to project programming from those presented in the FEIS. The findings are discussed in Section 1.2.1.2.

2.2.3 Comprehensive Transportation Plans

Both the *Thoroughfare Plan for Currituck County* (NCDOT, 1999) and the *Dare County Thoroughfare Plan* (NCDOT, 1988) were replaced with comprehensive transportation plans since the release of the FEIS. The Mid-Currituck Bridge is included in the Currituck County plan and referenced in the Dare County plan. The Preferred Alternative and its various components are compatible with these new plans.

2.2.3.1 Currituck County Comprehensive Transportation Plan

The *Currituck County Comprehensive Transportation Plan* was approved in May 2012 (NCDOT, 2012). It was amended in November 2015. The Mid-Currituck Bridge project is included in the CTP at the location of the Preferred Alternative identified in the FEIS. The CTP shows that NC 12 needs improvement in the area where the Preferred

Alternative proposes NC 12 improvements. The CTP does not specify the improvements needed on NC 12.

The CTP recommends a fixed route trolley-type bus service along NC 12 to provide another mode of transportation for tourist travel around the Outer Banks portion of Currituck County (particularly during the peak travel summer season). The Preferred Alternative would support the reliable operation of this service by its NC 12 capacity improvements. The *Alternatives Screening Report* (October, 2009) for the Mid-Currituck Bridge project concluded that the Bus Transit Alternative would provide no substantive congestion relief and no reduction in travel times to the Currituck County Outer Banks from the mainland, would not meet the purpose and need, and is not a reasonable alternative. This finding is reaffirmed in Section 3.3.6. The CTP proposes bus services as an additional travel option for tourists on the Outer Banks. It does not propose it as a corridor travel capacity improvement or a means to reach the Currituck Outer Banks from the mainland on the existing road system. Therefore, the inclusion of bus service in the CTP does not affect the finding on the Bus Transit Alternative in the *Alternatives Screening Report* or Section 3.3.6.

Bus service over the Mid-Currituck Bridge also is recommended in the CTP. It would originate at a new park-and-ride lot near the US 158/Mid-Currituck Bridge interchange. The implementation of the Preferred Alternative is required to provide this recommended service. No specific location is designated for the park-and-ride lot; however, upland sites are available. These sites are currently in agricultural use and designated for development in the *Currituck County Land Use Plan* (Currituck County, 2006) as a limited service area, which allows for non-residential uses with a preference for tourist serving businesses. A park-and-ride lot near the US 158/Mid-Currituck Bridge interchange represents a minor addition to reasonably foreseeable future actions assessed in the interchange area in the FEIS's cumulative impact assessment and as such does not affect cumulative impact findings.

The CTP notes that the county is currently served by Inter-County Transportation Authority, which provides demand-response public transportation with very limited service to the Outer Banks. This remains the same as when the FEIS was prepared.

The CTP indicates that there are a few bicycle routes connecting different parts of Currituck County. There is already a multi-use path along parts of NC 12. It is a local priority to see that multi-use path extended for the entire length of NC 12. See Section 4.1.6.2 and Section 4.1.1 for additional details on this priority, including multi-use paths constructed in 2016, as it relates to the Preferred Alternative (revised design). The CTP's on-road bicycle facility recommendations include that the Mid-Currituck Bridge be a bicycle-accessible facility from US 158 to NC 12. The Preferred Alternative (FEIS design) included 10-foot shoulders, with a bicycle safe rail, that could be used by cyclists on the bridge. The revised design uses 8-foot shoulders with a bicycle safe rail, which meets the NCDOT design standards. Provision of a connection between Narrow Shore Road and the bridge for cyclists entering the bridge from the mainland is not shown in the current preliminary design but could be added during final design, if determined

necessary. A commitment to consider this addition in coordination with Currituck County is included in the revised project commitments in Appendix G. Cyclists could then reach US 158 via Narrow Shore Road and Aydlett Road. US 158 is an existing on-road bicycle route. Cycling access to the Maple Swamp Bridge and entering the toll plaza would not be allowed for safety reasons. On the Outer Banks side, cyclists could use the shoulder of the bridge approach road to reach the bridge.

2.2.3.2 Dare County Comprehensive Transportation Plan

The *Dare County Comprehensive Transportation Plan* was approved in April 2015 (NCDOT, 2015). The primary proposal within the Mid-Currituck Bridge project area is to improve the existing five-lane US 158 to a four-lane divided boulevard from US 64 to the Currituck County line (Wright Memorial Bridge). The additional evacuation lane included in the Preferred Alternative on US 158 could be incorporated into a four-lane divided US 158. Improving US 158 to a six-lane divided boulevard between the Wright Memorial Bridge and the US 158/NC 12 intersection area was included in detailed study alternatives ER2 and MCB2. The CTP suggests that the NC 12/US 158 intersection be examined for possible capacity-related improvements. It notes that any improvement that involves a grade separation, such as included in previous designs for MCB2 and ER2, is not preferred locally. The revised design of ER2 includes an intersection rather than an interchange.

No capacity improvements to NC 12 from Southern Shores to the county line are recommended. The plan notes that the Mid-Currituck Bridge would likely have a significant impact in relieving congestion on this portion of NC 12. The CTP says that the Towns of Nags Head, Manteo, Southern Shores, Kill Devil Hills, and Kitty Hawk, as well as Dare County and Currituck County are all in support of the Mid-Currituck Bridge.

The CTP recommends that bus service be provided from Manteo to the Currituck County line, including NC 12 from US 158 in Southern Shores though Duck to the Currituck County line. The CTP says "the primary purpose of proposing transit service along NC 12, US 158 and US 64 in the CTP is to provide another mode of transportation to get around the Outer Banks, including tourist attractions from Duck to Roanoke Island, and to provide ways to connect different modes of transportation." No bus service is proposed to mainland Currituck County. The Mid-Currituck Bridge would reduce traffic congestion on NC 12 from Southern Shores to the county line, improving the reliability of any bus service on NC 12.

2.3 Regulations and Guidance

Both community planning and natural resource regulations and guidance applied in the FEIS were checked for changes. The following changes were found:

- NCDOT issued an updated *Traffic Noise Policy* in 2016. Changes from the previous policy that relate to traffic noise impacts and abatement consideration include:

- Revised definition of a substantial increase in noise levels.

- Revised criteria for when noise abatement is considered feasible and when noise abatement is considered cost-effective.

- Revised approach of designing noise barriers to abate noise only for impacted receptors and rather than considering how barriers might be designed to maximize benefits for nearby non-impacted receptors.

The effect of this policy, as well as the updated 2040 traffic forecasts, on FEIS findings is discussed in Section 4.4.1.

- On October 2016, FHWA updated their September 2009 *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA* to incorporate an analysis conducted using MOVES (Motor Vehicle Emission Simulator) rather than the older emissions model of Mobile6.2. The effect of this change on FEIS findings is discussed in Section 4.4.2.

- In March 2015, a draft update to the 2010 North Carolina Sea Level Rise Assessment Report and a 2012 Addendum was released by the NC Coastal Resources Commission Science Panel. The effect of this information on FEIS findings is discussed in Section 4.4.4.

- In December 2014, FHWA issued FHWA Order 5520, "Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events," as well as guidance set forth in FHWA's publications "Highways in the River Environment-Floodplains, Extreme Events, Risk, and Resilience" June 2016, (FHWA-HIF-16-018) and "Highways in Coastal Environment: Assessing Extreme Events" October 2014, (FHWA-NHI-14-006) to minimize climate and extreme weather risks and protect transportation infrastructure. As indicated in Section 4.4.4, NCDOT will follow these policies in the implementation of the project.

- On August 1, 2016, the President's Council on Environmental Quality (CEQ) issued final guidance to assist federal agencies in their consideration of the effects of greenhouse gas emissions and climate change when evaluating proposed federal actions in accordance with National Environmental Policy Act (NEPA) and associated CEQ implementing regulations. The guidance was withdrawn on April 5, 2017 and is no longer applicable to this project. One aspect of the withdrawn guidance is consideration of the effects of climate change on a proposed action and its environmental impacts. This was done in part in the FEIS by the consideration of accelerated sea level rise in Section 3.4.4, as well as Section 4.4.4 of this reevaluation study report.

- Since the preparation of the FEIS, Currituck County has begun regulating commercial ventures that involve beach driving. The effect of this change on FEIS findings is discussed in Section 4.6.1.

2.4 Traffic Forecasts

Traffic forecasts were updated for this reevaluation. Traffic forecasts are the basis for identifying projected roadway network congestion under no-build or build conditions. In the case of this project, which had proceeded through development of preliminary alternative designs, traffic forecasts also were the basis to determine whether the preliminary design for the Preferred Alternative and ER2 would provide substantive operational improvements over and above no-build conditions. The analysis of the updated forecasts also identified areas where the previously developed designs could be refined to reduce impacts.

Traffic forecasts also are used in the consideration of emissions of mobile source air toxics (MSAT), energy use, noise impacts, and the constrained growth analysis included in the secondary and cumulative impact assessment. Traffic forecasts help identify project need and whether the alternatives meet the project's purpose and need. The previous traffic forecasts used for the DEIS and FEIS were updated for the following reasons:

- The future forecast year for the previous forecasts (2035) is less than 20 years from the current year.
- The project area is experiencing slower growth rates both in terms of development and traffic than was assumed in the previous forecasts.
- The previous traffic forecasts are 5 years older than its base or existing conditions year of 2006.

All three of these reasons make updated forecasts appropriate per NCDOT's February 24, 2009 "Guidelines to Determine When to Request an Updated Traffic Forecast."

Updated traffic forecasts for 2040 were developed for the following alternatives:

- No-Build Alternative/ER2 (the no-bridge alternative).
- Preferred Alternative (the bridge alternative with tolls). The Preferred Alternative forecasts are applicable to the other Mid-Currituck Bridge Alternatives assessed in the FEIS: MCB2 and MCB4.

The sections below summarize the development and traffic growth assumptions used in the updated traffic forecasts and present a sample of the forecast results. A full discussion of the traffic forecast history, sources of information and data, assumptions, methodology, design factors, and the updated traffic forecasts for each link in the project area's thoroughfare system (US 158, NC 12, and the Mid-Currituck Bridge) are presented in *Project Level Traffic Forecast Report, TIP Project R-2576, Mid-Currituck Bridge, Currituck and Dare Counties* (Parsons Brinckerhoff, 2016). As was done previously, the updated traffic forecasts were developed for annual average daily traffic, non-summer

weekday traffic, non-summer weekend traffic, summer weekday traffic, and summer weekend traffic.

Important to this reevaluation and the decision to be presented in a ROD is the comparison of the updated forecast volumes to the capacity of the various links in the project area's thoroughfares (US 158 and NC 12) and what that comparison indicates regarding the travel benefits offered by the Preferred Alternative (revised design) and ER2 (revised design), as well as the reasonableness of the preliminary design of the Preferred Alternative in terms of its capacity to serve forecast traffic. These topics are addressed in Sections 2.5 and 2.6.

If the ROD identifies a Mid-Currituck Bridge as the Selected Alternative, then an independent traffic and revenue forecast would be one factor important to determining the toll revenue a bridge could generate and its adequacy for bridge financing. This question is the subject of a separate new investment grade traffic and revenue forecast. The original investment grade traffic and revenue forecast was published in *Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts* (Currituck Development Group, 2011). A new investment grade traffic and revenue forecast is being prepared and, when complete, will take into consideration development and traffic growth trends since the development of the original report. It is important to note that the investment grade traffic and revenue forecast is not the basis of decision-making pursuant to NEPA because the revenue forecasts assume a "worst-case" toll generating scenario to determine whether the project is still financially feasible based on conservative toll revenue projections. Whereas, traffic forecasts for the NEPA study are used to inform environmental impacts, and therefore those forecasts do not assume reduced traffic volumes so that environmental impacts are not unreasonably minimized.

2.4.1 Development and Traffic Growth Assumptions

The following assumptions and updated data were used in developing the updated traffic forecasts:

- Traffic counts were taken in July and August 2015, including turn movement counts at 40 intersections (summer weekday at 40 and summer weekend at 16). Seven-day (168 hours) classification counts were collected at 19 locations. These counts identify traffic volumes, travel patterns, and peaking characteristics at today's levels of development. The traffic forecasts underlying the FEIS were based in part on traffic counts taken in 2006.

- Wright Memorial Bridge year-round automatic traffic counts were used to convert existing summer counts to an estimate of existing non-summer volumes. This also was done for the previous traffic forecasts.

- On July 17 and 18, 2015, travel time studies were conducted on existing thoroughfares (US 158 and NC 12) between the two termini of the proposed Mid-Currituck Bridge. Travel time findings presented in Sections 1.2 and 2.2 of the FEIS were based in part on travel times studies conducted in 2006.

- Planned build-out by 2040 was assumed for the NC 12 accessible portion of the Outer Banks north of the intersection of NC 12 and US 158 based on the total number of lots approved for future development. North of the ending of NC 12 the continuation of recent building trends as identified in the previous (2035) forecast was assumed. This represents planned and expected development in the area where traffic movement would be most affected by a Mid-Currituck Bridge. This same assumption was used in the previous traffic forecasts.

  The best starting point for planning a new transportation project is to ask, based on land use plans and development trends, what level of development needs to be served and how well will the various alternatives serve that development. For the Mid-Currituck Bridge project, assuming full build-out of planned and expected development is appropriate in the Southern Shores and Duck areas because they are already 90 percent built-out. In addition, in Currituck County, developable land is fully subdivided or future development is defined by Planned Unit Development. In the NC 12-accessible area, streets and utilities are installed in almost all subdivisions, most public facilities are planned or in place, and planned major commercial areas have developed. Thus, proposed improvements on NC 12 should be sized to accommodate this planned and expected development so such improvements only need to be built once.

  In the non-NC 12 accessible portion of the Currituck County Outer Banks, the level of development assumed in the previous forecasts, which was based on growth trends, also was used in the updated forecast. This assumption was used instead of build-out because of the continued development limitations imposed by the area's lack of federal flood insurance, lack of local paved roads and public services, and designation as a limited service area and land with low suitability for development in the Currituck County CAMA land use plan. In addition, there are commitments in place not to extend NC 12 further north.

  Like in the FEIS, it is recognized that not building the Mid-Currituck Bridge could place a constraint on the construction of planned and expected development. An additional scenario was assessed to determine how congestion on NC 12 might constrain development with the No-Build Alternative and ER2 (both designs) and its potential effect on future congestion. Those findings are addressed in Section 3.1.1.3, and in the indirect and cumulative impact assessment findings are addressed in Section 4.6.

- Projected population growth derived from North Carolina State Data Center socio-economic projections was assumed for rural areas along US 158 in Currituck County. This same assumption was used in the previous traffic forecasts, but the data was updated for the updated traffic forecasts to reflect current projections.

- A combination of permanent population growth trends, current and potential retail expansion, and tourist growth trends were utilized for the updated traffic forecasts in urbanized areas along US 158 south of the Wright Memorial Bridge, as was done for the previous traffic forecasts.

- External station zones on US 158 and NC 168 were based on historic traffic growth, projected population, and tourist growth trends, as was done for the previous traffic forecasts.

The assumptions for these three items took into consideration:

- Land use trends indicated that permanent population in Dare and Currituck County increased steadily from 1990 through 2006, but slowed from compound growth rates of approximately 3 percent per year to less than 1 percent per year since 2006.

- Present State Data Center socioeconomic projections indicate a lower anticipated compound population growth rate in both Dare and Currituck County than the State Data Center had assumed when the previous traffic forecasts were developed. Future estimates of Currituck County compound population growth was estimated to reduce from 2.9 percent to 1.6 percent annually, while Dare County compound population growth was estimated to reduce from 1.8 percent to 1.0 percent annually.

- A key indicator for tourism trends is Gross Occupancy tax receipts collected in Dare County and summarized by the Outer Banks Visitors Bureau. The receipts increased at 9.0 percent annually from 1994 to 2000 and 7.2 percent annually from 2001 to 2006. Since 2006, the annual increase has remained positive but the annual growth rate reduced to 3.7 percent. This data is not a pure indicator of tourist growth since tax rates have changed over this period. The occupancy tax rate was 4 percent though 2002, when it was raised by the General Assembly to 5 percent. It was raised to 6 percent in 2014. In addition, as the occupancy tax was applied there is anecdotal evidence suggesting that the percentage of rentals paying the tax has increased since it was originally put in place. Nevertheless, Gross Occupancy tax receipts are indicative that growth in tourism has slowed, but is continuing.

- *Dare County Comprehensive Transportation Plan* (July 2015)

- *Currituck County Comprehensive Transportation Plan* (May 2012, amended November 2015)

- Interviews with local planning officials related to: CAMA land use plans, building permits, and other development plans.

2.4.2 2015 Traffic and 2040 Traffic Forecasts

Table 2-1 and Table 2-2 compare the previous and updated traffic forecasts for five representative thoroughfare links and two representative time periods, average annual daily traffic and summer average daily traffic. Traffic forecasts for all thoroughfare links and all time periods examined are presented in *Mid-Currituck Bridge Study 2035 Traffic Forecast Report* (Parsons Brinckerhoff, March 2009) for the previous traffic forecasts and *Project Level Traffic Forecast Report, TIP Project R-2576, Mid-Currituck Bridge, Currituck and Dare Counties* (Parsons Brinckerhoff, 2016) for the updated traffic forecasts. This section presents a summary of key changes and their impact on the traffic forecasts. Details are presented in the technical report.

Table 2-1 Comparison of FEIS and Updated Traffic Forecast for Average Annual Daily Traffic

Representative Links	Average Annual Daily Traffic (number of vehicles)					
			No-Build/ER2		Preferred Alternative	
	2006	2015	2035 Previous Forecast	2040 Updated Forecast	2035 Previous Forecast	2040 Updated Forecast
US 158 Barco to Mid-Currituck Bridge	21,300	17,400	45,400	26,100	45,400	26,100
US 158 Wright Memorial Bridge	24,600	21,000	48,700	30,600	37,400	23,100
NC 12 Duck	19,500	16,000	29,000	27,000	21,700	19,500
NC 12 Albacore Street to Mid-Currituck Bridge	14,100	12,100[1]	20,100	17,700[1]	21,700	17,400[1]
Mid-Currituck Bridge	NA	NA	NA	NA	12,600	7,700

Notes: [1]Link 12 in the previous forecasts was split into two links for the updated forecasts, 12a and 12b. This number is the average of the forecasts for links 12a and 12b.

Table 2-2 Comparison of FEIS and Updated Traffic Forecast for Summer Weekday Traffic

Representative Links	Summer Weekday Traffic (number of vehicles per day)					
			No-Build/ER2		Preferred Alternative	
	2006	2015	2035 Previous Forecast	2040 Updated Forecast	2035 Previous Forecast	2040 Updated Forecast
US 158 Barco to Mid-Currituck Bridge	27,000	19,600	54,300	29,300	54,300	29,300
US 158 Wright Memorial Bridge	29,500	23,600	58,900	34,400	46,000	26,000
NC 12 Duck	24,000	18,000	36,500	30,300	27,900	21,900
NC 12 Albacore Street to Mid-Currituck Bridge	17,000	13,600[1]	25,300	19,900[1]	26,800	19,500[1]
Mid-Currituck Bridge	NA	NA	NA	NA	14,500	8,600

Notes: [1]Link 12 in the previous forecasts was split into two links for the updated forecasts, 12a and 12b. This number is the average of the forecasts for links 12a and 12b.

The data in these tables indicate that changed development and traffic growth conditions in Dare and Currituck counties result in lower forecast future traffic volumes than the previous traffic forecasts on the project area's thoroughfare system. The lower traffic volumes reflect several factors:

- Traffic volumes on the project area's thoroughfares (US 158 and NC 12) are lower in 2015 than 2006. Average annual daily traffic crossing the Wright Memorial Bridge dropped from 2006 to 2010 and as of 2015 remains below 2006 levels.

- Current growth trends indicate that the permanent and tourist population will grow at a slower rate than was expected when the previous traffic forecasts were prepared.

- The 2015 traffic counts indicated a lower trip rate (number of trips per day) between existing origins and destinations in the project area than did the counts made for the previous traffic forecasts.

- The previous traffic forecasts reflected 29 years of growth in Dare and Currituck counties from 2006 to 2035. The updated traffic forecasts reflect 25 years of growth in Dare and Currituck counties from 2015 to 2040.

In addition, lower volumes on the project area's thoroughfares (US 158 and NC 12) result in lower travel times on that system. This lowers the travel time savings associated with using the Mid-Currituck toll bridge, which results in some trips no longer shifting from the existing thoroughfare system to the Mid-Currituck Bridge. For example, in the previous traffic forecast there were some forecast travelers driving between the US 158/NC 12 intersection in Dare County and the Currituck County Outer Banks near the bridge terminus via US 158 instead of using NC 12 between these two points. In doing so, they crossed both the Wright Memorial Bridge and the tolled Mid-Currituck Bridge. With lower NC 12 volumes and travel times, such trips between the US 158/NC 12 intersection and the Currituck Outer Banks stay on NC 12 in the updated traffic forecasts.

The effect of the forecast lower volumes on congestion and travel time as it relates to project need and project benefits is discussed in Section 3.0. The effects of changes in development and traffic growth trends on bridge volumes as they relate to toll revenue and toll bridge financing will be addressed in a new investment grade traffic and revenue forecast being prepared independent of this reevaluation.

2.5 Network Congestion Measures

Network congestion measures were developed for the updated traffic forecasts. The same network congestion measures were developed previously for traffic forecasts used for the DEIS and FEIS. The updated network congestion measures are documented in the *Mid-Currituck Bridge Study 2040 Traffic Alternatives Report* (WSP USA, 2018). The FEIS network congestion measures were described in the *Mid-Currituck Bridge Study*

2035 Traffic Alternatives Report (Parsons Brinckerhoff, 2009) and summarized in Sections 1.2 and 2.2 of the FEIS.

Updated network congestion measures were developed for:

- 2015 Existing Conditions
- 2040 Existing Road Network (with and without constrained development)
- 2040 No-Build Alternative (with and without constrained development)
- 2040 ER2 (with and without constrained development)
- 2040 Preferred Alternative (no constraints on planned and expected growth are likely with the Preferred Alternative)

Section 2.8 discusses the basis for constrained development. The revised designs were evaluated. Updated network congestion measures developed were:

- One-hour peak period level-of-service (LOS) and volume/capacity ratios for 16 existing road links along US 158 and NC 12, as well as, the Mid-Currituck Bridge for:
  - Average Annual Daily Traffic
  - Non-summer weekday traffic
  - Non-summer weekend traffic
  - Summer weekday traffic
  - Summer weekend traffic

  The customary LOS classifications of A (free-flowing traffic) to F (highly congested traffic with travel demand equaling or exceeding the capacity of each road link in the thoroughfare system) were used. At LOS E or higher, traffic is considered congested. Travel demand is how many vehicles want to travel on a road in an hour. Capacity is the number of vehicles a road can carry in an hour. A classification of Poor F also was used, defined as travel demand of 30 percent higher than the capacity of the road. If, for example, a road has the capacity to carry 10,000 vehicles in an hour and demand is 13,000 vehicles in an hour, then demand is 30 percent over capacity. The volume/capacity ratio is the ratio of hourly travel demand to one-hour road capacity. When peak hour travel demand exceeds the capacity of a road, then then the travel demand spreads to other hours where unused capacity still exists, lengthening the peak period.

- Miles of congested roadway at LOS E, F, and Poor F on the summer weekday, summer weekend, and weighted average of summer weekday and summer weekend.

- Duration of congestion on each road link with level-of-service LOS E, F, and Poor F.

- Congested annual millions of vehicle-miles traveled (VMT), including total annual congested VMT (LOS E and higher), VMT with LOS F, and VMT at Poor F.

- Summer weekday and summer weekend travel time for vehicle trips between the west and east termini of the proposed Mid-Currituck Bridge via US 158 and NC 12 through Dare County, with and without a Mid-Currituck Bridge, as well as travel time for the same trip using a Mid-Currituck Bridge.

The FEIS and updated network congestion measures are compared in that context in Section 3.0.

The congestion measures developed for the FEIS were developed using the methodology contained in the fourth edition of the *Highway Capacity Manual* (HCM) published in 2000. The HCM is published by the Transportation Research Board, an arm of the US National Academy of Sciences, and is based on decades of research sponsored primarily by the federal government. The HCM has been adopted by the NCDOT (and other State and Municipal transportation departments) for official use in all traffic analyses like this one. The updated congestion measures presented in this reevaluation were developed using the latest (sixth) edition of the HCM published in 2016.

The primary differences from the 2000 HCM that affect the congestion findings are changes to the hourly capacity of roads and in the hourly volume thresholds at which the different LOS occur based on additional research and the inclusion of capacities for a Class III capacity. The effects of these changes were minor except for the two-lane NC 12. In the FEIS modeling using the 2000 HCM and a Class II two-lane road, the two-way capacity was assumed to be 2,218 vehicles per hour (vph) and the LOS E threshold used to differentiate congested traffic from uncongested traffic was 70 percent of 2,218 vph or 1,529 vph. The two-lane road category of Class III was first added to the HCM in the 2010 fifth edition. A Class III two-lane road is a two-lane road in a built-up area, which fits NC 12 well. A Class III two-lane road is defined in the 2016 HCM as having:

- A two-way capacity of 1,913 vph and a LOS E threshold of 62 percent of capacity or 1,185 vph in areas with frequent driveways or local street intersections. This capacity was assumed south of the Duck commercial area.

- A two-way capacity of 2,550 vph and a LOS E threshold of 62 percent of capacity or 1,580 vph in areas with consolidated driveways or subdivision entrances. This capacity was assumed north of the Duck commercial area.

Section 3.1.1 presents updated congestion findings as they relate to project need. Section 3.2 updated congestion findings as they relate to project benefits.

2.6 Design Capacity Studies for ER2 and the Preferred Alternative

Design capacity using the updated traffic forecast was considered to determine appropriate revisions to the design features of ER2 and the Preferred Alternative.

Design capacity is considered to ensure that preliminary design features can carry forecast traffic, preferably at a peak period LOS D during the summer weekday if possible. At LOS D, traffic operates within a high-density flow in which speed and freedom to maneuver are severely restricted and comfort and convenience have declined, however traffic flow (movement) remains stable. Design capacity studies for the Preferred Alternative also considered whether Mid-Currituck Bridge traffic would back-up on NC 12 or US 158 in 2040 during the summer weekend.

In the definition of ER2, one decision made it impossible to achieve LOS D on the summer weekday along NC 12 in Dare County. To achieve LOS D or better in Dare County, NC 12 would need to be widened to four lanes. This would cause substantive human environmental impacts (more than 200 displacements including 50 businesses), as documented in Section 2.5 of the FEIS.

2.6.1 ER2

Design capacity studies for ER2 found:

- On US 158 from the Wright Memorial Bridge to NC 12, a six-lane superstreet was appropriate. A four-lane superstreet was considered, but it was found that, while it could function at an adequate level-of-service on the summer weekday, that severe congestion on the summer weekend warranted the additional two lanes.

- An improved US 158/NC 12 intersection was now sufficient and an interchange was not necessary with the lower traffic forecasts. Except for left turns from eastbound US 158 to northbound NC 12, drivers wanting to turn left would turn right and make a U-turn at U-turn lanes on either side of the intersection.

- On NC 12 in Dare County, the benefits of the center turn lane were found to be marginal north of the existing three-lane section in Duck. Thus, the center turn lane improvement was ended at the south end of the existing three-lane section.

- On NC 12 in Currituck County, improvements were found not to be essential with the updated traffic forecasts.

2.6.2 Preferred Alternative

The updated design capacity studies for the Preferred Alternative found:

- That an interchange was still appropriate at the bridge terminus with US 158 to serve forecast 2040 volumes. The interchange was redesigned to account for the lower forecast traffic volumes and to further reduce wetland impacts. The interchange

design revision eliminated the need for a median acceleration lane at US 158's intersection with Waterlily Road

- The preliminary design for the Preferred Alternative shows a two-lane bridge. Since this is the minimum number of lanes, the lower traffic volumes did not affect the number of lanes on the bridge.

- On NC 12, it was found that with the lower traffic volumes, generally improvements were found not to be essential except around the bridge terminus. The design proposed in the FEIS in the area of the bridge terminus is unchanged. A left turn lane was added to Albacore Street to serve turns from westbound Albacore Street to southbound NC 12.

- For the roundabout at the Mid-Currituck Bridge eastern terminus at NC 12, a single lane roundabout could theoretically operate at acceptable conditions in 2040 on the summer weekday. However, for the 2040 summer weekend, poor LOS F operations would occur resulting in queuing back on all approaches to the roundabout including the Mid-Currituck Bridge. One criteria for the preliminary design was that operations on the bridge and at the termini connections with US 158 and NC 12 must be able to operate at LOS E or better for the summer weekend. Therefore, the Preferred Alternative preliminary design of a two-lane roundabout remains applicable for this location.

2.7 Hurricane Clearance Modeling

Several changes have occurred related to hurricane clearance modeling since the 2012 FEIS.

First, the Federal Emergency Management Agency (FEMA)/USACE hurricane clearance model used by emergency management officials to determine when to issue evacuation orders was revised in 2016 (FEMA/USACE, September 2016). The updated model takes into consideration current understandings of residential and visitor behavior when an evacuation is ordered, the current road network, and current housing/vehicle data. The primary change from the previous model used for the 2012 FEIS is that, based on input from local emergency management officials, the updated model assumes that two-thirds of evacuees choosing to evacuate northbound on US 158 will continue north to Virginia on NC 168 from the US 158/NC 168 intersection. The previous model assumed one-third went north on NC 168 and two-thirds turned left and evacuated to the west on US 158. The hurricane clearance need and benefits analysis presented in Sections 3.1.3 and 3.2.3 uses the updated model.

The FEMA/USACE model assumes the current road network. For estimating, 2040 clearance times, STIP projects R-2574 (widening US 158 from NC 168 to Belcross) and R-3419 (access improvements to US 158 from the Wright Memorial Bridge to US 64) were added to the model for all clearance time forecasts.

The FEMA/USACE model assumes 2014 housing data. The Mid-Currituck Bridge study team generated an updated 2040 housing estimate for use in the updated model, replacing the 2035 estimate used in the FEIS clearance time study. The 2040 housing estimate assumes the same development levels on the Outer Banks north of US 158 as the traffic forecasts. Both unconstrained development levels and development levels constrained by insufficient NC 12 capacity were calculated for the No-Build Alternative and ER2. Existing conditions (2016) for the hurricane modeling were grown from 2014 housing data included in the FEMA/USACE model by applying 1.5 percent growth over a two-year period.

Second, the effect of the Commonwealth of Virginia closing their border to North Carolina evacuees to facilitate evacuation of the Hampton Roads area can now be calculated. When the border is closed, the evacuation of Outer Banks residents and visitors via NC 168 is not possible. This reevaluation presents clearance times both with NC 168 open to evacuation and closed to evacuation. Virginia has only closed their borders to North Carolina evacuees on NC 168 once. It is expected to be a rare event, but because it happened once plans have been put in place to address the situation should it ever happen again.

Finally, the National Hurricane Center has changed its warning and watch timeframes in advance of tropical systems from 24 and 36 hours, respectively, to 36 and 48 hours, respectively. North Carolina's 18-hour legislative clearance time goal was established in 2005 based on the 24-hour warning timeframe. The 18-hour goal accommodated 18 hours of traffic movement and allowed an additional 6 hours for what are called pre-landfall hazards time. This 6-hour block of time is the time before eye landfall in which evacuation is too dangerous because of the arrival of sustained tropical storm winds. The 18-hour goal was set so that evacuation advisories/mandates could be issued at the hurricane warning and allow communities to complete evacuation before the arrival of hazardous roadway conditions. Given the change by the National Hurricane Center of the warning timeframe from 24 to 36 hours and that the 18-hour goal was based on the 24-hour timeframe, use of a 30-hour goal (36 hours minus 6 hours) when considering the benefits of the Mid-Currituck Bridge project is now used in this reevaluation in addition to the 18-hour goal legislated by the North Carolina General Assembly based on the 24-hour warning timeframe.

2.8 Development Constraints Along NC 12

The indirect and cumulative impacts assessment in the FEIS addressed potential constraints on development on the Outer Banks north of US 158 resulting from NC 12 having insufficient capacity to serve traffic generated by planned and expected development. The results were discussed in Section 3.6.1.4 of the FEIS under "Potential for Change in Development Location, Rate, or Type on the Paved Road-Accessible Outer Banks" and in the indirect effects assessment in Section 3.6.2.2. For the reevaluation, the development constraints analysis was revised to take into consideration:

- The decrease in the trips per dwelling unit found during 2015 traffic counts and assumed in the updated traffic forecasts.

- The lower two-lane arterial capacity in the 2016 HCM used for south of the Duck commercial area in the updated congestion levels analysis described in Section 2.5.

Both the previous and the updated analyses assumed that just south of the Duck commercial area (the critical link) the maximum travel demand that could be accommodated on NC 12 equaled the one-hour maximum capacity for 10 hours a day (9 AM to 7 PM) on the summer weekend and congested traffic levels begin at 6 AM and end at 10 PM, for a total of 16 hours of congestion. The extent to which the travel demand of planned and expected development that could not be accommodated within this time constraint resulted in a presumed decrease in future development.

The updated analysis (summarized in Table 2-3) identified a trip rate on the summer weekend through the critical link of approximately 4.4 trips per dwelling unit. The updated traffic forecasts found that with planned and expected development 42,800 vehicles per day would pass through the critical link on a summer weekend day. Planned and expected dwelling units north of the critical link used in the updated traffic forecasts were 9,722 dwelling units. The vehicles per day divided by the number of dwelling units equals approximately 4.4 trips per dwelling unit. The travel demand of 42,800 vehicles per day includes vacation home and hotel arrivals and departures, as well as trips by permanent residents, owners of second homes, and service and business workers.

The previous analysis found that:

- With the No-Build Alternative, development on the Outer Banks north of US 158 would be limited to 10,800 dwelling units (homes and hotel rooms) rather than the planned and expected development of 13,200 dwelling units assumed in the 2006 traffic forecasts.

- With ER2, NC 12 would be widened to three lanes, thus development on the Outer Banks north of US 158 would be limited to 11,600 dwelling units rather than the planned and expected development of 13,200 dwelling units assumed in the 2006 traffic forecasts.

The revised constrained development analysis had similar results at 10,646 dwelling units with the No-Build Alternative and 11,577 dwelling units for ER2. Full planned and expected development is 13,122 dwelling units. The results are similar because the additional constraint of less capacity on NC 12 is offset by the lower trips per dwelling unit. In 2014 it was estimated that north of US 158 there were 9,565 dwelling units. Thus, the estimated constraint of 10,646 dwelling units for the No-Build Alternative has not yet been reached.

Table 2-3 Travel with and Without Development Constraints

	Planned and Expected Development		Maximum Vehicles Per Day Through Critical Link on SWD	Peak Period on SWD	Congested Traffic Period (Includes Peak Period)	Approximate Trips Per DU Through Critical Link (Rounded to nearest 10th)
	DUs North of US 158	DUs North of Critical Link		With Approximately 4.4 Trips per DU		With 10 Peak and 16 Congested Hours
No Build Alternative						
Constrained Development	10,646	7,246	31,900	10 hours	16 hours	4.4 trips
All Planned and Expected Development	13,122	9,722	42,800	22 hours	24 hours	3.3 trips
ER2						
Constrained Development	11,577	8,177	36,000	10 hours	16 hours	4.4 trips
All Planned and Expected Development	13,122	9,722	42,800	18 hours	24 hours	3.7 trips

Notes: Dwelling Unit (DU). Summer Weekday (SMD).

The potential for the constraint of development to be less than indicated by the constrained development analysis and its assumptions also was considered for this reevaluation from two perspectives:

- The potential for visitors arriving and departing from vacation homes north of the critical link to accept summer weekend peak period longer than 10 hours.

- A potential drop in the number of summer weekend trips through the critical link that are not associated with rental home and hotel arrivals and departures. This could provide the opportunity for more visitor arrival and departure trips to pass through the critical link on the summer weekend within a 10-hour peak period.

2.8.1 Potential for a Longer Summer Weekend Peak Period

If one assumes that all planned and expected development north of the critical link occurs by 2040 (9,722 dwelling units) and the trips per dwelling unit through the critical link remains at approximately 4.4 trips, then instead of a 10-hour peak period with a total 16 hours of congestion the following would occur:

- No-Build Alternative: 22-hour peak period with congestion 24-hours a day.

- ER2: 18-hour peak period with congestion 24-hours a day.

The 16 hours used in the constrained development assumed that congested traffic levels begin at 6 AM and end at 10 PM (Table 2-3).

It seems unlikely that the peak period would spread further given that the 16-hour congested period likely contains the working hours of most workers north of the critical link and the number of visitors willing to arrive at their vacation home late in the evening or leave their vacation homes in the early morning is likely very small. The chance that an 18 or 22-hour peak period associated with build-out of all planned and expected development would occur is negligible.

2.8.2 Non-Visitor Trips Through the Critical Link

A drop in the number of summer weekend trips through the critical link that are not associated with rental home and hotel arrivals and departures could provide the opportunity for more rental home and hotel arrivals and departures to pass through the critical link. This could decrease the constraint on development and increase the number of visitors on the road network on both the summer weekday and weekend.

Opportunities for reducing non-arrival and departure trips include increases in:

- Employee car and van-pooling
- The number of permanent and second-home residents who choose to not make trips through the critical link on summer weekends
- The number of visitors who choose not to pass through the critical link on the summer weekend except for arrival and departure.

When assuming a 10-hour peak period and a total of 16 congested hours, the maximum number of trips that can pass through the critical link on a summer weekend with the No-Build Alternative is approximately 31,900 vehicles per day. With a trip rate of approximately 4.4 trips per dwelling unit, the maximum number of units served north of the critical link would be 7,246 dwelling units (31,900 divided by 7,246 is approximately 4.4) of the 9,722 dwelling units associated with planned and expected development. If the trip rate were to drop to approximately 3.3 trips per dwelling unit, then all 9,722 planned and expected units north of the critical link could be served.

When assuming a 10-hour peak period and a total of 16 congested hours, the maximum number of trips that can pass through the critical link on a summer weekend with ER2 is approximately 36,000 vehicles per day. With a trip rate of approximately 4.4 trips per dwelling unit, the maximum number of dwelling units served north of the critical would be 8,177 (36,000 divided by 8,177 is approximately 4.4) of the 9,722 dwelling units associated with planned and expected development. If the trip rate were to drop to 3.7 per dwelling unit, then all 9,722 planned and expected units north of the critical link could be served.

The trip rate per dwelling unit for development north of the critical link has declined since 1995. Available data shows that the trip rate through the critical link was approximately 5.4 trips per dwelling unit in 1995, 4.7 in 2007, 4.5 in 2012, and 4.4 in 2015. The decline likely results from a combination the growth in services and commercial development in Currituck County and the growing congestion on NC 12. The growing congestion reduces the incentive to travel through the critical link other than to arrive or depart, and the growth in services and commercial development adds activities to occupy the time of visitors north of the critical link on weekends. Although, increased services and commercial development increases the number of employees that must pass through the critical link to reach jobs. The greatest decline occurred between 1995 and 2007 (0.9 trips per dwelling unit over 8 years). Since that time the rate of decline was much less (0.3 trips per dwelling unit over 8 years from 2007 to 2015). This could indicate that any further declines would be small.

Thus, while further small reductions in the trip rate are possible, the chance that the trip rate would decrease from 4.4 to 3.3 (25 percent drop with the No-Build Alternative) or 3.7 (16 percent with ER2) is considered very small.

2.8.3 Impact of Additional Development North of the Critical Link on Overall Congestion Levels

If the development constraint is reduced by a longer peak period or fewer non-arrival and departure trips on the summer weekend, then there would be more visitors on the road network on both the summer weekend and weekday. This would increase the extent and severity of summer congestion. Thus, a small decrease in the constraint on planned and expected development north of the critical link can notably change overall congestions levels.

This can be seen by comparing the constrained development congested VMT results for the No-Build Alternative and ER2 in Table 3-6 that is presented for discussion later in this revaluation. An increase from 7,245 dwelling units north of the critical link with the No-Build Alternative to 8,177 with ER2 is a 13 percent increase in development. However, the overall annual congested VMT rises from 34.4 million vehicle-miles to 50.4 million vehicle-miles, a 47 percent increase.

An increase from 7,245 dwelling units north of the critical link with the No-Build Alternative to the unconstrained 9,722 dwelling units is a 34 percent increase in development. When assuming unconstrained development, the congested VMT for the No-Build Alternative rises from 34.4 million vehicle-miles to 96.8 million vehicle-miles (Table 3-5), a 181 percent increase.

2.8.4 Use of Constrained and Unconstrained Development Results in Reevaluation

As discussed in Sections 3.1.1, with the previous traffic forecasts and the 2000 HCM road capacities used in the FEIS constrained development analysis did not affect project need and benefit conclusions related to congestion. However, the application of the development constraints to the congestion and hurricane clearance assessment for this

reevaluation was found to have a relevant effect on the congestion and hurricane evacuation benefit findings. Therefore, this reevaluation presents both the constrained development and unconstrained development estimates in its discussion of:

- Congestion, travel time, and hurricane clearance as a project need in Section 3.1.
- Congestion, travel time, and hurricane clearance benefit in Section 3.2.
- Effect of the updated traffic forecasts on the 2009 detailed study alternatives decisions in Section 3.3.

Based on the analysis presented above in Sections 2.8.1 and 2.8.2, the constrained development estimates most closely represent what is considered likely to occur. However, based on the findings in Section 2.8.3, a small decrease in the development constraint, could result in a notable increase in overall congested VMT in the project area.

3.0 Changes in Project Need and Project Benefits since the Preparation of the FEIS

3.1 Changes in Project Need Findings

The FEIS identified three underlying needs of the project area:

1. The need to substantially improve traffic flow on the project area's thoroughfares (US 158 and NC 12);

2. The need to substantially reduce travel time for persons traveling between the Currituck County mainland and the Currituck County Outer Banks; and

3. The need to substantially reduce hurricane evacuation times from the Outer Banks for residents and visitors who use US 158 and NC 168 as an evacuation route.

The FEIS said that an improvement is considered substantial as opposed to minor if the improvement is great enough to be largely noticeable to typical users of the transportation system and if the improvement offers some benefit across much of the network, as opposed to offering only a few localized benefits.

The FEIS in Section 1.2 documented the travel conditions underlying each need using previous congestion findings. These conditions were revisited using updated congestion, travel time, and hurricane clearance study results to determine if each need remained and, if so, what were the conditions underlying each need found in the updated study results.

The sections that follow present the FEIS findings on the travel conditions associated with each project need, as well as the changed congestion, travel time, and hurricane clearance time conditions resulting from updated studies. It is concluded that, although the specifics of the travel conditions generating each need changed, the three project area needs listed above still warrant improvements to the transportation system.

3.1.1 Traffic Flow and Congestion

The FEIS stated in Section 1.2 of the FEIS regarding congestion as a project need:

> **The project area's main thoroughfares (US 158 and NC 12) are becoming increasingly congested, and congestion will become even more severe in the future.**

The updated congestion analysis using the 2040 traffic forecasts and the 2016 HCM found that the main thoroughfares are still congested (as of 2015) and forecast to become worse.

The FEIS then presented in Section 1.2 five bullet points and a paragraph summarizing the extent of existing and expected congestion problems on US 158 and NC 12 in the project area. The FEIS project area thoroughfare network congestion findings are compared to the updated findings in Table 3-1. There are two differences between the FEIS analysis and the updated analysis of congestion-related need that are important to consider. These are discussed in Sections 3.1.1.1 and 3.1.1.3. Section 3.1.1.4 then compares the documentation of the congestion need depicted in Section 1.2 for the FEIS with current findings presented in Table 3-1.

Table 3-1 Network Congestion Existing Network and No-Build Network[1]

	Previous Traffic Forecasts			Updated Traffic Forecasts[2]				
	2006	2035		2015	2040			
		Unconstrained Development	Constrained Development[3]		Unconstrained Development		Constrained Development[3]	
	Existing	Existing and No-Build	Existing and No-Build	Existing	Existing	No-Build	Existing	No-Build
Total Annual Congested VMT (millions)	5.4	66.1	60.8	16.4	98.1	96.8	35.2	34.4
Miles of Road Operating with Traffic Demand at or Above Road Capacity								
Summer Weekday	3.7	16.8	7.9	0.0	5.8	5.8	0.0	0.0
Summer Weekend	4.5	43.5	41.4	2.8	15.5	15.5	8.3	8.3
Miles of Road with Traffic Demand 30 Percent or Above Road Capacity								
Summer Weekday	0.0	5.7	5.7	0.0	0.0	0.0	0.0	0.0
Summer Weekend	0.0	7.9	5.7	0.0	8.3	8.3	0.1	0.0

Notes: [1]The existing network consists of NC 12 and US 158 in the project area in their current configuration. The No-Build Alternative adds improvements to that network included in the STIP excluding the proposed project and its alternatives. The existing and No-Build networks were identical in the FEIS. The 2018 to 2027 STIP (August 2017) includes project R-3419, which includes improvements the US 158 from the Wright Memorial Bridge to NC 12. See Section 1.2.1.3. [2]The congestion measures use road capacity assumptions contained in the 2016 HCM. The FEIS congestion measures were based on the 2000 HCM. The 2040 traffic forecasts are lower than the 2035 traffic forecasts. See Section 2.5 for additional explanation. [3]Assumes planned and expected development along NC 12 in Currituck County is constrained by congestion on NC 12. See Section 4.6.3.

3.1.1.1 FEIS No-Build Alternative and Updated No-Build Alternative

Table 3-1 provides separate 2040 congestion findings assuming:

- The existing thoroughfare network in the project area, which was how the No-Build Alternative was defined in the FEIS in Section 3.6.1.4.

- The revised No-Build Alternative network assumed in this reevaluation, which adds 2018 to 2027 STIP project R-3419, US 158 capacity improvements from the Wright Memorial Bridge to US 64 to the thoroughfare network.

This information in Table 3-1 indicates that differences between traffic flow in 2040 with the existing network versus the No-Build Alternative network are small. For example, total congested annual VMT with unconstrained development is 98.1 million with the existing road network and 96.8 million with the No-Build network, a reduction of 1.3 percent. With this comparison and observation made, the remaining discussion of project travel need assumes the revised No-Build Alternative.

3.1.1.2 Changes in Benefits Assuming No Constraint on Development

Table 3-1 indicates with the No-Build Alternative and assuming no constraint on development, the total annual congested VMT is notably higher, 98.1 million versus 66.1 million, despite lower traffic forecasts. This is primarily the result of two factors. First, from the Duck commercial area south, where travel demand on NC 12 is the greatest, the threshold at which congestion occurs is lower with the 2016 HCM (1,185 vehicles per hour) than with the 2000 HCM (1,529 vehicles per hour) used for the FEIS analysis. Second, the miles of road where travel demand is greater than the capacity of the road drops notably from 16.8/43.5 million VMT (previous analysis) on the summer weekday/weekend to 5.8/15.5 million (updated analysis). Thus, the lower traffic forecast reduces the severity but not the extent of congestion.

3.1.1.3 Effect of Constrained Development on Congestion

Table 3-1 also presents the 2035 travel benefits as shown in the FEIS in Table 2-3 plus the travel benefits of the Existing/No-Build Alternative assuming the development constraints documented in in Section 3.6.1.4 of the FEIS under "Potential for Change in Development Location, Rate, or Type on the Paved Road-Accessible Outer Banks" and in the indirect effects assessment in Section 3.6.2.2. The latter information was requested in comments received on the FEIS. The constrained development analysis and its findings are discussed for the FEIS findings and the updated analysis for this reevaluation in Section 2.8. The development constraint results from NC 12 lacking the capacity to serve the summer weekend travel demand associated with planned and expected future (2035 in the FEIS) development in Currituck County. Table 3-1 indicates that when assuming constrained development using FEIS 2035 traffic and the 2000 HCM, a substantial need remains, e.g. total annual congested VMT is 60.8 million VMT with constrained development versus 66.1 million VMT with unconstrained development.

It also can be seen from Table 3-1 that the updated lower traffic forecasts combined with use of the 2016 HCM manual has notable effects on traffic flow findings related to constrained and unconstrained development. When constrained development is assumed with the No-Build Alternative, total congested VMT drops from 96.8 to 34.4 million. Substantial additional reductions in travel demand above the capacity of the road (LOS F) also can be seen. This change occurs primarily because the lower 2040 traffic forecasts result in substantially less travel demand above the capacity of the road.

Thus, when traffic is reduced by less development, the outcome is primarily to drop level-of-service from a congested LOS E to an acceptable LOS D. With the previous analysis, much of the reduction in travel demand was from LOS F to LOS E; LOS E is still considered congested.

The indirect and cumulative impact assessment for the FEIS concluded that it was reasonable to assume that NC 12 does not have adequate capacity to serve the summer weekend travel demand of planned and expected development and the updated congestion analysis indicates that assuming development is constrained has a notable effect on congestion findings. Thus, for this reassessment of the congestion need the 2040 constrained and unconstrained development findings are referenced when addressing the project's congestion need in the discussion below. For the same reason, 2040 constrained and unconstrained development congestion is discussed when addressing the benefits of project alternatives.

3.1.1.4 Extent of Existing and Expected Congestion Problem in the Project Area

The following six subsections compare the documentation of the congestion need depicted in the five bullet points and concluding paragraph in Section 1.2 on pages 1-3 and 1-4 of the FEIS with current findings presented in Table 3-1.

Existing Conditions Congestion

The FEIS said in Section 1.2 that in 2006, congestion occurred on almost all of NC 12 in the project area. The worst congestion occurred in the summer (summer weekday [2 hours per day] and summer weekend [7 hours per day]) on NC 12 in Southern Shores and Duck and on US 158 east of the Wright Memorial Bridge. On both the summer weekday and the summer weekend, travel demand exceeded the capacity of NC 12 in Southern Shores.

For the updated base year of 2015, the combination of the updated traffic volumes and the road capacities used in the 2016 HCM, including a reduction in NC 12 capacity, show in Table 3-1:

- An increase in total annual congested VMT compared to the 2006 results (16.4 million VMT versus 5.4 million VMT). Congestion occurs on both the summer weekday and summer weekend on NC 12 and on the summer weekend on US 158 east of the Wright Memorial Bridge.

- A decrease in the miles of road operating with travel demand at or above road capacity. The hourly travel demand over capacity now only occurs on the summer weekend on 2.8 miles of road, including NC 12 between Dogwood Trail and Sea Oats Trail /13th Street (with congestion for 13 hours a day), as well as US 158 from Cypress Knee Trail to NC 12/US 158 intersection (with congestion for 9 hours per day).

Future Existing Network and No-Build Congestion

In Section 1.2, the FEIS found in its 2035 design year that travel demand would exceed the capacity of the road to handle that demand on almost all project area segments of NC 12 and US 158 east of the Wright Memorial Bridge during the summer weekday and summer weekend (approximately 29 miles). On the summer weekend, travel demand also would exceed road capacity on all US 158 segments between NC 168 and the eastern end of the Wright Memorial Bridge (an additional approximately 27 miles). When demand exceeds capacity, heavy congestion occurs, and congestion occurs over more hours in the day.

As shown in Table 3-1, the combination of the updated traffic forecasts and the road capacities used in the 2016 HCM show that assuming constrained or unconstrained development, congested VMT will grow from 2015 either with the existing network or the No-Build network. Assuming constrained development, congested VMT is expected to grow 109 percent (16.4 million to 34.4 million) between 2015 and 2040 with the No-Build Alternative. Assuming unconstrained development, congested VMT is expected to grow 490 percent (16.4 million to 96.8 million) between 2015 and 2040 with the No-Build Alternative. Assuming constrained development, on the summer weekday congestion will be focused on NC 12 from the Duck commercial area south. On the summer weekend US 158 east of the Wright Memorial Bridge and most of NC 12 will be congested in 2040 (including between Currituck Clubhouse Drive and Albacore Street in Currituck County and between Pine Island at Audubon Drive in Currituck County and US 158 in Dare County). Assuming unconstrained development, on the summer weekday congestion the worst congestion will be focused on NC 12 from just north of the Duck commercial area to US 158, but congestion also would occur on NC 12 all the way to Albacore Street in Currituck County. On the summer weekend, US 158 from Powell's Point west of the Wright Memorial Bridge to south of the NC 12 intersection would be congested. NC 12 south of Albacore Street would be congested, but the congestion would be more severe than on the summer weekday.

Future Existing Network and No-Build Traffic Exceeding Road Capacity on the Summer Weekday

The FEIS found in Section 1.2 that in 2035, on the summer weekday, on US 158 east of the Wright Memorial Bridge and NC 12 in Southern Shores and parts of Duck, travel demand would be notably greater than the capacity of these roads. Demand was expected to be 81 percent above the capacity of US 158 and as much as 54 percent above the capacity of NC 12.

The updated congestion analysis found that in 2040 traffic demand greater than road capacity will not occur on the summer weekday assuming constrained development. Assuming unconstrained development, traffic demand greater than road capacity would occur on the summer weekday from just north of the Duck commercial area to US 158.

Future Existing Network and No-Build Traffic Exceeding Road Capacity in Currituck County on the Summer Weekend

The FEIS found in Section 1.2 that in 2035, on the summer weekend, US 158 in Currituck County between NC 168 and the Wright Memorial Bridge would be congested for 10 to 11 hours a day, with demand 16 to 19 percent above the capacity of US 158.

The updated congestion analysis found that with either constrained development or unconstrained development 2040 traffic demand generally will not exceed NC 12 capacity in Currituck County. The one exception is in the Pine Island area assuming unconstrained development.

Future No-Build Traffic Exceeding Road Capacity in Dare County on the Summer Weekend

The FEIS in Section 1.2 found that in 2035, on the summer weekend, US 158 east of the Wright Memorial Bridge and NC 12 in Dare County would be congested for 15 to 18 hours per day, with demand 117 percent above the capacity of US 158 and as much as 162 percent above the capacity of NC 12.

As shown in Table 3-1, with constrained development in 2040, the miles of road with traffic demand exceeding capacity will rise from 2.8 miles in 2015 to 8.3 miles, including NC 12 between Christopher Drive north of the Duck commercial area and US 158 (congestion for up to 15 hours per day with demand up to 27 percent above capacity), as well as US 158 from the Wright Memorial Bridge to Eckner Street, just south of the NC 12/US 158 intersection (congestion for up to 12 hours per day with demand up to 18 percent above capacity between Cypress Knee Trail and NC 12).

As shown in Table 3-1, with unconstrained development in 2040, the miles of road with traffic demand exceeding capacity will rise from 2.8 miles in 2015 to 15.5 miles, including NC 12 in the Pine Island area of Currituck County and US 158 (congestion for up to 21 hours per day with demand up to 64 percent above capacity), as well as US 158 from the Wright Memorial Bridge to Eckner Street, just south of the NC 12/US 158 intersection (congestion for up to 15 hours per day with demand up to 26 percent above capacity between Cypress Knee Trail and NC 12).

Future Network Congested Traffic

The FEIS found in Section 1.2 that the above factors would increase the annual vehicle-miles of travel under congested conditions in the project area from 5.4 million (2006) to 66.1 million (2035). Miles of road with travel demand at or exceeding road capacity in the summer was expected in the FEIS to increase from a weighted average (summer weekday versus summer weekend) of 3.9 miles to 22.9 miles between 2006 and 2035. For the same period, the weighted average miles where demand exceeds capacity by more than 30 percent in the summer was also expected to rise from zero to 6.3 miles.

As shown in Table 3-1, the above factors would increase in the annual vehicle-miles of travel under congested conditions in the project area from 16.4 million (2015) to 34.4 million (2040 assuming constrained development) or 96.8 million (2040 assuming

unconstrained development). Miles of road with travel demand at or exceeding road capacity in the summer is expected to increase from a weighted average (summer weekday versus summer weekend) of 0.8 mile to 2.4 miles between 2015 and 2040 with constrained development and 8.6 miles with unconstrained development. With the updated 2040 forecasts assuming constrained development, the extreme high demand of 30 percent or above the road capacity will not occur. With unconstrained development, extreme high demand would occur for 8.3 miles on US 158 east of the Wright Memorial Bridge and NC 12 from just north of the Duck commercial area to US 158.

With either unconstrained or constrained development, the project area's main thoroughfares (US 158 and NC 12) are becoming increasingly congested, and congestion will become even more severe in the future. Therefore, the need to reduce future congestion levels remains.

3.1.2 Travel Time

The FEIS stated on in Section 1.2 of the FEIS regarding improving travel time as a project need:

> **Increasing congestion is causing travel time between the Currituck County mainland and the Currituck County Outer Banks to increase, especially during the summer.**

The updated travel time analysis found that this is still true.

The FEIS then presented two paragraphs summarizing the existing and expected future travel time along the US 158 and NC 12 in the project area.

As an example of travel time between the Currituck County mainland and the Currituck County Outer Banks, the 40.9-mile trip between Aydlett Road (SR 1140) at US 158 (on the Currituck County mainland) and Albacore Street (SR 1402) at NC 12 (on the Currituck County Outer Banks) was evaluated in the FEIS. This trip was selected as a representative trip from the Currituck County mainland to the Currituck County Outer Banks even though not all trips have this origin or destination.

The uncongested travel time for this representative trip, allowing for stops at signalized intersections, is approximately 1 hour. The FEIS found that under base year (2006) conditions, this trip took approximately 1 hour and 8 minutes on a summer weekday, and approximately 1 hour and 42 minutes on a summer weekend. With the results of updated travel time studies conducted the summer of 2015 combined with the updated traffic forecasts, under base year (2015) conditions, this trip took approximately 56 minutes on a summer weekday, and approximately 1 hour and 49 minutes on a summer weekend.

The FEIS concluded that in 2035, travel time for this trip was expected to be just over 2 hours on the summer weekday and more than 3 hours and 53 minutes on the summer weekend with the No-Build Alternative. Increases in travel time would result from

increasing peak period congestion. The updated 2040 travel time shows lower travel times. With the results of updated travel time studies conducted in the summer of 2015 combined with the updated traffic forecasts, this trip is expected to be in 2040 approximately 1 hour and 56 minutes (four minutes under 2 hours) on the summer weekday and approximately 3 hours and 7 minutes on the summer weekend. The updated summer weekend travel time is 47 minutes less than the time in the FEIS, and the updated summer weekend travel time is 82 minutes less that the time in the FEIS; but remains far above the uncongested travel time of approximately 1 hour. These travel times would be even longer when accidents occur or if back-ups occur at signalized intersections.

Therefore, travel times are still expected to be high but improving the roadway infrastructure would reduce travel time.

3.1.3 Hurricane Evacuation Times

The FEIS stated in Section 1.2 regarding the need to improve hurricane evacuation times as a project need:

> **Hurricane evacuation times for residents and visitors who use US 158 and NC 168 as a hurricane evacuation route far exceed the state-designated standard of 18 hours.**

The FEIS stated that North Carolina's statewide hurricane evacuation clearance time standard is 18 hours (NC General Statutes § 136-102.7, "Hurricane Evacuation Standard," signed into law in 2005), which is applied to a Category 3-5 storm with 75 percent tourist occupancy. Clearance times begin when the first evacuating vehicle enters a roadway segment in each evacuation corridor and ends when the last vehicle leaving the corridor reaches a point of safety.

The FEIS concluded that the state standard was already exceeded at 27 hours in 2007 for evacuees leaving the Outer Banks via NC 168 and US 158. The 2035 clearance time was forecast to be approximately 36 hours with the No-Build Alternative, which is double the 18-hour standard.

Updated hurricane clearance time modeling conducted for this reevaluation found that:

- As discussed in Section 2.7, based on a change in the National Hurricane Center warning timeframe that was the basis for the 18-hour clearance time goal, 30 hours is now the appropriate standard to use as a measure of need in addition to the 18 hours legislated by the North Carolina General Assembly.

- As shown in Table 3-2, the 30-hour goal (as well as the 18-hour goal) was already exceeded at 31.0 hours in 2016 for evacuees leaving the Outer Banks via NC 168 and US 158. If NC 168 to Virginia were closed, the time rises to 45.8 hours.

Table 3-2 Hurricane Clearance Times

Year	Category 3-5/75 Percent Occupancy			
	NC 168 Open		NC 168 Closed (NC/VA Border Plan)	
	Clearance Time (hours)	Controlling Link	Clearance Time (hours)	Controlling Link
2016 – Existing Road Network	31.1	US 158 Wright Memorial Bridge to NC 168	45.8	US 158 (NC 168 to Elizabeth City)
2040 – No-Build Road Network (constrained development)	34.4	US 158 Wright Memorial Bridge to NC 168	40.3	US 158 (NC 168 to Elizabeth City)
2040 – No-Build Road Network (unconstrained development)	37.2	US 158 Wright Memorial Bridge to NC 168	43.2	US 158 (NC 168 to Elizabeth City)

- By 2040, the clearance time is forecast to rise from 30.0 hours to 34.4 hours (constrained development) or 37.2 (unconstrained development) with the No-Build Alternative. If NC 168 to Virginia were closed, the time in 2040 is expected to be 40.3 hours (constrained development) or 43.2 (unconstrained development) with the No-Build Alternative. An increase in the clearance time when NC 168 is open is seen from 2016 to 2040 because additional development adds to the clearance time.

  When NC 168 is closed under the NC/VA Border Plan, a decrease is seen in the clearance time from 2016. This is because the No-Build Alternative assumes US 158 from NC 168 to Belcross is widened to four lanes by 2040, as included in the 2018 to 2027 STIP. NC 168 to Elizabeth City is the controlling link (the link on the evacuation route whose capacity controls the overall clearance time) when NC 168 is closed and the widening of this controlling link counters the increase in development, resulting in a net decrease in clearance time.

- The controlling link is on US 158 within the project area (between the Wright Memorial Bridge and NC 168) when NC 168 is open for North Carolina evacuees. This indicates an opportunity to reduce the clearance time with this project by increasing the capacity of this controlling link. If NC 168 were to be closed under the NC/VA Border plan to facilitate the evacuation of the Hampton Roads area in Virginia, the controlling link is outside the project area and improvements within the Mid-Currituck Bridge project area cannot reduce clearance time. At this time it is the intent of emergency management officials to divert some evacuating traffic to westbound US 64 should NC 168 be closed to evacuees. US 64 has available capacity. It was found in the updated clearance time analysis that clearance times on

US 64 with a category 3-5 storm/75 percent occupancy and NC 168 open are 21.4 hours in 2016 and 23.8 hours in 2040, below the 30-hour goal.

Either the 34.4- or the 37.2-hour 2040 clearance time when NC 168 is open is similar to the 36-hour clearance time presented in the FEIS for 2035. Both 34.4 and 37.2 hours is above the 30-hour goal, the current equivalent to the 18-hour goal applied in the FEIS. Therefore, clearance times goals are still exceeded under no build conditions. Given that the controlling link when NC 168 is open is within the project area, the opportunity exists to reduce the 2040 clearance time through capacity improvement on the controlling link within the Mid-Currituck Bridge project area.

3.2 Changes in Project Benefit Findings

Table 2-3 of the FEIS presented traffic flow, travel time, and hurricane clearance time travel benefits of the detailed study alternatives, including ER2 and the Preferred Alternative.

Table 3-3 presents the 2035 travel benefits as presented in the FEIS in Table 2-3, which assumed unconstrained development. Table 3-4 presents the travel benefits of the existing/No-Build Alternative and ER2 assuming the potential development constraints documented in in Section 3.6.1.4 of the FEIS under "Potential for Change in Development Location, Rate, or Type on the Paved Road-Accessible Outer Banks" and in the indirect effects assessment in Section 3.6.2.2. This additional travel benefit information was requested in comments received on the FEIS. The constrained development analysis and its findings are discussed for the FEIS findings and the updated analysis for this reevaluation in Section 2.8. The constrained development analysis found that planned and expected development in Currituck County would be constrained by capacity limits on NC 12 only with the No-Build Alternative and ER2. The information in Table 3-3 and Table 3-4 indicates that, when assuming either constrained or unconstrained development using FEIS 2035 traffic and the 2000 HCM, the Preferred Alternative and ER2 both offer notable travel benefits over the No-Build Alternative, with the Preferred Alternative offering the greatest benefit.

Table 3-5 and Table 3-6 present the same benefits as Table 3-3 and Table 3-4 using network congestion measures derived from the updated 2040 traffic forecasts. Again, the constrained development analysis found that planned and expected development in Currituck County would be constrained by capacity limits on NC 12 only with the No-Build Alternative and ER2. Like Table 3-1, Table 3-5 and Table 3-6 provide separate congestion data assuming the existing network and the updated No-Build Alternative network. As was found in Section 3.1.1 for the No-Build Alternative, this information indicates that differences between traffic flow in 2040 between the existing network and the No-Build Alternative network are small. With this comparison and observation made, the remaining discussion of project travel benefits will contrast ER2 and the Preferred Alternative with the No-Build Alternative. The updated hurricane clearance results in Table 3-5 and Table 3-6 assume both STIP projects R-3419 and R-2574 in the 2040 hurricane clearance network (Section 1.2.1.2).

Table 3-3 Previous 2035 Travel Benefits of ER2 (Unconstrained Development) and the Preferred Alternative[1]

	Unconstrained Development		Preferred Alternative[2]
	Existing and No- Build Network	ER2	
Traffic Flow Benefits			
Congested Annual Millions of VMT			
• Total Congested VMT (millions)	66.1	51.4	40.2
	change	-14.7	-25.9
• VMT with Traffic Demand at or Above Road Capacity (millions)	60.6	44.4	17.7
	change	-16.2	-42.9
• VMT with Traffic Demand 30 Percent or Above Road Capacity (millions)	15.8	8.9	4.9
	change	-6.9	-10.9
Miles of Road Operating with Traffic Demand at or Above Road Capacity			
• Summer Weekday (SWD)	14.7	5.9	5.7
	change	-8.8	-9.0
• Summer Weekend (SWE)	43.5	39.0	11.7
	change	-4.5	-31.8
• Weighted Average of SWD & SWE	22.9	15.4	7.4
	change	-7.5	-15.5
Miles of Road with Traffic Demand 30 Percent or Above Road Capacity			
• Summer Weekday (SWD)	5.7	3.7	0.8
	change	-2.0	-4.9
• Summer Weekend (SWE)	7.9	5.9	2.0
	change	-2.0	-5.9
• Weighted Average of SWD & SWE	6.3	4.3	1.1
	change	-2.0	-5.2
Peak Hour Travel Time Benefit Aydlett Road to Albacore Street (in minutes)			
Summer Travel Time via Wright Memorial Bridge (weighted average of SWD & SWE)	154	125	107
Summer Travel Time via Mid-Currituck Bridge (weighted average of SWD & SWE)	N/A	N/A	11
2035 Hurricane Evacuation Benefit			
Clearance Time with US 158 Reversing Center Turn Lane	36 hrs.	27 hrs.	27 hrs.
Clearance Time with US 158 Third Outbound Lane (not included in the Preferred Alternative)		22 hrs.	22 hrs.

Notes: The change is the change from the Existing and No-Build Alternative networks. [1]Benefits reflect assumptions used for the FEIS, including using the previous 2035 Forecasts, 2000 Highway Capacity Manual, FEIS designs for ER2 and the Preferred Alternative, as well as the previous hurricane clearance model. [2]As indicated in Table 2-3 of the FEIS, the travel benefits of the Preferred Alternative using the 2035 forecast would likely be slightly lower because they were calculated assuming alternative MCB4, which assumed a four-lane section on NC 12 between Currituck Clubhouse Drive and the Mid-Currituck Bridge, whereas the Preferred Alternative's FEIS design assumed a four-lane section only at the bridge terminus, the commercial area surrounding Albacore Street, and Currituck Clubhouse Drive. However, widening NC 12 to four lanes at these three locations was found to account for most delays on NC 12 between Currituck Clubhouse Drive and the bridge.

Table 3-4 Previous 2035 Travel Benefits of ER2 (Constrained Development) and the Preferred Alternative[1]

	Constrained Development		Preferred Alternative[2]
	Existing and No- Build Network	ER2	
Traffic Flow Benefits			
Congested Annual Millions of VMT			
• Total Congested VMT (millions)	60.8	47.2	40.2
	change	-13.6	-20.6
• VMT with Traffic Demand at or Above Road Capacity (millions)	51.4	36.5	17.7
	change	-14.9	-33.7
• VMT with Traffic Demand 30 Percent or Above Road Capacity (millions)	12.7	6.6	4.9
	change	-6.1	-7.8
Miles of Road Operating with Traffic Demand at or Above Road Capacity			
• Summer Weekday (SWD)	7.9	5.9	5.7
	change	-2.0	-2.2
• Summer Weekend (SWE)	41.4	33.4	11.7
	change	-8.0	-29.7
• Weighted Average of SWD & SWE	17.5	13.8	7.4
	change	-3.7	-10.1
Miles of Road with Traffic Demand 30 Percent or Above Road Capacity			
• Summer Weekday (SWD)	5.7	3.7	0.8
	change	-2.0	-4.9
• Summer Weekend (SWE)	5.7	3.7	2.0
	change	-2.0	-3.7
• Weighted Average of SWD & SWE	5.7	3.7	1.1
	change	-2.0	-4.6
Peak Hour Travel Time Benefit Aydlett Road to Albacore Street (in minutes)			
Summer Travel Time via Wright Memorial Bridge (weighted average of SWD & SWE)	146	116	107
Summer Travel Time via Mid-Currituck Bridge (weighted average of SWD & SWE)	N/A	N/A	11
2035 Hurricane Evacuation Benefit			
Clearance Time with US 158 Reversing Center Turn Lane	Not Calculated		27 hrs.
Clearance Time with US 158 Third Outbound Lane (not included in the Preferred Alternative)			22 hrs.

Notes: The change is the change from the Existing and No-Build Alternative networks. [1]Benefits reflect assumptions used for the FEIS, including using the previous 2035 Forecasts, 2000 Highway Capacity Manual, FEIS designs for ER2 and the Preferred Alternative, as well as the previous hurricane clearance model. [2]As indicated in Table 2-3 of the FEIS, the travel benefits of the Preferred Alternative using the 2035 forecast would likely be slightly lower because they were calculated assuming alternative MCB4, which assumed a four-lane section on NC 12 between Currituck Clubhouse Drive and the Mid-Currituck Bridge, whereas the Preferred Alternative's FEIS design assumed a four-lane section only at the bridge terminus, the commercial area surrounding Albacore Street, and Currituck Clubhouse Drive. However, widening NC 12 to four lanes at these three locations was found to account for most delays on NC 12 between Currituck Clubhouse Drive and the bridge.

Table 3-5 Updated 2040 Travel Benefits of ER2 (Unconstrained Development) and the Preferred Alternative[1]

	Unconstrained Development				Preferred Alternative Added to	
	Existing Network	No-Build Network[2]	ER2 Added to Existing Network	ER2 Added to No-Build Network	Existing Network	No-Build Network
Traffic Flow Benefits						
Congested Annual Millions of VMT						
• Total Congested VMT (millions)	98.1	96.8	94.4	93.7	37.0	35.6
		change	-3.7	-3.1	-61.1	-61.2
• VMT with Traffic Demand at or Above Road Capacity (millions)	24.1	23.1	17.8	17.3	2.6	1.1
		change	-6.3	-5.8	-21.5	-22.0
• VMT with Traffic Demand 30 Percent or Above Road Capacity (millions)	4.1	2.4	2.4	2.1	0.3	0.0
		change:	-1.7	-0.3	-3.8	-2.4
Miles of Road Operating with Traffic Demand at or Above Road Capacity						
• Summer Weekday (SWD)	5.8	5.8	5.8	5.8	0.0	0.0
		change	0.0	0.0	-5.8	-5.8
• Summer Weekend (SWE)	15.5	15.5	14.1	14.1	1.5	1.5
		change	-1.4	-1.4	-13.9	-14.0
• Weighted Average of SWD & SWE	8.6	8.6	8.2	8.2	0.5	0.5
		change	-0.4	-0.6	-8.1	-8.3
Miles of Road with Traffic Demand 30 Percent or Above Road Capacity						
• Summer Weekday (SWD)	0.0	0.0	0.0	0.0	0.0	0.0
		change	0.0	0.0	0.0	0.0
• Summer Weekend (SWE)	5.8	5.8	5.8	5.8	0.0	0.0
		change	0.0	0.0	-5.8	-5.8
• Weighted Average of SWD & SWE	1.7	1.7	1.7	1.7	0.0	0.0
		change	0.0	0.0	-1.7	-1.7
Peak Hour Travel Time Benefit Aydlett Road to Albacore Street (in minutes)						
Summer Travel Time via Wright Memorial Bridge (weighted average of SWD & SWE)	136		117		72	
Summer Travel Time via Mid-Currituck Bridge (weighted average of SWD & SWE)	N/A		N/A		11	
2040 Hurricane Evacuation Benefit (clearance time in hours)						
NC 168 Open for Evacuation into Virginia	--	37.2	--	32.3	--	32.3
NC 168 Closed to Evacuation into Virginia	--	43.2	--	43.2	--	43.2

Notes: The change is the change from the Existing and No-Build Alternative networks. [1]Benefits reflect the updated 2040 Forecasts, 2016 Highway Capacity Manual, revised designs for ER2 and the Preferred Alternative, and the 2017 hurricane evacuation model. [2]The No-Build Alternative assumes the completion of STIP project R-3419 described in Section 1.2.1.3.

Table 3-6 Updated 2040 Travel Benefits of ER2 (Constrained Development) and the Preferred Alternative[1]

	Constrained Development				Preferred Alternative Added to	
	Existing Network	No-Build Network[2]	ER2 Added to Existing Network	ER2 Added to No-Build Network	Existing Network	No-Build Network
Traffic Flow Benefits						
Congested Annual Millions of VMT						
• Total Congested VMT (millions)	35.2	34.4	51.1	50.4	37.0	35.6
		change	15.9	16.0	+1.8	+1.2
• VMT with Traffic Demand at or Above Road Capacity (millions)	4.7	3.5	4.6	4.2	2.6	1.1
		change	-0.1	0.7	-2.1	-2.4
• VMT with Traffic Demand 30 Percent or Above Road Capacity (millions)	0.4	0.0	0.5	0.4	0.3	0.0
		change	0.1	0.4	-0.1	0.0
Miles of Road Operating with Traffic Demand at or Above Road Capacity						
• Summer Weekday (SWD)	0.0	0.0	2.3	2.3	0.0	0.0
		change	2.3	2.3	0.0	0.0
• Summer Weekend (SWE)	8.3	8.3	6.9	6.9	1.6	1.5
		change	-1.4	-1.4	-6.7	-6.8
• Weighted Average of SWD & SWE	2.4	2.4	3.6	3.6	.0.5	0.5
		change:	1.2	1.2	-1.9	-1.9
Miles of Road with Traffic Demand 30 Percent or Above Road Capacity						
• Summer Weekday (SWD)	0.0	0.0	0.0	0.0	0.0	0.0
		change	0.0	0.0	0.0	0.0
• Summer Weekend (SWE)	0.5	0.5	3.4	3.4	0.0	0.0
		change	2.9	2.9	-0.5	-0.5
• Weighted Average of SWD & SWE	0.1	0.1	1.0	1.0	0.0	0.0
		change	0.9	0.9	-0.1	-0.1
Peak Hour Travel Time Benefit Aydlett Road to Albacore Street (in minutes)						
Summer Travel Time via Wright Memorial Bridge (weighted average of SWD & SWE)	136		117		72	
Summer Travel Time via Mid-Currituck Bridge (weighted average of SWD & SWE)	N/A		N/A		11	
2040 Hurricane Evacuation Benefit (clearance time in hours)						
NC 168 Open for Evacuation into Virginia	--	34.3	--	30.7	--	32.3
NC 168 Closed to Evacuation into Virginia	--	40.3	--	41.1	--	43.2

Notes: The change is the change from the Existing and No-Build Alternative networks. [1]Benefits reflect the updated 2040 Forecasts, 2016 Highway Capacity Manual, revised designs for ER2 and the Preferred Alternative, and the 2017 hurricane evacuation model. [2]The No-Build Alternative assumes the completion of STIP project R-3419 described in Section 1.2.1.3.

The sections that follow discuss the findings in Table 3-3 to Table 3-6 as they relate to the three project needs of improving traffic flow, reducing travel time, and reducing hurricane clearance time.

3.2.1 Changes in Traffic Flow Benefits

The updated lower traffic forecasts combined with use of the 2016 HCM manual had notable effects on traffic flow findings, changing the relative traffic benefits of ER2 and the Preferred Alternative. As was concluded in the FEIS, both alternatives offer substantial traffic flow benefits. The Preferred Alternative continues to offer greater overall benefits than ER2, primarily on the summer weekend.

3.2.1.1 Changes in Congestion Levels

It can be seen from comparing Table 3-3 and Table 3-4 to Table 3-5 and Table 3-6 that the updated lower traffic forecasts combined with use of the 2016 HCM manual had the following notable effects on traffic flow findings:

- The total 2040 congested VMT for the Preferred Alternative are less than the 2035 results, 40.2 million vehicle-miles to 35.6 million vehicle-miles.

- When assuming unconstrained development, ER2 congested VMT increased from 51.4 million VMT to 93.7 million, despite lower traffic forecasts. This is primarily the result of two factors. First, from the Duck commercial area south, where travel demand on NC 12 is the greatest, the threshold at which congestion occurs is lower with the 2016 HCM (1,185 vehicles per hour) than with the 2000 HCM (1,529 vehicles per hour) used for the FEIS analysis. Second, the miles of road where travel demand is greater than the capacity of the road drops notably from 22.9 million VMT (previous analysis) in the summer to 8.8 million VMT (updated analysis). Thus, the lower traffic forecast reduces the severity congestion more than the extent of congestion. However, when constrained development is assumed with ER2, unlike the previous findings, constrained development has a notable effect on congested VMT, as discussed below. Constrained development also has a notable effect on the No-Build Alternative.

- Travel demand above the capacity of the road (LOS F) is less than the previous findings, both in terms of congested VMT and miles of road with travel demand higher than capacity.

Since the indirect and cumulative impact assessment concluded that it was reasonable to assume that NC 12 does not have adequate capacity to serve the summer weekend travel demand of planned and expected development and benefit results are in the revised 2040 analysis substantially different when taking into consideration constrained development, for this assessment of the traffic benefits of ER2 and the Preferred Alternative, both constrained and unconstrained development are discussed.

Table 3-5 and Table 3-6 show that:

- Both detailed study alternatives, taking into consideration the estimated constraints on planned and expected development in Currituck County, would result in a total congested VMT on the thoroughfare network that is higher than the No-Build Alternative.

  – No-Build Alternative: 34.4 million congested VMT (constrained)

  – ER2: 50.4 million congested VMT (constrained)

  – Preferred Alternative: 35.6 million congested VMT (unconstrained)

  Assuming unconstrained development with the No-Build Alternative and ER2 results in a total congested VMT that is substantially higher than the Preferred Alternative at:

  – No-Build Alternative: 96.8 million congested VMT

  – ER2: 93.7 million congested VMT

- In terms of vehicle-miles of travel with demand over road capacity, the Preferred Alternative performs the best assuming either constrained or unconstrained development:

  – No-Build Alternative: 3.5 million VMT (constrained) and 23.1 million VMT (unconstrained)

  – ER2: 4.2 million congested VMT (constrained) and 17.3 million VMT (unconstrained)

  – Preferred Alternative: 1.1 million congested VMT

- Assuming constrained development with the No-Build Alternative, with either the No-Build Alternative or the Preferred Alternative, travel demand over the capacity of the road would be confined to the summer weekend for 8.3 miles and 1.5 miles, respectively. For ER2, it is 6.9 miles. On the summer weekday with ER2, 2.3 miles of NC 12 also would see travel demand above the capacity of that road on the summer weekday. With unconstrained development, travel demand over the capacity of the road would occur on the summer weekend for 15.5 miles with the No-Build Alternative and 14.1 miles with ER2. Travel demand over the capacity of the road would occur for 5.8 miles on the summer weekday with either the No-Build Alternative or ER2.

The congestion benefit results in the FEIS conclusively indicated that while either ER2 or the Preferred Alternative provided a substantial traffic flow benefit and met this project need, that the Preferred Alternative achieved more benefit over the No-Build Alternative than ER2 even taking into consideration constrained development. The results in the

bullets above show a different pattern of congestion benefits for ER2 and the Preferred Alternative when compared to the No-Build Alternative. In addition, in the case of congested VMT in 2040, the Preferred Alternative and the No-Build Alternative have similar results. Therefore, the following additional analyses were conducted that were not needed or completed for the FEIS:

- Sensitivity testing to further compare the No-Build Alternative, ER2, and the Preferred Alternative congested VMT results.

- Consideration of differences in the severity of congestion and the length of time congestion occurs with each alternative.

- Consideration of summer weekend queuing patterns with each alternative, as well as the risk of drivers bypassing a portion of NC 12 using local neighborhood streets. Public comment favoring transportation improvements in the project area has regularly identified summer weekend queuing on US 158 and use of local streets by NC 12 traffic as notable problems.

Table 3-7 and Table 3-8 present the additional traffic flow benefit considerations for the No-Build Alternative, ER2, and the Preferred Alternative.

LOS and hours of LOS E and F are illustrated for NC 12 and US 158 on the summer weekday and summer weekend in Figure 3-1 to Figure 3-5. These figures are updates of graphics presented in the *2035 Traffic Alternatives Report* (Parsons Brinckerhoff, 2009), which presented the details of the original traffic congestion analysis, whose findings were presented in the FEIS.

3.2.1.2 Sensitivity Testing for Congested VMT

As shown in Table 3-6, the updated congestion analysis found that in 2040 the congested VMT of the Preferred Alternative and the No-Build Alternative (constrained development) were similar at 35.6 million VMT and 34.4 million VMT, respectively, with the No-Build Alternative having the lower annual congested VMT. ER2 is notably higher at 50.4 million vehicle-miles. ER2 would increase the capacity of US 158 east of the Wright Memorial Bridge by adding an additional lane in each direction of travel and a center turn lane on NC 12 from US 158 to the Duck commercial area. The congested VMT increases rather than decreases because the addition of a center turn lane reduces the constraint on development in Currituck County of 2,476 homes or hotel rooms to 1,545, a difference of 931. The additional homes increase travel demand and thus congestion on both the summer weekend and the summer weekday.

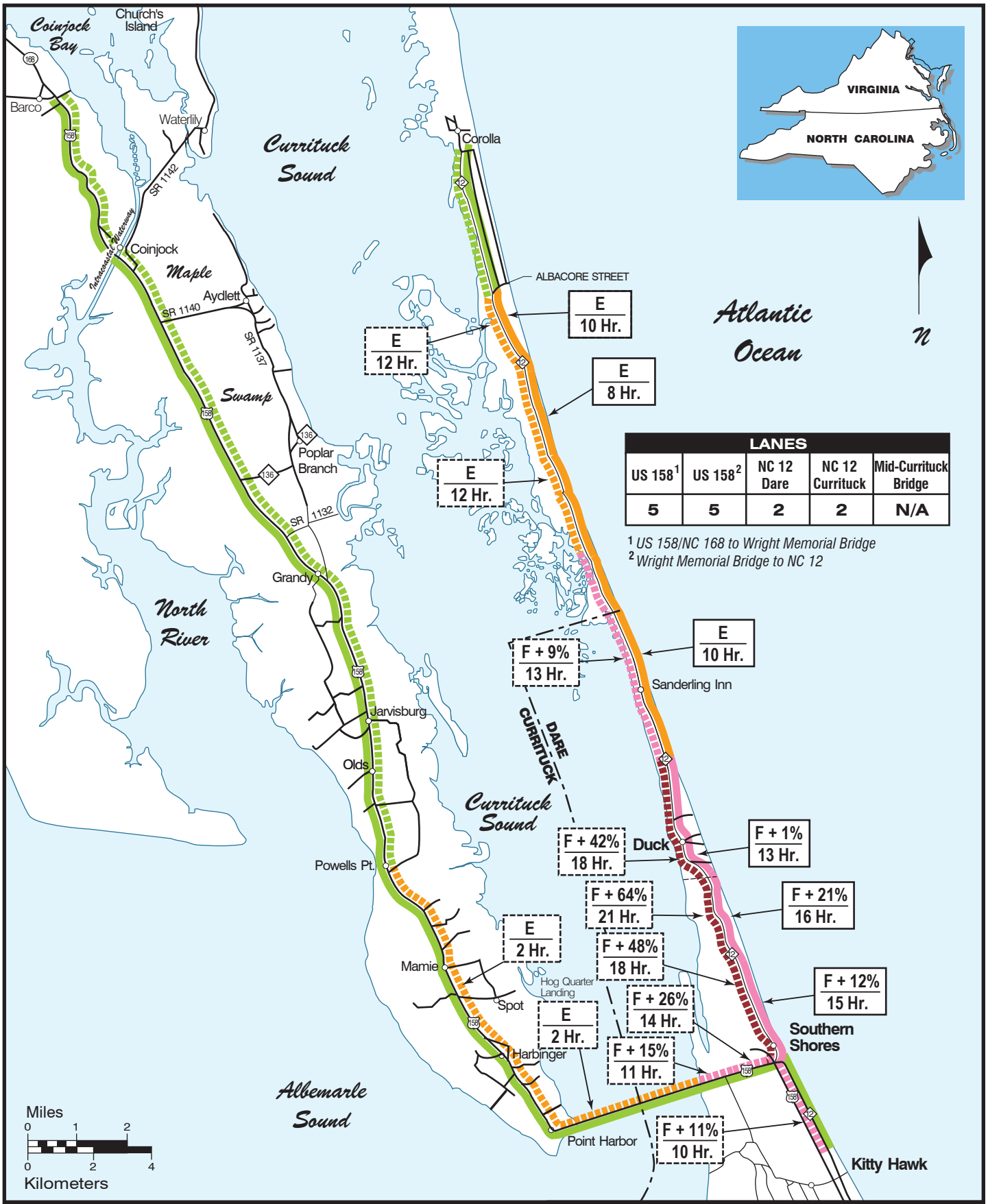
Two sensitivity tests were completed. The first was used to confirm whether the congested VMT for the No-Build Alternative and the Preferred Alternative should be considered essentially identical as opposed to one alternative being considered slightly better than the other by this measure. To do this, 1 percent additional traffic was added to the No-Build Alternative network. The resulting congested VMT was 36.3 million vehicle-miles, slightly higher than the Preferred Alternative (35.6 million).

Table 3-7 Additional 2040 Traffic Flow Benefits of ER2 (Unconstrained Development) and the Preferred Alternative

	Unconstrained Development		Preferred Alternative
	No- Build Alternative	ER2	
Hours of Congestion on Summer Weekday			
• US 158 (Currituck County)	0 hours	0 hours	0 hours
• US 158 (Dare County)	0 hours	0 hours	0 hours
• NC 12 (Dare County)	10 to 16 hours (LOS E & F)	10 to 15 hours (LOS E & F)	10 to 12 hours (LOS E)
• NC 12 (Currituck County)	8 to 10 hours (LOS E)	8 to 10 hours (LOS E)	8 hours (LOS E)
• Mid-Currituck Bridge	NA	NA	0 hours
Hours of Congestion on Summer Weekends			
• US 158 (Currituck County)	2 hours LOS E)	2 hours LOS E)	0 hours
• US 158 (Dare County)	10 to 14 hours (LOS F)	0 hours	2 to 10 hours (LOS E & F)
• NC 12 (Dare County)	10 to 21 hours (LOS F)	13 to 18 hours (LOS F)	7 to 12 hours (LOS E)
• NC 12 (Currituck County)	8 to 13 hours (LOS E & F)	8vto 12 hours (LOS E)	10 hours (LOS E)
• Mid-Currituck Bridge	NA	NA	12 hours (LOS E)
NC 12 Summer Weekend Traffic Queuing Backing Up onto US 158	Currently NC 12 traffic back up to US 158 on the mainland and as traffic grows to 2040 will get worse	NC 12 traffic will continue to back up onto US 158 extending onto the Dare County mainland	NC 12 queues not likely to back-up onto US 158
Use of Local Streets Instead of NC 12 by Through Traffic	Likely to continue	Likely to continue	Not likely to continue

Table 3-8 Additional 2040 Traffic Flow Benefits of ER2 (Constrained Development) and the Preferred Alternative

	Constrained Development		Preferred Alternative
	No- Build Alternative	ER2	
Hours of Congestion on Summer Weekday			
• US 158 (Currituck County)	0 hours	0 hours	0 hours
• US 158 (Dare County)	0 hours	0 hours	0 hours
• NC 12 (Dare County)	10 to 12 hours (LOS E)	11 to 12 hours (LOS E & F)	10 to 12 hours (LOS E)
• NC 12 (Currituck County)	1 hour (LOS E)	6 to 8 hours (LOS E)	8 hours (LOS E)
• Mid-Currituck Bridge	NA	NA	0 hours
Hours of Congestion on Summer Weekends			
• US 158 (Currituck County)	0 hours	0 hours	0 hours
• US 158 (Dare County)	8 to 12 hours (LOS E & F)	0 hours	2 to 10 hours (LOS E & F)
• NC 12 (Dare County)	13 to 15 hours (LOS E & F)	11 to 16 hours (LOS E & F)	7 to 12 hours (LOS E)
• NC 12 (Currituck County)	2 hours (LOS E)	8 hours (LOS E)	10 hours (LOS E)
• Mid-Currituck Bridge	NA	NA	12 hours (LOS E)
NC 12 Summer Weekend Traffic Queuing Backing Up onto US 158	Currently NC 12 traffic back up to US 158 on the mainland and as traffic grows to 2040 will get worse	NC 12 traffic will continue to back up onto US 158 but back-ups likely confined to east of the Wright Memorial Bridge	NC 12 queues not likely to back-up onto US 158
Use of Local Streets Instead of NC 12 by Through Traffic	Likely to continue	Likely to continue	Not likely to continue



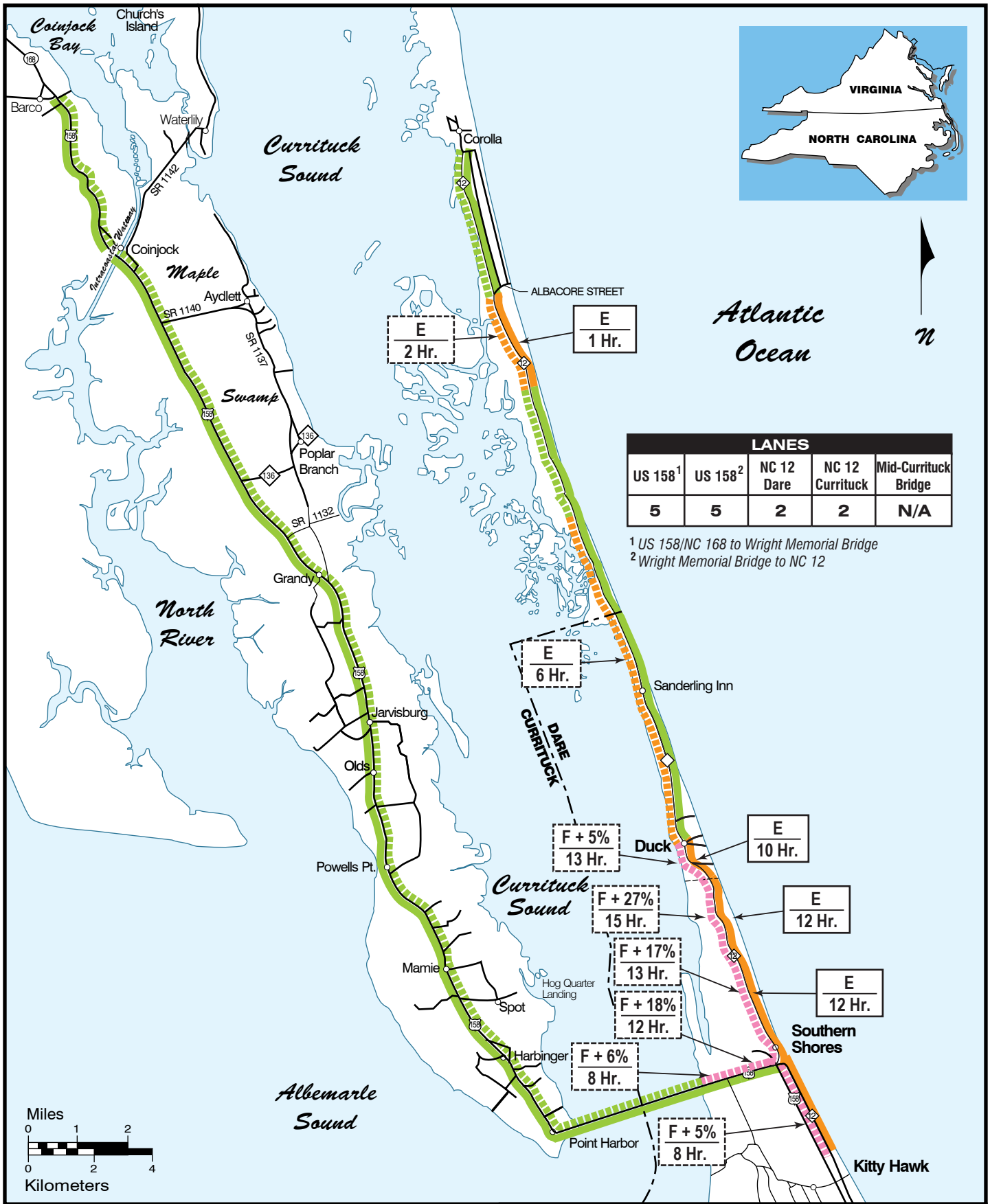
LEGEND

LOS + % Over Capacity
Hours of Congestion

- Summer Weekend LOS
- Summer Weekday LOS)
- LOS A-D
- LOS E
- LOS F (1.0 < V/C < 1.3)
- LOS F (V/C > 1.3)

2040 Congestion No-Build Alternative with Unconstrained Development

Figure 3-1



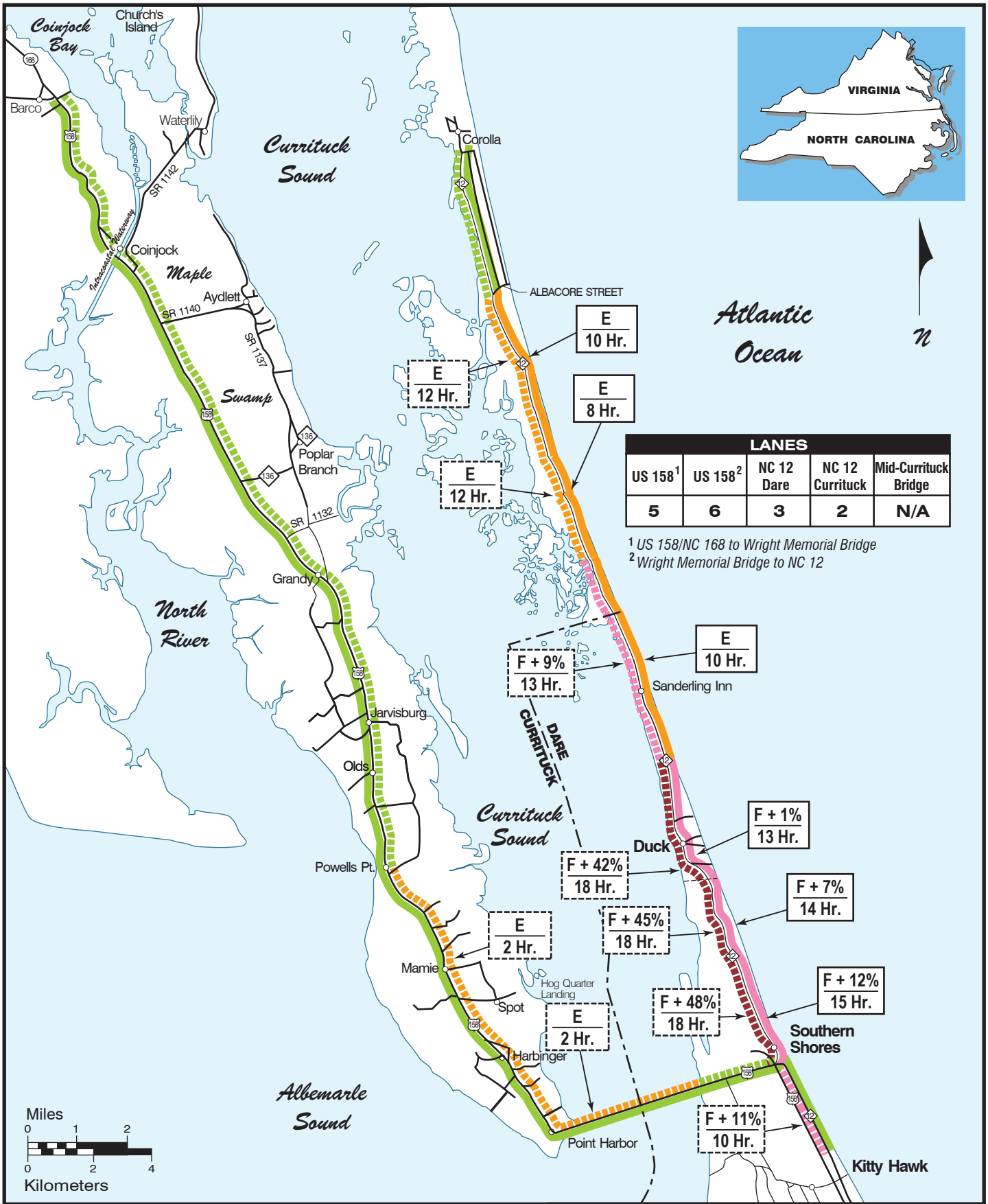
LEGEND

LOS + % Over Capacity
Hours of Congestion

- Summer Weekend LOS
- Summer Weekday LOS
- LOS A-D
- LOS E
- LOS F (1.0 < V/C < 1.3)
- LOS F (V/C > 1.3)

2040 Congestion No-Build Alternative with Constrained Development

Figure 3-2



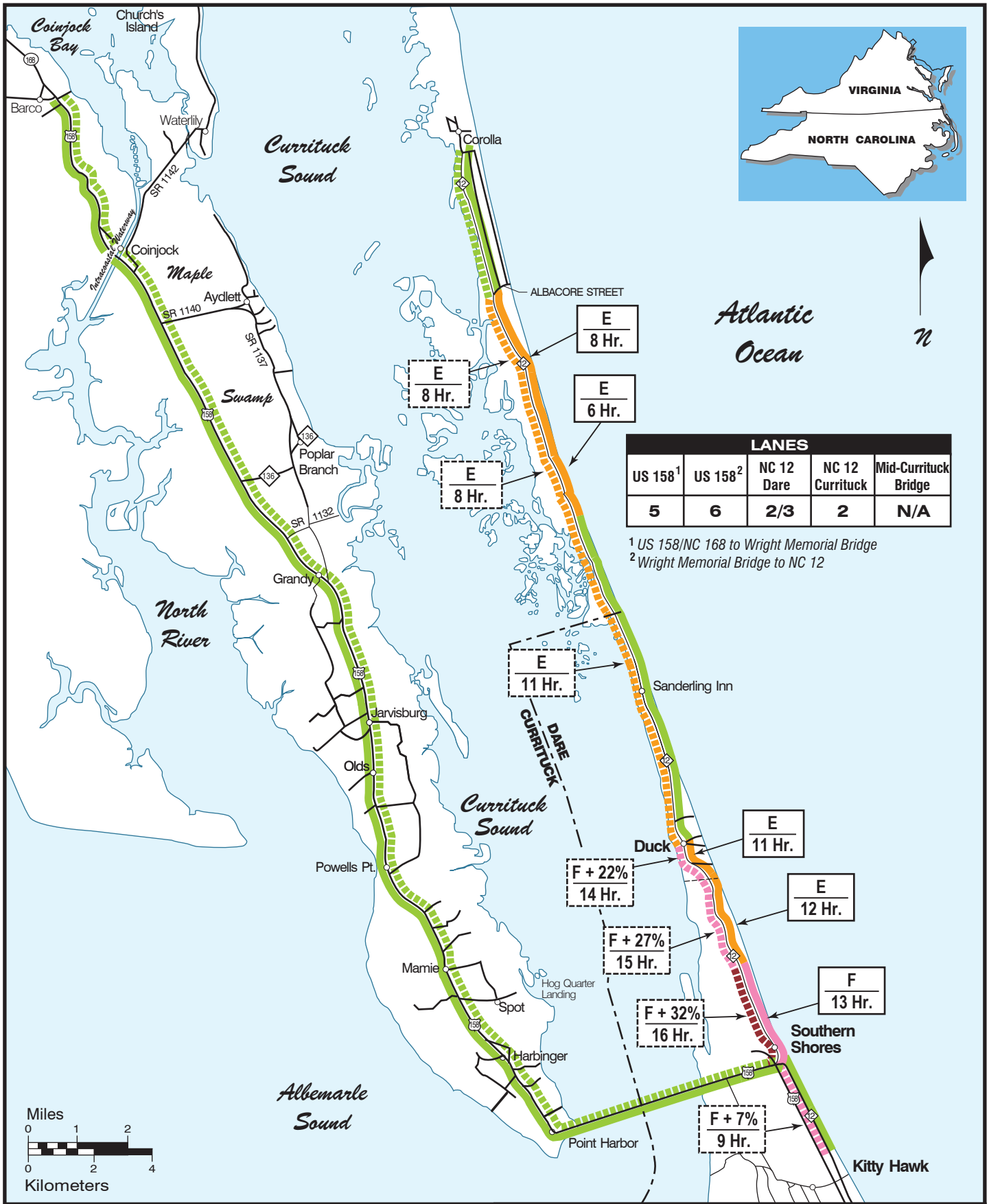
LEGEND

LOS + % Over Capacity
Hours of Congestion

- Summer Weekend LOS
- Summer Weekday LOS
- LOS A-D
- LOS E
- LOS F (1.0 < V/C < 1.3)
- LOS F (V/C > 1.3)

2040 Congestion ER2 with Unconstrained Development

Figure 3-3



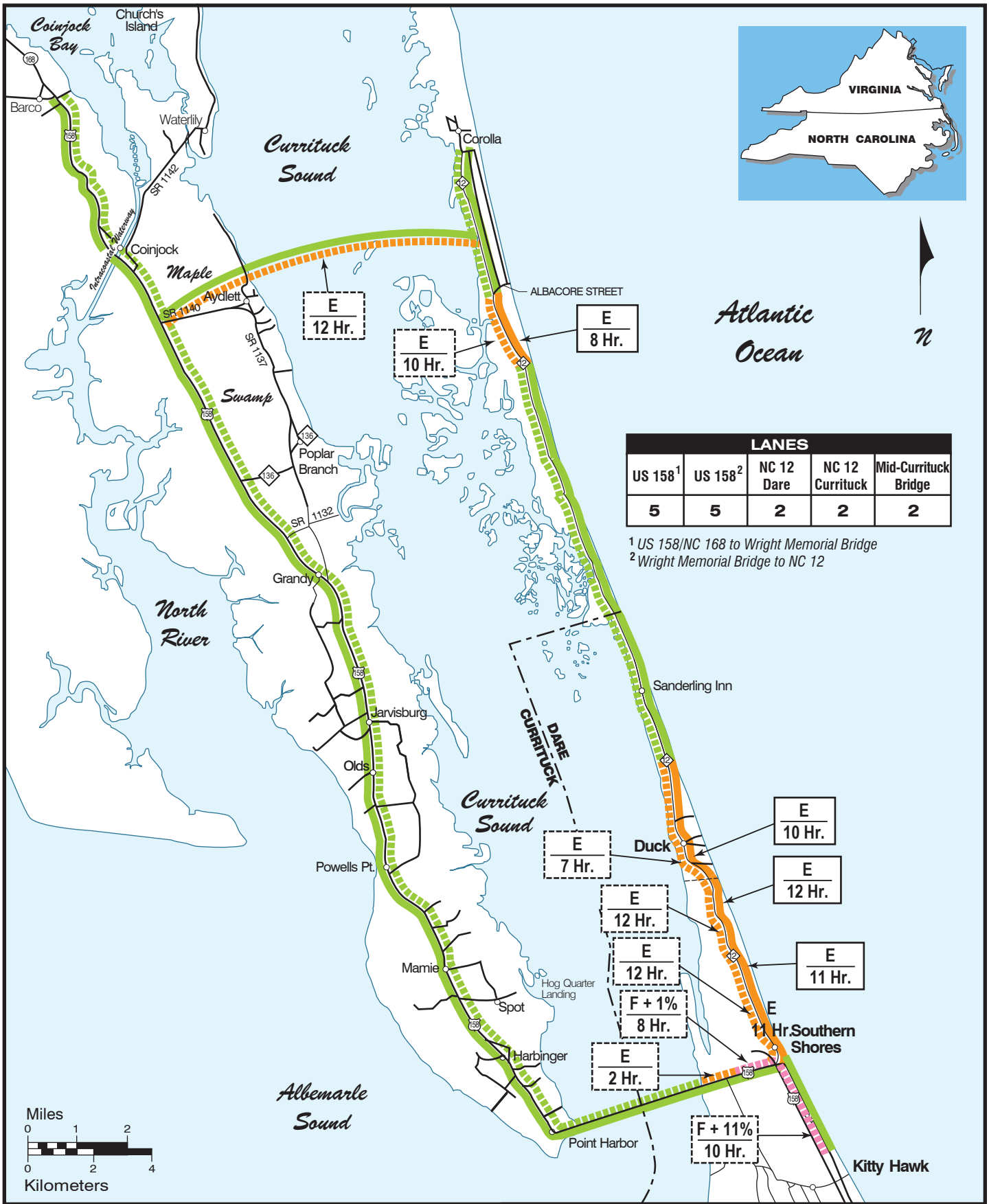
LEGEND

LOS + % Over Capacity
Hours of Congestion

- Summer Weekend LOS
- Summer Weekday LOS
- LOS A-D
- LOS E
- LOS F (1.0 < V/C < 1.3)
- LOS F (V/C > 1.3)

2040 Congestion ER2 with Constrained Development

Figure 3-4



2040 Preferred Alternative

Figure 3-5

Since the relationship between the congested VMT of the two alternatives reversed with a minor change in assumptions on the alternative with constrained development, it is concluded that in terms of total annual congested vehicle-miles traveled 2040, the No-Build Alternative and the Preferred Alternative are essentially identical, with the No-Build Alternative constraining and thus serving less development.

The second test involved assuming the center turn lane on NC 12 was not built as a part of ER2 so the development constraint was the same as the No-Build Alternative. This allowed the ER2 benefit of only adding lanes on US 158 to be identified. The result was a congested VMT of 32.8 million vehicle-miles, similar to, but slightly lower than the No Build Alternative's 34.3 million congested vehicle-miles.

There are items of note when considering the updated congested VMT findings to contrast the No-Build Alternative, ER2, and the Preferred Alternative. First, constrained development for the No-Build Alternative and ER2 without NC 12 improvements is likely because it is expected that the combination of growing travel demand and the capacity on NC 12 would eventually lengthen summer weekend peak period to a point where the demand for recreational housing from Southern Shores north would stabilize and the full amount of planned and expected development would not be realized. It assumes demand for additional vacation homes will stop growing because a peak period longer than assumed in the constraints analysis would be intolerable for almost all visitors.

As discussed in Section 2.8, the constraints analysis assumed on the summer weekend a 10-hour peak period with travel demand equaling the capacity of NC 12 (LOS F) during those 10 hours. NC 12 would be congested for 16 hours on the summer weekend. It also assumed that the current trips per dwelling unit (4.4) that pass a point just south of the Duck commercial area remains unchanged in the future. If visitors chose to change their travel patterns, as described in Section 2.8, such that the constraint on development is less, this would affect the No-Build Alternative's congestion as follows.

- The hours of congested travel on the summer weekend would rise.
- As discussed in Section 2.8, there would be more visitors on the Outer Banks making trips during the summer weekday, increasing the severity of summer weekday congestion and perhaps also the length of congested road and the length of time congestion occurs. This can be seen by comparing the constrained development congested VMT results for the No-Build Alternative and ER2.
- ER2 assumes 931 units of development more than the No-Build Alternative (10,646 versus 11,577), a 9 percent increase. With this lower constraint on development, the congested VMT rises from 34.4 million vehicle-miles to 50.4 million vehicle-miles, a 47 percent increase. An increase from 7,245 dwelling units north of the critical link with the No-Build Alternative to 8,177 with ER2 is a 13 percent increase in development. With ER2's lower constraint on development, the congested VMT rises from 34.4 million vehicle-miles to 50.4 million vehicle-miles, a 47 percent increase.

The measure of total annual congested VMT does not consider differences between the alternatives in terms of the severity of congestion, since both LOS E and LOS F (travel demand over the capacity of the road) are considered congested and include in the congested vehicle-miles traveled number. Severity is discussed in the next section.

3.2.1.3 Congestion Severity

Figure 3-1 to Figure 3-5 illustrate the location of congestion and the severity of congestion in terms of LOS and length of time congestion occurs on the summer weekday and summer weekend. The information is summarized in Table 3-7 and Table 3-8. The following observations can be made when assuming constrained development with the No-Build Alternative and ER2:

- Congestion is worse on the summer weekend.
- Summer weekday congestion is focused on NC 12, generally south of the Duck commercial area (resulting from a combination of through trips to and from points north and local traffic) and Currituck County south of Albacore Street (primarily the result of trips to and from commercial concentrations).
- Summer weekend congestion is focused along NC 12 and US 158 east of the Wright Memorial Bridge.
- On US 158, ER2 would perform the best on the summer weekend and all three alternatives would eliminate congestion on the summer weekday. Specifically:
  - No-Build Alternative (Figure 3-2) – Without a Mid-Currituck Bridge and the four-lane superstreet assumed in the No-Build Alternative, some congestion would occur south of the NC 12 intersection on the summer weekday. Notable congestion would occur on the summer weekend on US 158 east of the Wright Memorial Bridge, with congestion 8 to 12 hours per day and travel demand exceeding capacity for part of that time.
  - ER2 (Figure 3-4) – The six-lane superstreet would eliminate congestion on US 158 between the Wright Memorial Bridge and NC 12. The LOS F shown south of NC 12 on the summer weekend reflects the narrowing of US 158 back to a four-lane superstreet just south of the NC 12 intersection.
  - Preferred Alternative (Figure 3-5) – The diversion of traffic with the Mid-Currituck Bridge would result in there being no summer weekday congestion along US 158, however, congestion would occur on the summer weekend east of the Wright Memorial Bridge.
- On NC 12 in Dare County, the Preferred Alternative would perform the best on the summer weekend, eliminating travel demand greater than the capacity of the road, reducing both the severity and duration of congestion, and reducing the length of congested road. It accomplishes this because traffic traveling to and from vacation destinations in Currituck County is shifted to the Mid-Currituck Bridge. On the

summer weekday, the severity and length of congestion south of the Duck commercial area would be similar for all three alternatives. Specifically:

- No-Build Alternative (Figure 3-2) – With the No-Build Alternative, congestion would occur for 10 to 12 hours per day on the summer weekday south of the Duck commercial area. On the summer weekend, congestion would occur for 13 to 15 hours per day from US 158 to the Duck commercial area, with demand exceeding NC 12's capacity for part of that time. The congested period north of the Duck commercial area would be 6 hours.

- ER2 (Figure 3-4) – With ER2, the additional development associated with this alternative makes congestion on NC 12 in Dare County somewhat worse than the No-Build Alternative. Travel demand above the capacity of the road would occur in Southern Shores on the summer weekday. The length of the congested period rises from 10 to 12 hours with the No-Build Alternative to 11 to 13 hours. On the summer weekend, exceeding the capacity of the road would continue south of the Duck commercial area with the congested period would rise from 13 to 15 hours with the No-Build Alternative to 14 to 16 hours. The congested period north of the Duck commercial area would rise from 6 hours to 11 hours.

- Preferred Alternative (Figure 3-5)– The Preferred Alternative, while eliminating constraints on planned and expected development in Currituck County, would result in congestion levels and duration of congestion similar to the No-Build Alternative on the summer weekday. The Preferred Alternative would offer substantial travel benefits over the No-Build Alternative on the summer weekend. Congestion severity would be at LOS E rather than LOS F. The length of the congested period on the summer weekend would drop from 13 to 15 hours to 7 to 12 hours. Finally, no congestion would occur in Dare County north of Christopher Drive in Duck.

- On NC 12 in Currituck County

  Congestion on NC 12 in Currituck County with the No-Build Alternative and the Preferred Alternative would be limited to between Albacore Street and Currituck Clubhouse Drive in 2040 and be primarily related to trips to and from the commercial areas at each endpoint. The hours of congestion would rise from 1 to 2 hours to 8 to 10 hours with the Preferred Alternative. The rise is associated with the Preferred Alternative allowing planned and expected development to occur, as reflected in the approved subdivision plats in the area affected. Congestion would be greatest in Currituck County with ER2 because of the combination of less constrained development than the No-Build Alternative and NC 12 being only route to the Currituck County Outer Banks. On the summer weekday congestion with ER2 would be seen 6 to 8 hours per day from Hunt Club Drive to Albacore Street and 8 hours per day from the Dare County line to Albacore Street.

- On Mid-Currituck Bridge – The Mid-Currituck Bridge would be congested at LOS E for 12 hours on the summer weekend. Although some congestion is found, bridge

users would have a substantially shorter trip length and bypass severe congestion on NC 12 in Southern Shores and Duck. Travel time would be substantially less for travelers using the bridge on the summer weekend as shown in Table 3-8. Finally, unlike the two-lane NC 12, there are no places for drivers to turn on the bridge. Thus, drivers crossing the bridge during the summer weekend peak would experience a steady traffic flow; however, the drivers' speed would be less than 55 mph.

It can be seen when comparing Figure 3-1 and Figure 3-3 to Figure 3-5 that when assuming unconstrained development with the No-Build Alternative and ER2, more sections of road are congested and congestion is more severe than the Preferred Alternative. The sole exception is that with ER2 and its six-lane superstreet where there would be no summer weekend congestion between the Wright Memorial Bridge and NC 12. With the Preferred Alternative, congestion would occur for two hours.

Overall, in looking at Figure 3-2, Figure 3-4, and Figure 3-5, it can be seen that while congested vehicle-miles traveled in 2040 would be essentially the same for the No-Build Alternative and the Preferred Alternative, the Preferred Alternative performs the best of the three alternatives in terms of reducing the severity of congestion on the summer weekend on the highway network. The Preferred Alternative would eliminate travel demand above the capacity of the road throughout the project area's road network with the sole exception of US 158/NC 12 intersection area where LOS F would occur for 8 to 10 hours on the summer weekend.

3.2.1.4 Change in Queuing and Use of Local Streets for NC 12 Traffic

Two concerns raised by the public and local officials are queuing on the summer weekend that currently results substantial back-ups of visitor traffic on NC 12 and US 158 and visitors choosing to use local streets in Southern Shores in an effort bypass congestion on that portion of NC 12.

With the No-Build Alternative, congestion on NC 12 and US 158 in Dare County would get worse as traffic grows and thus the summer weekend problems of substantial back-ups on US 158 and visitors using or at least attempting to use local streets in Southern Shores would continue get worse with the No-Build Alternative.

The six-lane superstreet associated with ER2 would partially address the back-up problem by providing an additional lane on US 158 between the Wright Memorial Bridge and NC 12 that could be used by summer weekend queues of NC 12 traffic that back-up past the US 158/NC 12 intersection onto US 158. Such back-ups occur now and can be expected to occur in the future because summer weekend travel demand exceeds the capacity of NC 12. The additional lane would help reduce the effect of NC 12 back-ups on the flow of traffic on US 158 that has destinations other that NC 12 from Southern Shores north. It is likely that NC 12 queues backing up onto US 158 and leaving only one remaining lane for other travelers currently makes a notable contribution to summer weekend back-ups that have been observed to extend into Currituck County. While the additional lanes would reduce the back-up problem, it would not fully address the

concern about the use of local streets by NC 12 traffic. This is because the opportunity to turn off US 158 onto local streets would be in an area where summer weekend back-ups remain to tempt drivers to try the local streets. ER2 would help the problem because back-ups would shorter and less taxing on the patience of drivers. The Town of Southern Shores has made efforts through signing and police presence to reduce the use of local streets by NC 12 traffic without notable success.

As illustrated in Figure 3-5, the Preferred Alternative would offer the benefit of eliminating summer weekend travel demand over the capacity of NC 12. As such, while queues could continue to be expected at signalized intersection, as well as when left turners on NC 12 wait for approaching traffic to clear before turning into driveways and side streets. Those queues, however, likely would not back-up on to US 158 with the Preferred Alternative. The exception might be the result of a crash or other incident that blocks a travel lane. With queues much shorter and not evident on US 158 where the opportunity exists to enter the local road system, the incentive to use the local road system in Southern Shores, particularly by visitors, would be far less.

3.2.1.5 Travel Benefits Summary

As indicated, based on the updated lower traffic forecasts and 2016 HCM, the constraint on development in Currituck County likely associated with the No-Build Alternative and ER2 has a substantial effect on travel benefit findings, unlike in the FEIS analysis. Therefore, the travel benefits for the No-Build Alternative, ER2, and the Preferred Alternative are compared both assuming development constraints and unconstrained development with the No-Build Alternative and ER2. The discussion above indicates that, when assuming constrained development, the congested VMT in 2040 with the No-Build Alternative, ER2 without the center turn lane on NC 12 that eases the development constraint, and the Preferred Alternative are essentially the same. The notable reduction in congested VMT identified with the Preferred Alternative in the FEIS was not found in the updated analysis when constrained development was considered.

When assuming unconstrained development, the 2040 congested VMT for the No-Build Alternative is substantially higher than the Preferred Alternative. As concluded in Section 2.8.4, the constrained development estimates most closely represent what is considered likely to occur. However, a small decrease in the development constraint, could result in a notable increase in overall congested VMT in the project area.

As discussed above, however, other measures of travel benefit show the Preferred Alternative offers greater benefits than the No-Build Alternative or ER2 whether one assumes constrained development or unconstrained development. The greatest benefits would occur on the summer weekend. These benefits are:

- Less severe congestion, eliminating travel demand above the capacity of the road throughout the project area's road network with the sole exception of US 158/NC 12 intersection area where LOS F would occur for 8 to 10 hours on the summer weekend.

- A shorter duration of congestion on NC 12 in Dare County, 10 to 12 hours versus no less than 13 to 15 hours (constrained development) on the summer weekend with the No-Build Alternative.

- Travel demand not exceeding the capacity of NC 12 on the summer weekend makes, short of a crash or other lane blockage, it unlikely that queues on NC 12 would back-up onto US 158 with the associated disruption of other US 158 traffic and substantially reducing the current temptation for visitors to use local streets in Southern Shores to bypass a portion of NC 12.

Assuming either constrained or unconstrained development, the inclusion of a six-lane superstreet along US 158 east of the Wright Memorial Bridge would eliminate congestion on US 158 between the Wright Memorial Bridge and NC 12.

If constrained development is assumed, a six-lane superstreet along US 158 east of the Wright Memorial Bridge also would reduce the length of back-ups on US 158 associated with NC 12 queuing. The additional eastbound lane could be used for NC 12 queues leaving two through lanes for traffic traveling to other parts of the Outer Banks. If unconstrained development is assumed, NC 12 traffic will continue to back up onto US 158 extending onto the Dare County mainland

However, ER2 would not address congestion on NC 12. Also, the constrained development analysis found that a continuous NC 12 center turn lane from US 158 to the Duck commercial area would reduce the constraint on development associated with NC 12 and congestion on NC 12 would worsen from the perspective of severity, duration, and length of NC 12 affected.

3.2.2 Changes in Travel Time Benefits

As shown in Table 3-5 and Table 3-6, with the results of updated travel time studies conducted in the summer of 2015 combined with the updated traffic forecasts, notable travel time reductions continue to occur with both ER2 and the Preferred Alternative, with the Preferred Alternative continuing to offer the greater benefit, including the 11 minute travel time from the Currituck County mainland to its Outer Banks over the Mid-Currituck Sound Bridge and a reduction in average summer travel time on existing roads of 64 minutes. With the previous 2035 forecasts, the latter benefit was 47 minutes. The travel benefit with ER2 is 19 minutes with the updated 2040 forecast compared with 29 minutes with the previous 2035 forecast.

3.2.3 Changes in Hurricane Clearance Benefits

The FEIS found in Section 2.2 that the construction of a third outbound lane on US 158 would offer the greatest reductions in hurricane evacuation clearance time with any alternative, bringing the 2035 clearance time for a category 3-5 storm with 75 percent occupancy on the Outer Banks down from 36 hours with the No-Build Alternative to 22 hours, 4 hours above the state clearance time standard of 18 hours. Times were not reduced as much (down to 27 hours, 9 hours above the state clearance time standard) when reversing the center lane to serve outbound traffic.

The updated modeling described in Section 2.7 resulted in the following clearance times in 2040:

- No-Build Alternative
  - With constrained development: 34.4 hours
  - With unconstrained development: 37.2 hours

  US 158 from the Wright Memorial Bridge to NC 168 would be the controlling link in either case.

- ER2
  - With constrained development: 30.7 hours
  - With unconstrained development: 32.3 hours

  NC 168 from US 158 to Virginia would be the controlling link in either case.

- Preferred Alternative: 32.3 hours with the controlling link being NC 168 from US 158 to Virginia

The reduction in clearance time for the Preferred Alternative was achieved by assuming the center turn lane on US 158 is reversed during an evacuation and one southbound lane on the Intracoastal Waterway bridge is reversed so that from the US 158/Mid-Currituck Bridge interchange to NC 168 there are three northbound lanes for evacuation. Any further reduction would require improvements in the capacity (e.g. third outbound lane) of NC 168 from US 158 to Virginia, which is outside the Mid-Currituck Bridge project area. If such an improvement were made, US 158 from the Wright Memorial Bridge to NC 168 would again be the controlling link with a clearance time of 29.1 hours. One hurricane evacuation benefit unique to the Preferred Alternative, is it does provide a second way off the Outer Banks for northbound evacuees.

Reversing the center turn lane on US 158 would not be practical with ER2 (27 miles needed), but only with the Mid-Currituck Bridge (5 miles needed) (see FEIS Section 2.1.10.4). Therefore, the reduction in clearance time is achieved with ER2 by building a new third out-bound lane from the Wright Memorial Bridge to NC 168. Any further reduction would again require improvements in the capacity (third outbound lane) of NC 168 from US 158 to Virginia, which is outside the Mid-Currituck Bridge project area. If such an improvement were made, the Wright Memorial Bridge would become the controlling link with a clearance time of 28.9 hours (constrained development) or 29.9 hours (unconstrained development).

None of the alternatives would meet the 30-hour goal described in Section 2.7 based on changes in National Hurricane Center hurricane warning policies nor the 18-hour goal used in the FEIS. Improvements to NC 168 from US 158 to Virginia would be required to do that, but unless the improvements defined for ER2 or the Preferred Alternative are

implemented, the clearance time will remain at the No-Build level of 34.4 hours or 37.2 hours even if other improvements besides the widening of US 158 from NC 168 to Belcross (included in the No-Build Alternative) are built along the northern evacuation route.

If Virginia were to close their border to North Carolina evacuees normally evacuating into Virginia on NC 168, the clearance times would be:

- No-Build Alternative:
  - With constrained development: 40.3 hours
  - With unconstrained development: 43.2 hours
- ER2: 41.1 hours
  - With constrained development: 41.1 hours
  - With unconstrained development: 43.2 hours
- Preferred Alternative: 43.2 hours

In all cases, US 158 from NC 168 to Elizabeth City is the controlling link. The current (2016) clearance time with NC 168 closed to evacuees is 45.8 hours. The four-laning of US 158 from NC 168 to Belcross is included in the 2018 to 2027 STIP. As such, the No-Build Alternative allows for lower clearance times in 2040 despite future Outer Banks development. In all cases, the clearance time is well over 30 hours and it is expected that in this situation that emergency management officials would divert some evacuees wanting to go northbound to westbound US 64. Again, Virginia has only closed their borders to North Carolina evacuees on NC 168 once. It is expected to be a rare event, but because it happened once, plans were put in place to address the situation should it ever happen again.

In summary, either ER2 or the Preferred Alternative would substantially improve clearance times over the No-Build Alternative, except in the rare event when US 168 to Virginia is closed to North Carolina evacuees. A 2-hour clearance time reduction could translate into roughly 9,000 additional evacuees being able to reach a point of safety within the 30-hour window offered by the NEC's standard warning time of 36 hours. Four hours of reduced clearance time could translate into roughly 16,000 additional evacuees being able to reach a point of safety within the 30-hour window offered by the NEC's standard warning time of 36 hours.

3.3 Effect of Updated Traffic Forecasts on Detailed Study Alternatives Decisions

The *Alternatives Screening Report* (Parsons Brinckerhoff, 2009) that documented the selection of detailed study alternatives also considered several other candidates for

detailed study alternatives. The updated traffic forecasts do not change the decisions on the detailed study alternatives documented in that report.

3.3.1 ER1

ER1 assumed widening US 158 east of the Wright Memorial Bridge to 8 lanes and widening NC 12 to four lanes in both Dare and Currituck counties. ER1 was found in the *Alternatives Screening Report* to offer a high level of congestion relief (55 percent reduction in annual congested VMT and 48 percent reduction in travel time from Aydlett Road to Albacore Street), but was not selected as a detailed study alternative because of the high number of displacements and community fragmentation caused by the widening of NC 12 to four lanes in Dare County. It also would not improve system efficiency by reducing the VMT in the project area. The project setting along NC 12 is essentially unchanged from 2009. An updated congestion analysis would have no effect on these reasons or the decision of not selecting ER1 as a detailed study alternative.

3.3.2 MCB1

MCB1 assumed widening US 158 east of the Wright Memorial Bridge to 6 lanes, widening NC 12 to four lanes in both Dare and Currituck counties, and a Mid-Currituck Bridge. This alternative was found in the *Alternatives Screening Report* to offer a high level of congestion relief (66 percent reduction in annual congested VMT), but like ER1 was not selected as a detailed study alternative because of the high number of displacements and community fragmentation caused by the widening of NC 12 to four lanes in Dare County. The project setting along NC 12 is essentially unchanged from 2009. An updated congestion analysis would have no effect on these reasons or the decision of not selecting MCB1 as a detailed study alternative.

3.3.3 MCB3

This alternative was not selected as a detailed study alternative because it did not include the improvement on US 158 between the Wright Memorial Bridge and the US 158/NC 12 intersection to aid in reducing hurricane evacuation clearance times that was included in the Preferred Alternative. The updated 2040 traffic forecasts and congestion analysis have no effect on this reasoning or the decision of not selecting MCB3 as a detailed study alternative.

3.3.4 Shifting Rental Times

This alternative was found in the *Alternatives Screening Report* to offer a 1 percent reduction in annual congested VMT or 660,000 annual congested VMT (of 66.1 million). The *Alternative Screening Report* assumed that rental start times would be spread evenly over Friday to Sunday. Table 3-9 includes the results of an updated assessment of the impact of rental start times using the updated traffic forecasts, the 2016 HCM, and assuming rental start and ending times would be spread out over all seven summer days. The updated assessment results in a 1.7 percent reduction in annual congested VMT or 600,000 congested VMT. The primary difference from the No-Build Alternative is that the travel demand at or above the capacity of the road associated with the

Table 3-9 Updated Traffic Flow and Travel Time Benefits for Other Alternatives[1]

	Assumes No-Build Alternative Constrained Development					Assumes ER2 Constrained Development		
	No-Build[2]	Shifting Rental Times Evenly Over 7 Days	TSM	Bus Tran-sit	Ferry	ER2	ER2 with Ferry	Com-posite[3]
Traffic Flow Benefits								
Congested Annual Millions of VMT								
• Total Congested VMT (millions)	34.4	33.7	33.1	34.1	35.0	50.4	50.1	49.4
	change:	-0.6	-1.3	-0.3	0.6	change:	-0.3	-1.0
• VMT with Traffic Demand at or Above Road Capacity (millions)	3.5	1.6	3.5	3.5	2.6	4.2	2.7	1.5
	change:	-1.9	0.0	0.0	-0.9	change:	-1.5	-2.7
• VMT with Traffic Demand 30 Percent or Above Road Capacity (millions)	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
	change:	0.0	0.0	0.0	0.0	change:	-0.4	-0.4
Miles of Road Operating with Traffic Demand at or Above Road Capacity								
• Summer Weekday (SWD)	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0
	change:	0.0	0.0	0.0	0.0	change:	-2.3	-2.3
• Summer Weekend (SWE)	8.3	5.1	8.3	8.3	8.3	6.9	6.9	5.8
	change:	-3.2	0.0	0.0	0.0	change:	0.0	-1.1
• Weighted Average of SWD & SWE	2.4	1.5	0.0	2.4	2.4	3.6	2.0	1.7
	change:	-0.9	0.0	0.0	0.0	change:	-1.6	-1.9
Miles of Road with Traffic Demand 30 Percent or Above Road Capacity								
• Summer Weekday (SWD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	change:	0.0	0.0	0.0	0.0	change:	0.0	0.0
• Summer Weekend (SWE)	0.5	0.0	0.0	0.0	0.0	3.4	0.0	0.0
	change:	-0.5	0.0	-0.5	-0.5	change:	-3.4	-3.4
• Weighted Average of SWD & SWE	0.1	0.0	0.0	0.0	0.0	1.0	0.0	0.0
	change:	-0.1	-0.1	-0.1	-0.1	change:	-1.0	-1.01

Notes: The changes are the change from the No-Build Alternative or ER2. [1]Benefits reflect the updated 2040 Forecasts and 2016 Highway Capacity Manual. [2]The No-Build Alternative assumes the completion of STIP project R-3419, a four-lane superstreet. [3]Combination of ER2 road improvements, shifting rental times evenly over the summer week, bus transit, and a ferry. TSM is not included in the composite because a TSM Alternative does not include major capital improvements such as the components of ER2.

summer weekend would go down, although that reduction would not be as great as with the Preferred Alternative's 2.4 million decrease (Table 3-8).

The most important factor on the viability of shifting rental times as a reasonable alternative is its likelihood of such a program being implemented. As stated in the *Alternatives Screening Report*, "NCTA has no authority to compel implementation of the Shift Rental Times Alternatives, nor does any other state agency." Rental start times are determined by property owners and their representatives. Interviews with local property management companies in 2015 and 2017 highlighted the likelihood of continuing rental check-in/check-out on the weekends. The companies noted that week long rentals were required for properties owners to make a profit, since short stays

would require more cleaning service and turn-around related expenses. They also noted that the Saturday-to-Saturday rental allows tourist to have travel and recovery days on each end of their trip without taking additional time off from work. There was general agreement that vacation and work culture created a market demand for weekend rentals and that little market demand existed for mid-week rentals. Thus, it is not reasonable to assume in project decision-making that renters would offer homes, in response to a request by the State of North Carolina, at rental start times contrary to the market demand that could therefore go unrented or rented at a lower price. In terms of the State of North Carolina providing monetary incentives to rental companies who in turn would provide them to the individual owners of rental properties to minimize potential financial loss by off-weekend rental times:

- It would not be a lawful use of transportation tax revenue without changes in state and federal law.
- A basis for payments would be difficult to negotiate given the number of owners and property managements involved.
- It would be an ongoing expense.

Such a program is not considered reasonable to implement, despite the benefits, which are marginal.

3.3.5 Transportation Systems Management

This alternative was found in the *Alternatives Screening Report* to offer a 5 percent reduction in annual congested VMT or 3.3 million annual VMT (from 66.1 million). Table 3-9 indicates the Transportation System Management (TSM) Alternative now would offer a 3.8 percent reduction in annual congested VMT or 1.3 million annual VMT (from 34.4 million). The TSM Alternative assumes that TSM strategies are used in place of a center turn lane on NC 12 where a center turn lane is added to NC 12 with ER2. TSM strategies are not applied to US 158 east of the Wright Memorial Bridge because the No-Build Alternative includes a major capital improvement over the existing condition, STIP project R-3419, a four-lane superstreet. Because of the small potential benefit, the TSM Alternative remains not a reasonable alternative.

3.3.6 Bus Transit

This alternative was found in the *Alternatives Screening Report* to result in no reductions in annual congested VMT because bus travel times from the US 158/NC 12 intersection in Dare County to Albacore Street in Currituck County under uncongested conditions would be greater on summer weekdays than automobile travel times under congested conditions. Table 3-9 indicates a reduction of 300,000 congested VMT, a 0.8 percent reduction. However, buses would offer no reductions in travel demand greater than the capacity of the road either on the summer weekend or summer weekday. As indicated in Section 2.2.3. of the *Alternatives Screening Report* (Parsons Brinckerhoff, 2009), bus travel times would be greater than traveling by car even under uncongested conditions

because the time to walk to a stop, wait for a bus, and walk to a destination from a stop is added to the time traveling along the road. Thus, the incentive to use it would be limited to travelers who would accept the additional inconvenience of a bus in exchange for not having to drive in congestion. Further, as indicated in the *Alternatives Screening Report* Section 2.2.3, bus transit would not serve visitors arriving and departing the Outer Banks, but only local trips. Both the 2009 analysis and this analysis assumed that bus transit would capture 1 percent of trips on NC 12 if provided.

Bus transit, assuming it could capture 1 percent of the trips on NC 12, would have little impact on congestions levels and the length of time of congestion compared to the No-Build Alternative. On US 158, congestion would remain on the summer weekend, with congestion 8 to 12 hours per day and travel demand exceeding capacity for part of that time. On NC 12, congestion would remain on the summer weekend, with congestion occurring between US 158 and the Duck commercial area for 13 to 14 hours per day instead of 13 to 15 hours per day with travel demand continuing to exceed capacity for part of that time. The congested period north of the Duck commercial area would remain 11 hours. With bus service, congestion would occur 9 to 12 hours per day instead of 10 to 12 hours per day on the summer weekday south of the Duck commercial area.

The bus transit alone adds no additional lanes to US 158 while having little impact on summer weekend congestion levels on NC 12, so like the No-Build Alternative, the current summer weekend problems of substantial back-ups and visitors using or at least attempting to use local streets in Southern Shores would get worse.

For these reasons, the Bus Transit Alternative remains not a reasonable alternative.

3.3.7 Ferry Alternatives

The following ferry alternatives were assessed in the *Alternatives Screening Report*:

- F1: ER1 plus a ferry
- F2: ER2 plus a ferry
- F3 and F4: Ferry only

These alternatives included a third outbound hurricane evacuation lane from NC 168 to the Wright Memorial Bridge. F4 also included a third outbound hurricane evacuation lane from the Wright Memorial Bridge to NC 12.

Three alternatives with a ferry are presented in this reevaluation document. The three considered are:

- Ferry Only (F3 equivalent)
- Ferry with ER2 (F2 equivalent)

- Composite (new alternative, see Section 3.3.9)

All three assume the third outbound hurricane evacuation lane from NC 168 to the Wright Memorial Bridge included in ER2. F1 was not revisited because ER1 was not selected as an FEIS detailed study alternative. This decision is re-affirmed in Section 3.3.1. F4 is not revisited because Wright Memorial Bridge to NC 12 is not a hurricane clearance time controlling link (Section 3.2.3). No additional reductions in clearance time would occur by adding a third outbound hurricane evacuation lane from the Wright Memorial Bridge to NC 12 because once such a lane is added from NC 168 to the Wright Memorial Bridge, NC 168 from US 158 to Virginia becomes the controlling link.

The ferry service is assumed to have terminals at each of the proposed Mid-Currituck Bridge terminals – one terminus in the Aydlett community and one terminus on the Outer Banks. For this assessment, the NCDOT Ferry Division was asked to provide all updated operational and cost data.

3.3.7.1 Vessel Assumed

The revised ferry alternative assumes a ferry with a 4.5-foot draft when loaded with vehicles. For cost-estimating purposes, NCDOT's River Class ferry design was assumed. The River Class ferry has as 4.5 feet of draft when loaded with vehicles and standing still in the water. Once a River Class vessel leaves the turning basin (approximately a quarter of a mile from the dock) and is proceeding across Currituck Sound, it can travel a maximum speed of 10 knots (11.5 miles per hour). Vessels traveling in opposing directions passing each other in the sound and inclement weather impact speed as maneuvering around vessels and poor weather conditions reduce the average maximum speed to 8 knots (9.2 miles per hour).

3.3.7.2 Travel Time

Complete trip would take about 60 minutes, including loading and unloading (30 minutes) and the trip across the sound (30 minutes). This would theoretically allow for the schedule to accommodate for 10 to 11 trips a day. Achieving a capacity of 80 vph requires one typical NCDOT ferry service assuming one roundtrip per hour at full capacity for the NCDOT River Class ferry (38 vehicles). A typical NDOT ferry service is defined as three active ferry vessels (and one spare vessel in reserve) operating 10 to 11 trips per day with an average 38 vehicles a trip. Assuming the one-hour trip from Aydlett to the Outer Banks, one ferry service would provide a capacity of approximately 80 vph.

3.3.7.3 Alternative Vessels Considered

Table 3-10 shows several new technology (catamaran), high speed ferries in active service that carry vehicles and passengers in various parts of the world. Also indicated are the draft and their capacity. The table also shows the same characteristics for NCDOT's Hatteras Class and River Class ferries. The River Class ferry is in the new Ferry Alternative.

Table 3-10 Ferry Vehicles

Ferry	Location	Capacity	Speed	Draft Depth
NCDOT River Class	North Carolina	38 vehicles	12 mph	4.5 feet (new design)
NCDOT Sound Class	North Carolina	50 vehicles	21 mph	7.5 feet (new design)
Catamarans				
• CNM Evolution	Quebec, Canada	30 vehicles 175 passengers	35 mph	5 feet
• Lake Express Ferry	Wisconsin-Michigan	46 vehicles	40 mph	8.3 feet
• Austal Benchijigua Express	Canary Islands	341 vehicles 1,291 passengers	48 mph	13 feet
• Incat 046 ("T&T Express")	Trinidad and Tobago	240 vehicles 720 passengers	49 mph	12.17 feet
• Austal Avemar Dos	Spain	150 vehicles 855 passengers	40 mph	7.83 feet
• Incat Condor 10	France	90 vehicles 576 passengers	40 mph	8.58 feet
• Derecktor Chenega	Alaska	36 vehicles 250 passengers	37 mph	8.5 feet
• Nichols Brothers Boat Builders S-97 Herron Islander	Washington	16 Vehicles	11 mph	4 feet
• Sea Transport	Australia	32 Vehicles	17 mph	5 feet

The following can be observed in Table 3-10 related to vessel draft:

- It is an NCDOT vessel that has the best combination of capacity and low draft, the River Class.
- Higher capacity vessels have deeper drafts and only one new technology vessel (CNM Evolution) has a draft equivalent to an NCDOT vessel and a similar capacity (30 and 38 vehicles, respectively).

Since the catamarans that offer a similar draft to the NCDOT vessels have a similar vehicle capacity, the catamarans offer no capacity advantage over the NCDOT vessels. The primary difference between these vessels is their top speed. The catamaran with a 5-foot draft has a top speed of 35 mph, whereas the NCDOT River Class vessels have a top speed of 12 mph. With smaller water displacement by the bow, catamarans can generate faster speeds with the same horsepower, as their fine bow shape allows them to pierce the water and waves with less drag. Assuming the vessels travel at top speed, the

catamarans do offer a time advantage. However, half of the time crossing the sound is spent in the turning basin and the docking process. Maintaining safe speeds for vessels passing one another and docking will reduce the speed advantage for faster vessels. In addition, ferry travel time was not considered in the assessment of the merits of the ferry as an alternative to a Mid-Currituck Bridge. Rather, as documented in Section 5.2.2 of the *2035 Traffic Alternatives Report* (Parsons Brinckerhoff, 2009), the ferry service was evaluated assuming it would operate at full capacity (all available spaces filled with vehicles) on summer weekdays and weekends. In other words, use was assumed to be unaffected by travel time and, therefore, the ferry was given the benefit of the doubt on this factor when considering its ability to meet the project's purpose and need. The assumptions used in identifying a ferry service capacity are discussed in Section 5.2.1 of the same report and in the next section.

3.3.7.4 Capacity of Service

The updated traffic forecasts indicate that the peak demand for the Mid-Currituck Bridge is 615 vph on the summer weekday and 1,287 vph on the summer weekend. Serving 615 vph require eight typical services; and 1,287 vph would require 16 typical ferry services. Another consideration is traffic direction, as the 80 vph capacity of a typical ferry service would be 40 vph in each direction. The traffic pattern shows that nearly two-thirds of the vehicles at the weekday and weekend peak are headed toward the Outer Banks. The inbound traffic headed to the Outer Banks is 370 vehicles on the weekday peak (245 outbound to Aydlett) and 772 vehicles on the weekend (515 outbound to Aydlett). This means one additional ferry service beyond the eight would be required to accommodate the additional 50 vehicles during weekday peak and two additional ferry services beyond the 16 to account for additional 132 vehicles during the weekend that around bound for the Outer Banks terminal.

Given the costs of ferry service (Section 3.3.7.7), like the 2009 assessment of the ferry alternative, the new ferry alternatives in this reevaluation assume the equivalent of three NCDOT ferry services or 240 vehicles per hour operating out of six ferry terminals, three on each side of Currituck Sound. The 2009 *Alternatives Screening Report* said the 50-year cost of one typical ferry service would be $300 million (2007 dollars), meaning the three typical ferry services would cost approximately $900 million over 50 years. Of that, $200 million would account for the initial capital cost and $700 million would be required to operate the three ferry services (2007 dollars). This cost includes replacement of the ferry vessels after 30 years. The 50 years cost for a two-lane Mid-Currituck Bridge was $500 million (2007 dollars) in the FEIS. The 50-year cost of one typical ferry service would be $610 million (in 2017 dollars), meaning the three typical ferry services would cost approximately $1.8 billion over 50 years, including the replacement of ferry vessels after 30 years. Despite the increase in the typical ferry service cost, this reevaluation continues to assume the construction and operation of three typical ferry services with the features shown in Table 3-11.

Table 3-11 Ferry Alternative Features and Dredging

	One Typical NCDOT Ferry Service	Ferry Alternative (Three Typical NCDOT Ferry Services)
Features		
Number of Operating Ferries	4	12
Capacity (vehicles per hour)	80	240
Land Needed for Terminals	4	12
Volume of Sound Bottom Dredge Material and Frequency		
Navigation Channel-(4.2 miles)	1,314,133 cubic yards	3,942,400 cubic yards
Navigation Channel Maintenance Dredging	131,413 cubic yards every 5 years	394,239 cubic yards every 5 years
Intracoastal Waterway Access Channel – Initial Dredging	1,564,444 cubic yards	1,564,444 cubic yards
Intracoastal Waterway Access Channel –Maintenance Dredging	156,444 cubic yards annually	156,444 cubic yards annually
Two Turning Basins Dredging	938,667 cubic yards	2,816,000 cubic yards
Turning Basin Maintenance Dredging	93,867 cubic yards annually	281,600 cubic yards annually
Approximate Area of Sound Bottom Affected by Dredging		
Navigation Channel (4.2 miles)	101.8 acres	305.4 acres
Two Turning Basins (1,200' wide x ¼-mile long per basin)]	72.7 acres	218.1 acres
Intracoastal Waterway Access Channel (10 miles)	121.2 acres	121.2 acres
Total Area	295.7 acres	644.7 acres

3.3.7.5 Channel Requirements and Associated Dredging Impacts

Ferries operating across the Currituck Sound would require dredging a navigation channel, turning basin and an access channel into the Intracoastal Waterway (ICW). Each of two turning basins would extend quarter-of a mile from the dock and would be 1,200 feet wide. The channel between the turning basins would be 4.2 miles long and 200 feet wide and require a 12-foot channel depth. The navigation channel to the ICW would be 10 miles long and 100 feet wide and require 12-foot channel depth. Dredging requirements and volumes are shown in Table 3-11. The navigation channel of 4.2 miles is shorter than that in the FEIS because the original ferry alternative assumed an Outer Banks terminus in the Albacore Street area and the new ferry alternatives assume an Outer Banks terminus in the same location as the Preferred Alternative.

The three typical NCDOT ferry services would result in the dredging of nearly 650 acres of the sound bottom and require the initial removal of 8.3 million cubic yards of dredge material to construct. Additionally, an average of 517,000 cubic yards of dredge material

would have to be removed annually to maintain the navigation channel, turning basins and access to the ICW.

These dredging requirements would be the vessels listed in Table 3-10 with a 4 to 5-foot draft. Even vessels with a 4.5-foot draft would require dredging a 12-foot channel. The additional 7.5 feet of depth of water beneath the keel is needed for the vessel to perform at its peak speed. If the vessel hull is too close to the bottom of the channel the increased water drag will slow down the vessel. This is true for both single hull (i.e. River Class) and catamaran ferries. There is no vessel currently manufactured that can operate in less than 5 feet of water. At that depth, wave action would cause the vessel to bounce on the bottom and the propulsion drive would stir the bottom causing bearing damage to the drive units.

The National Oceanic and Atmospheric Administration nautical chart at www.charts.noaa.gov/OnLineViewer/12204.shtml consistently shows that the depth of the water along the shoreline of Currituck Sound, as well as at many locations in the middle of the sound, as less than 5 feet deep.

An access channel also must be created that connects the ferry dock to the ICW. This would allow the ferries to initially gain access to the dock, to obtain repairs beyond what can be achieved with dockside maintenance, and to provide a means to exit the sound to avoid damage during storm events. It also would provide access for dredging equipment. A 10-mile channel to the ICW would route ferries to access the sound north of Cedar Bay and south of the Danger Zone Area. The channel would need to be 100 feet wide and 12 feet deep. In most areas, this would require dredging 8 feet of material for the 10-mile route. That would require approximately 1.56 million cubic yards of material to be dredged and removed. It is anticipated that to maintain a 12-foot depth that approximately an additional 156,000 cubic yards of material would have to be dredged and removed every year. One access channel could serve three typical NCDOT ferry services. The FEIS assumed the channel to the ICW would be 1.56 miles long this was changed by the Ferry Division for the new ferry alternative because they found that the previous access channel would affect a road and require a new road bridge. This impact would not occur with the access channel assumed here.

To create the required turning basin, the dock area would be dredged to the entire area of the basin. Each turning basin, which would be 1,200 feet wide and extend quarter of a mile from each dock, would need to be dredged to a depth of 12 feet. This would mean that the two turning basins would require dredging 72.7 acres. Given the shallow waters on the National Oceanic and Atmospheric Administration nautical chart, the turning basins on both the western and eastern ends of the sound are classified as SAV habitat. Potential SAV habitat includes locations where the water depth is six feet or less.

SAV has been mapped and the area adjacent to the Outer Banks dock has a large contiguous existing SAV bed (Figure 4-2). The bridge shading on the Outer Banks bridge terminus would shade 3.5 acres of existing SAV (2018) SAV beds with an additional 5.1 acres of potential SAV habitat. Based on the combination of SAV

information from 2008 to 2018 shown in Figure 4-2, it can be expected that the entire 36.4-acre turning basin on the Outer Banks side would be dredged in existing SAVs.

The operating channel between the turning basins would be 4.2 miles long. One-half mile of the channel on the Outer Banks side also would be in known SAV areas. With a 200-foot-wide channel or an additional 12.1 acres of SAV loss for a total of 48.5 acres.

3.3.7.6 Impacts on the Shore

A single ferry terminal in Aydlett and Corolla would require a total of 4 acres of land. Three terminals at each end would require 12 acres, six acres at each set of terminals.

The primary community of interest on the Currituck County mainland is Aydlett, as a portion of this relatively isolated collection of homes and farms is within the proposed right-of-way footprint of the Mid-Currituck Bridge and the assumed mainland ferry terminal. Aydlett is a shoreline development along Currituck Sound, approximately 2 miles east of US 158, where direct access is generally via just one road, Aydlett Road (SR 1140). Community facilities within Aydlett include a post office, clubhouse, and several burial plots and cemeteries.

For Aydlett, ferry traffic would pass through Aydlett using existing Aydlett Road to reach the dock. The Preferred Alternative specifically does not include direct access between the bridge and the community of Aydlett because Aydlett and Currituck County do not want induced development in this community.

Assuming the terminals were sited on the Preferred Alternative bridge approach and terminus, the construction of three ferry terminals would likely affect the community visually and could affect the perceived cohesion of the community. Residents of Aydlett have expressed concern about the potential impacts on their way-of-life related to increased traffic on the local road system. The community has been concerned with any aspect of the project that could add traffic to the Aydlett street system and introduce strangers with no business in this rural residential community. The possibility has been raised by local residents that people might knock on doors seeking to use family bathrooms. Concern also was expressed that, at times of high traffic congestion, emergency vehicles coming from Waterlily to Aydlett and returning to the hospital would be slowed. In addition, the night-time lighting of the ferry terminal could add light pollution to an area where local star gazing hobbyists gather, because of the uncommon dark sky location in Aydlett. These concerns, expressed by local residents and Currituck County officials and summarized in Section 3.1 of the 2012 FEIS, were raised about having a toll plaza in Aydlett that was associated with some bridge alternatives. These impacts but would be similar (or greater) for a ferry terminal complex.

The area of land on the west side of NC 12 at the Preferred Alternative's Outer Banks terminus is 6.9 acres. The Outer Banks terminus of the new ferry alternative would

require 12 acres. The purchase of the additional 5.1 acres would affect either part of Phase I of Corolla Bay to the north or the northern end of Monteray Shores to the south.

3.3.7.7 Cost

The cost of the new Ferry Alternative is shown in Table 3-12. The total 50-year cost to implement the new Ferry Alternative is estimated to be over $2.2 billion, including the initial capital cost, annual operations and maintenance cost and the cost of replacing the ferry fleet after 30 years. It is anticipated that 25 percent of the annual operating cost would be funded by user fees, leaving tax revenues to fund over $1.65 billion in capital investments and annual operating and maintenance cost over the 50-year planning horizon.

Table 3-12 Ferry Alternative Cost

	One Typical NCDOT Ferry Service	Ferry Alternative (Three Typical NCDOT Ferry Services)
Initial Capital Cost		
Ferries	$52,000,000	$156,000,000
Facilities	$28,000,000	$84,000,000
Dredging	$45,806,928	$99,874,128
Total Initial Capital Cost	$125,806,928	$339,874,128
Annual Operating Cost		
Fixed	$2,025,362	$6,076,086
Maintenance Dredging	$3,319,120	$6,202,704
Vessel & Terminal Labor	$3,241,728	$9,725,184
Maintenance	$1,566,840	$4,700,520
Total Annual Operating Cost	$10,153,050	$26,704,494
Total Operating Cost Over 50 Years	$507,652,500	$1,335,224,700
Replacement Ferry Cost at 30 years	$104,000,000	$312,000,000
TOTAL 50-YEAR COST	$737,459,428	$1,987,098,828
Percent of Operating Costs Paid by User Fares	25%	25%
TOTAL COST FROM TAX REVENUES	$610,546,303.00	$1,653,292,653

3.3.7.8 Travel Benefits of Ferry

It was found in the 2009 *Alternatives Screening Report* that a ferry in combination with improvements to existing roads would provide a 1 to 8 percent additional reduction in annual congested VMT over just widening existing roads. The 8 percent was associated with adding a ferry to ER2. The other two ferry alternatives assumed the addition of a ferry service alone and resulted in a 15 percent reduction in annual congested VMT. These findings assumed Currituck County development was unconstrained by the lack of NC 12 capacity. The new Ferry Alternative analyses assumed not only the updated

forecasts and the 2016 HCM, but constrained development associated with the No-Build Alternative and ER2.

Table 3-9 shows traffic flow benefits if the ferry is operated assuming the No-Build alternative thoroughfare network and the ER2 network. It was found that adding a ferry to the No-Build Alternative would increase annual congested VMT on the network by 600,000 congested vehicle-miles. This would occur because the increase in congested VMT in Currituck County on NC 12 is greater than the decrease in congested VMT on US 158 and NC 12 in Dare County. With ER2, there is a reduction of 300,000 congested vehicle-miles.

The Ferry Alternative would have a modest impact on the severity of congestion and the length of time of congestion compared to the No-Build Alternative:

- US 158 east of Wright Memorial Bridge – Congestion would remain on the summer weekend, with congestion 8 hours per day rather than 8 to 12 hours per day and travel demand exceeding capacity for part of that time. Congestion is not forecast for the summer weekday with the No-Build Alternative.

- NC 12 between US 158 and the Duck Commercial Area – Congestion would remain on the summer weekend, with congestion occurring for 12 to 14 hours per day instead of 13 to 15 hours per day with travel demand continuing to exceed capacity for part of that time. Congestion would occur 8 to 12 hours per day instead of 10 to 12 hours per day on the summer weekday.

- NC 12 north of the Duck Commercial Area – The congested period north of the Duck commercial area would drop from 11 to 6 hours.

- NC 12 between Currituck Clubhouse Drive and Albacore Street – The hours of congestion rise from 1 hour on the summer weekday and 1 hour on the summer weekend with the No-Build Alternative to 6 and 5 hours, respectively.

Modest reductions in congestion levels and the length of time of congestion with ER2 also would occur when adding the Ferry to ER2.

The Ferry Alternative alone adds no additional lanes to US 158, while contributing only a small amount to reducing summer weekend congestion levels on NC 12. So, like the No-Build Alternative, the current summer weekend problems of substantial back-ups and visitors using or at least attempting to use local streets in Southern Shores would, like the No-Build Alternative, get worse with Ferry Alternative alone. When adding the Ferry Alternative to ER2, it is ER2's widening of US 158 from the Wright Memorial Bridge to NC 12 that would shorten back-ups related to NC 12 queuing and not the ferry service.

3.3.7.9 Conclusion

More important than its congestion benefits, the Ferry Alternative was not selected as a detailed study alternative in 2009 because of the potential community and natural

resource impacts. Those impacts remain and are substantially greater than any of the other alternatives considered. The new Ferry Alternative also remains a costly alternative with small travel benefits over the No-Build Alternative or ER2 alone. For these reasons, the Ferry Alternatives remain not reasonable alternatives.

3.3.8 Other Options

Comments received from a non-governmental organization regarding items that should be considered in this reevaluation also suggested roundabouts, consolidation of driveways and local street intersections, multi-use paths, and law enforcement officers directing traffic at local street intersections on NC 12 as means to further reduce congestion on NC 12. These suggestions were considered and were not found to be reasonable means to further reduce congestion on NC 12. The discussion of these suggestions is included in the response to Southern Environmental Law Center December 2016 comments in Appendix D, comment 26.

3.3.9 Composite Alternative

In those same comments, the suggestion was made that a Composite Alternative be considered. In response to this suggestion, a congestion analysis was conducted for a combination of ER2 road improvements, shifting rental times evenly over the summer week, bus transit, and a ferry. Table 3-9 shows that adding these various alternatives together would result in additional travel benefits over any single alternative, but the difference would be small. When one also considers the cost of operating a bus system, the cost of operating a ferry system, the notable community and dredging impacts of a ferry system, and that shifting rental times is not reasonable to implement, the Composite Alternative is not a reasonable alternative.

4.0 Changes in Affected Environment and Environmental Consequences since the Preparation of the FEIS

This section summarizes the key impact findings for the Preferred Alternative and ER2 presented in the FEIS and describes changes in the affected environment and environmental consequences of the Preferred Alternative and ER2 that have occurred since the preparation of the FEIS. The revised designs of the Preferred Alternative and ER2 are considered. This discussion follows the outline of Section 3.0 of the FEIS, addressing:

- Community characteristics and impacts
- Cultural resource characteristics and impacts
- Natural resource characteristics and impacts
- Other physical characteristics and impacts
- Construction impacts
- Indirect and cumulative effects
- Local short-term uses of man's environment and the maintenance and enhancement of long-term productivity
- Irreversible and irretrievable commitment of resources

4.1 Community

The FEIS identified the following key community impact findings for the Preferred Alternative and ER2 in:

- Loss of Neighborhood or Community Cohesion and Quality of Life
  - Preferred Alternative
    - Mainland: Visual barrier to cohesion in Aydlett
    - Outer Banks: Will be in the currently unimproved Phase II of Corolla Bay subdivision, so Phase I will not be divided. Reduction in neighborhood cohesion at North Harbor View Drive by increasing traffic and pavement width with a left turn lane on NC 12 where pedestrians cross between two parts of Monteray Shores. Traffic noise predicted to approach or exceed FHWA's noise abatement criteria at 21 receptors.

- ER2: On the Outer Banks, pedestrians crossing NC 12 in Southern Shores and at the Sanderling Inn (two locations with notable pedestrian travel) would have to cross three lanes of pavement instead of two.

- Relocations

  - Preferred Alternative

    - Residences: 6 (including 1 likely vacant rental unit)
    - Businesses: 3
    - Outdoor Advertising Signs: 3
    - Gravesites: 20

  - ER2

    - Residences: 16 (including 10 vacation rental units)
    - Businesses: 5
    - Outdoor Advertising Signs: 29
    - Gravesites: 66

- Environmental Justice: No disproportionately high and adverse direct impacts to minority populations, low-income populations, or limited English proficiency populations with either the Preferred Alternative or ER2.

- Local Land Use Plan Compatibility:

  - Preferred Alternative: Generally compatible

  - ER2: Inconsistent with area land use plans since this alternative does not include construction of a Mid-Currituck Bridge. ER2 includes substantial widening of NC 12; the towns of Southern Shores and Duck specifically reject widening of NC 12 through their communities.

- Access Changes

  - Preferred Alternative

    - Neighborhood: Frontage roads used to maintain access to US 158 for properties in the US 158 interchange area. Left turns prohibited from Orion's Way and the TimBuck II southern entrance onto NC 12 on the Outer Banks with provisions for left turners to make U-turns at adjoining intersections. North access road to North Harbor View Drive relocated.

    - Business: Substantial changes in business access with either no left turns to or from NC 12 for business driveways between Albacore Street and Monteray Drive. Provisions will be made for left turners to make U-turns at

adjoining intersections. In addition, 129 parking spaces are lost in the Albacore Street area on the Outer Banks.

  - ER2

    - Neighborhood: Some local streets along NC 12 would be closed to facilitate NC 12 traffic flow. Left turns to or from Crown Point and Orion's Way would be prohibited.

    - Business: On the Outer Banks east of the Wright Memorial Bridge, the superstreet and the US 158/NC 12 interchange could affect businesses in several ways: 1) Reduced visibility from US 158 in the interchange area; changes in business access listed in FEIS Table 2-1, and displacing approximately 10 percent of the Home Depot parking, making it non-conforming (does not meet current requirements) per Kitty Hawk development requirements. Also, left turns would not be allowed out of the secondary driveway of TimBuck II.

- Farmland

  - Preferred Alternative

    - Prime Soils Used: 37 acres

    - State and Locally Important Soils Used: 72 acres

  - ER2: less than 2 acres of prime farmland soils and less than 2 acres of state and locally important farmland soils would be affected.

The following paragraphs describe changes in community characteristics since the preparation of the FEIS and how those changes would affect the impact findings for the revised designs of the Preferred Alternative and ER2. The discussion is presented for each of the 12 subsections presented in Section 3.1, "Community Impacts and Characteristics" of the FEIS. The community impact reevaluation found no notable increases in impacts since the preparation of the FEIS. The revised designs generally reduced impacts.

4.1.1 Land Use Characteristics and Features

Section 3.1.1 of the FEIS described existing land use; local communities; public services and facilities; public parks and recreation facilities; the location of sidewalks and multi-use paths; public transportation; airports; law enforcement and emergency services; and health care facilities in the project area.

Field surveys were conducted in February 2015 and May 2017 and conversations were held with Currituck County and municipal officials to determine if notable changes in the land use setting of the Preferred Alternative or ER2 with the revised designs have occurred since the preparation of the FEIS. It was found that no new residential

subdivisions have been approved near the Preferred Alternative or ER2 with the revised designs since the preparation of the FEIS. Construction has occurred within developments identified in the FEIS, including:

- Aydlett
  - Whispering Pines Court: two new homes
  - Lighthouse View: one new home
- Currituck County Outer Banks
  - The Cottages subdivision of the Currituck Club: 12 new homes
  - The Currituck Club: three new homes
  - Ocean Sands Subdivision: one new home
  - Monteray Shores Subdivision: three new homes
  - North Harbor View: one new home
  - Corolla Bay: six new homes
- Currituck County US 158:
  - New business: offices of Elan Vacations
  - University Park townhomes
  - H2OBX, water park recreation facility
- Dare County Outer Banks:
  - Along US 158: The Outer Banks Ear, Nose and Throat and Wendy's fast food restaurant.
  - Along NC 12: eight new homes

The effect of the Preferred Alternative and ER2 on these homes and businesses is taken into consideration in the impact findings below.

No new public services and facilities; public parks and recreation facilities; public transportation; airports; law enforcement and emergency services; or health care facilities have been built near the Preferred Alternative or ER2 (revised designs) since the preparation of the FEIS with one exception. In 2016, Currituck County built multi-use paths along NC 12 within the portion of the project area between Albacore Street and Marlin Way. The effects of the Preferred Alternative with revised design on these paths are discussed in Section 4.1.9.

4.1.2 Neighborhood and Community Cohesion

4.1.2.1 Preferred Alternative

Section 3.1.2 of the FEIS indicated that neighborhood or community cohesion would be affected by the Preferred Alternative at:

- Aydlett on the mainland with the creation of a visual barrier
- North Harbor View Drive by increasing traffic and pavement width with a left turn lane on NC 12 where pedestrians cross between two parts of Monteray Shores

The Preferred Alternative's revised design does not change these findings and, as noted in Section 4.1.1, the characteristics of Aydlett have not changed except for the construction of three additional homes in subdivisions/communities that were present at the time the FEIS was prepared. The FEIS committed to providing a marked pedestrian crossing at North Harbor View Drive. This commitment is unchanged. Thus, impacts to community cohesion in these locations remain as described in the FEIS.

Section 3.1.2.6 of the FEIS indicated that the Preferred Alternative would enter the Outer Banks within Phase II of the Corolla Bay subdivision and that Phase II had no improvements, such as streets or utilities, and has not been legally subdivided. In 2016, NCDOT made an advanced purchase of this property with the approval of the Board of Transportation. The land owners indicated an intention to develop the land. Although difficult to quantify because of its preemptive nature, the advance purchase avoided potential cost and displacement/relocation impacts that would have occurred with development of the land prior to purchase.

4.1.2.2 ER2

Section 3.1.2 of the FEIS indicated that neighborhood or community cohesion would be affected by ER2 by widened pavement at two locations that see notable pedestrian travel. With the revised design, this impact would occur at one area: in the southern half of Southern Shores where people walk across NC 12 to reach the beach. However, as stated in the FEIS, pedestrian crossing points in this area would be marked, as they are marked presently.

4.1.3 Quality of Life

Section 3.1.3 of the FEIS found that aside from the community or neighborhood cohesion impacts noted above, quality of life in the community could be affected with either the Preferred Alternative or ER2 by noise and visual change. Potential changes in noise impacts are discussed in Section 4.4.1, and visual impacts are discussed in Section 4.4.5.

4.1.4 Relocation

Section 3.1.4 of the FEIS concluded that the Preferred Alternative would relocate six homes, three businesses, three outdoor advertising signs, and 20 gravesites. A September 2017 relocation survey based on the revised design identified the relocation of six homes, three businesses, and three outdoor advertising signs (billboards), the

same as in the FEIS (Appendix A). The revised interchange design reduced the impact to gravesites from 20 gravesites to 2 gravesites. The 2017 survey also identified two on-premise business signs to be relocated, which were not called out by the relocation agent in the FEIS survey, but accounted for in the land purchase cost.

Section 3.1.4 of the FEIS concluded that ER2 would relocate 16 homes (including 10 vacation rental units), five businesses, 29 outdoor advertising signs, and 66 gravesites. A September 2017 relocation survey for the revised design identified the relocation of 36 homes, six businesses, 55 outdoor advertising signs (billboards) and 40 gravesites. The 2017 survey also identified 54 on-premise business signs to be relocated, which were not called out by the relocation agent in the FEIS survey, but were accounted for in the land purchase cost. The ER2 design was not revised for the mainland third outbound lane; the revised design for US 158 east of Wright Memorial Bridge decreased property use; and on NC 12 much of the FEIS improvement was dropped in the revised design and the improvements remaining did not change. Notable new development has not occurred along the roads affected by ER2 that would explain the notable increase relocations. Two other possibilities could account for the increase. First, the FEIS right-of-way agent and the reevaluation agent could have reached different conclusions for the point at which the proximity of improvements to a road warrants a full property purchase rather than the payment of proximity damages. Second, the relocation agent for the FEIS identified and took into consideration potential opportunities to minimize construction easement impacts. The agent that did the 2017 survey did not. Considering such opportunities could reduce the relocation impacts of the ER2 revised design to 20 homes, 5 businesses, 52 outdoor advertising signs, and 53 on-premise business signs. These opportunities would not reduce the number of gravesites further. If ER2 were implemented, these opportunities would be incorporated in the final design.

There was one change in the relocation assistance checklist findings. The 2017 right-of-way agent suggested that last resort housing be considered. Last resort replacement housing payments are made when comparable decent, safe, and sanitary replacement housing within a person's financial means is not available for some relocatees. Business services will still be available after the project; relocation will not cause a housing shortage; no additional housing programs will be needed; there are no families with special needs (large, disabled, elderly, etc.); and suitable business sites are available. Relocation assistance as described in the FEIS will be provided.

4.1.5 Environmental Justice

Section 3.1.5 of the FEIS concluded that there would be no disproportionately high and adverse direct impacts to minority, low income, or limited English proficiency populations associated with the Preferred Alternative or ER2. This conclusion was based in part on the year 2000 US Census, 2010 census, and 2005-2009 American Community Survey information. Section 6.9 of the November 2011 *Community Impact Assessment Technical Report* presents the details of the analysis that led to this conclusion. As a part of this reevaluation, the American Community Survey 5-year 2013 estimate data, which aggregates data gathered over five years (2009 to 2013) was consulted regarding persons living below the poverty level. Updated poverty data is shown in

Table 4-1. This is the only updated statistical data for minority, low income, and limited English proficiency populations that has become available since the November 2011 *Community Impact Assessment Technical Report*. Thus, the analysis and findings for minority and limited English proficiency populations presented in Section 3.1.5 the FEIS remains current and is not repeated in this report.

As shown in Table 4-1, persons below the poverty level made up approximately 9 percent of the total population in the Demographic Area in 2000. The Demographic Area is defined in the November 2011 *Community Impact Assessment Technical Report* as the Currituck and Dare county US Census block groups that are included in the project area.

In 2010, persons below the poverty level had decreased slightly to approximately 8 percent of the total population in the Demographic Area. Census block groups with persons below the poverty level greater than the Demographic Area average are on the mainland portion of the Demographic Area west of US 158. Field observations in February 2015 and May 2017 did not reveal any changes in the communities affected by the Preferred Alternative and ER2 (such as housing type or condition) since preparation of the FEIS that would lead to the conclusion that there are concentrations of low-income households that now resided in those areas. Therefore, the finding of no disproportionately high and adverse direct impacts to minority, low income, or limited English proficiency populations associated with the Preferred Alternative and ER2 is unchanged.

Therefore, the conclusion that there are no concentrations of minority, low-income, and limited English proficiency households residing near the Preferred Alternative or ER2 that could be directly affected by construction or operation did not change. Thus, neither ER2 or the Preferred Alternative would cause disproportionately high and adverse effects on any minority, low-income populations, or limited English proficiency populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23. No further environmental justice analysis is required.

4.1.6 Land Use Plan Compatibility

Section 3.1.6 of the FEIS indicated that the Preferred Alternative was compatible with area land use plans in that it included a Mid-Currituck Bridge and would not widen NC 12 in Southern Shores and Duck. ER2 would be inconsistent with area land use plans in that it does not include construction of a Mid-Currituck Bridge. ER2 includes substantial widening of NC 12; the towns of Southern Shores and Duck specifically reject widening of NC 12 through their communities. NCDEQ-DCM's CAMA Consistency Determination findings based on the FEIS were transmitted in the March 5, 2012 letter from NCDEQ (then NC Department of Environment and Natural Resources [NCDENR])-DCM's District Planner. As stated in the letter (see page C-15 in Appendix C of this reevaluation study report), NCDEQ-DCM found that the Preferred Alternative is consistent/not in conflict with the current land use plans for Currituck County, Town of Kitty Hawk, Town of Southern Shores, and Town of Duck. Further, NCDEQ-DCM said the No-Build Alternative and ER2 would be inconsistent with area land use plans in

Table 4-1 1990, 2000, and 2010 Income Measures and Persons Living Below Poverty Level

	Demographic Area[1]			Currituck County			Dare County			North Carolina		
	1990	2000	2010[2]	1990	2000	2010[2]	1990	2000	2010[2]	1990	2000	2010[2]
Median Household Income	$30,647	$45,201	$57,681	$27,905	$40,822	$57,159	$29,322	$42,411	$55,481	$26,647	$39,184	$46,334
Persons Living Below Poverty Level	843	1,248	1,245	1,353	1,922	2,311	1,861	2,381	2,980	829,858	958,667	1,643,389
Persons Living Below Poverty Level as a Percent of Total Population	8.2%	9.3%	7.7%	9.9%	10.6%	9.8%	8.2%	7.9%	8.8%	12.5%	11.9%	17.5%

Source: Decennial US Census, 1990, 2000, and 2010. American Community Survey 5-year 2013 Estimates, Table B19013 and C17002. Notes: [1]Demographic Area is defined as the combination of the US Census block groups for the mainland and the Outer Banks, as shown on Figure 4 1 for 2000 and Figure 6 1 for 2010 in the November 2011 *Community Impact Assessment Technical Report*. [2] 2010 represents the American Community Survey 5-year 2013 estimate data, which aggregates data gathered over five years (2009-2013). As of the 2010 Decennial Census, the long-form Decennial Census was replaced by the American Community Survey.

that these alternatives do not include construction of a Mid-Currituck Bridge. ER2 includes substantial widening of NC 12; the Town of Duck land use plan specifically rejects widening of NC 12 through its community. The Preferred Alternative would include a Mid-Currituck Bridge and would not widen NC 12 in Duck. A Mid-Currituck Bridge Project crossing Maple Swamp with design Option B would be inconsistent with the Currituck County land use plan. Design Option B is not included in the Preferred Alternative.

Since the preparation of the FEIS, the following updated CAMA land use plans and land use-related plans were prepared:

- Town of Southern Shores – *CAMA Land Use Plan Update* (Town of Southern Shores, 2012)

- Currituck County – *Connecting Corolla Bike, Pedestrian, Access & Wayfinding Plan for the Currituck County Outer Banks* (Currituck County, 2013)

4.1.6.1 Southern Shores CAMA Land Use Plan

The Southern Shores *CAMA Land Use Plan Update* was locally adopted in July 2012 and certified by the Coastal Resources Commission in August 2012. As it relates to the Mid-Currituck Bridge project, like its 2006 predecessor, the 2012 plan supports building the bridge and does not support widening NC 12 within the town. The Preferred Alternative is consistent with these policy action items. ER2 is not.

4.1.6.2 Connecting Corolla Plan

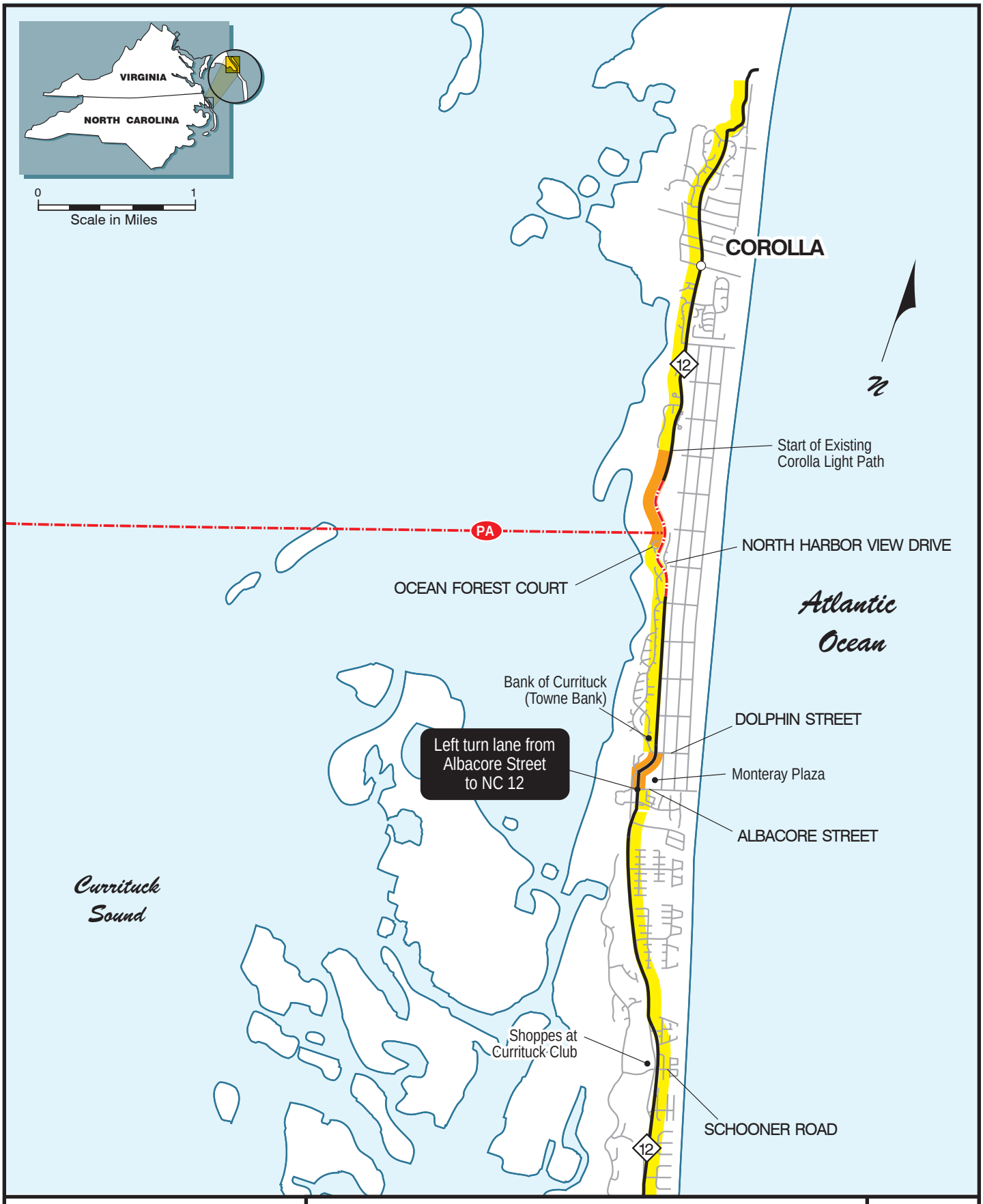
The *Connecting Corolla Bike, Pedestrian, Access & Wayfinding Plan for the Currituck County Outer Banks* was completed in October 2013. It examines the existing infrastructure and facilities along with community needs and recommends policies and enhancements to: improve overall safety between destinations; increase mobility for all modes of transportation; and enhance the overall sense of place, feel, and quality of life.

Preferred Alternative

Related to the Preferred Alternative, the Connecting Corolla plan's project list includes several new multi-use paths and improvements, including 4.6 miles of multi-use path on NC 12. The Connecting Corolla plan calls for the multi-use paths to be 10 feet wide and be for walking, jogging, and cycling. The original preliminary design for the Preferred Alternative along NC 12 includes space for the county to construct 10-foot-wide multi-use paths. The Connecting Corolla plan's proposed multi-use paths in the area affected by the Preferred Alternative (see Figure 4-1 for landmarks and path locations) and their disposition on the revised design is:

- Albacore Street to Schooner Road – Monteray Plaza (Food Lion)/TimBuck II/Southern Whalehead Subdivision to The Shoppes at Currituck Club/Harris Teeter

  These paths were built by Currituck County in 2016 on the east side of NC 12. The revised design for the Preferred Alternative would not affect this part of NC 12 or



LEGEND

- Preferred Alternative
- Existing Multi-Use Path
- Proposed Multi-Use Path

Existing and Connecting Corolla Plan's Proposed Multi-Use Path Locations along NC 12

Figure

4-1

these paths with one exception, the proposed left turn lane from westbound Albacore Street to southbound NC 12. It would require that a portion of the Albacore Street path be relocated, but just moved back on the same side of Albacore Street.

- Albacore Street to Dolphin Street – Commercial Areas from TimBuck II/Monteray Plaza to Bank of Currituck – Construct multi-use path in the right-of-way on the east and west sides of NC 12.

  The revised design for the Preferred Alternative would not affect this part of NC 12 or the county's planned path.

- Monteray Shores Bike Path –Dolphin Street to Ocean Forest Court – Acquire existing multi-use path on the west side of NC 12 from the Monteray Shores homeowner's association, redesign, and improve (widen).

  The Preferred Alternative relocates the existing multi-use path in the Dolphin Street and Ocean Forest Court areas but leaves it on the west side of NC 12.

- Monteray Shores to Corolla Light Path– Connect existing path at Ocean Forest Court (Monteray Shores) to existing Corolla Light Path (North of Corolla Light Sports Center) – Construct multi-use path in the right-of-way on the west side of NC 12.

  The Preferred Alternative design includes space for a multi-use path on the west side of NC 12 from Ocean Forest Court to its northern terminus at Corolla Bay per the Currituck County plan.

The Preferred Alternative as depicted in the revised preliminary design is compatible with the Connecting Corolla plan's multi-use path component in that where planned paths are affected space for a multi-use path on the same side of NC 12 proposed in the plan would be provided. Existing multi-use paths affected would be relocated, but remain on the same side of NC 12 as they do today.

The Connecting Corolla plan recommends the installation of a marked pedestrian crosswalk on NC 12 at one intersection affected by the Preferred Alternative with the revised design, North Harbor View Drive. The Preferred Alternative is compatible with this plan in that it commits to building a marked pedestrian crossing at North Harbor View Drive. No other planned or existing marked pedestrian crossings would be affected by the revised design of the Preferred Alternative. Pedestrian crossings also would be built with the Preferred Alternative at the bridge terminus (one across NC 12 and one across the bridge approach road) as indicated in the FEIS.

The Connecting Corolla plan also proposed improvements at beach access points, including additional parking and bath house facilities. Thus, the plan does indicate that Currituck County is considering how to improve its beach access facilities, which was raised and addressed in the FEIS as an issue associated with increased day visitors to the Currituck County Outer Banks that could occur with the Preferred Alternative.

ER2

ER2 with revised design does not include improvements to NC 12 in Currituck County and would not affect the projects listed in the Connecting Corolla plan.

4.1.7 Effects to the Existing Business Community

4.1.7.1 Preferred Alternative

The FEIS concluded that overall, the business community would not be affected by the Preferred Alternative. The greatest change with the Preferred Alternative's FEIS design was at the business area at Albacore Street on the Currituck County Outer Banks. Here NC 12 was proposed to be widened to four lanes through this business area. Changes in access were presented in Table 2-2 of the FEIS. Those findings are revised in Table 4-2.

The FEIS stated that a total of 129 parking spaces would be lost in the Albacore Street area with the FEIS design. The revised design does not displace any parking spaces because only one minor improvement in the Albacore Street area is now needed, a left turn lane from westbound Albacore Street to southbound NC 12. This improvement would displace some street trees because of relocating a section of the Albacore Street multi-use path. Business access impacts also are eliminated with the revised design.

With the Preferred Alternative, business access impact remains similar on the mainland. There would continue to be three business relocations.

4.1.7.2 ER2

With the revised ER 2 design's use of an intersection instead of an interchange, many of the business access impacts in the intersection area associated with the FEIS design would not occur. Driveway access to US 158 would be retained to businesses, however left turners to and from businesses would have to make right turns and use superstreet U-turn opportunities. The Outer Banks Visitor Bureau currently has two ingress and egress points to US 158; the revised ER2 design would eliminate one ingress point and one egress point. With the revised ER2 design, parking spaces at the Home Depot are no longer displaced.

4.1.8 Access to Neighborhoods and Communities

The FEIS concluded that few changes in neighborhood or community access would occur with the Preferred Alternative. There were no changes in existing neighborhood or community access points since the preparation of the FEIS.

Impacts to neighborhood and community access would be reduced with the revised ER2 and Preferred Alternative designs. As shown in Table 4-2, there would be no impacts to street or driveway access along NC 12 with either alternative except relocating the northern intersection of North Harbor View Drive with NC 12 with the Preferred Alternative. On the mainland with the Preferred Alternative access to one home would change from US 158 to a frontage road connecting to Waterlily Road. Other access impacts to neighborhoods and communities identified in the FEIS were eliminated with the revised designs.

Table 4-2 Changes in Access for ER2 and Preferred Alternative with Revised Designs

	Revised Designs	
	ER2	Preferred Alternative
Mainland, US 158 Frontage Roads: For one house and one business along the eastern side of US 158 just south of Waterlily Road, access to US 158 is provided via a frontage road to Waterlily Road instead of direct driveway access to US 158.		X
Mainland, US 158/Waterlily Road Intersection: The interchange ramp would end prior to Waterlily Road, so there would be no impact to existing conditions at the Waterlily Road intersection.		X
Mainland in Aydlett: No changes to Aydlett access or the local street system. No access in Aydlett to and from the Mid-Currituck Bridge.		X
Direct access to the Outer Banks (at NC 12) from the mainland (at US 158) via a Mid-Currituck Bridge.		X
Outer Banks, US 158 between the Wright Memorial Bridge and NC 12: Left turners from Amandas Avenue, North Croatan Highway, South Dogwood Trail, The Woods Road, Duck Woods Drive, Cypress Knee Trail, Juniper Trail, Wal-Mart Shopping Center, and the Market Place Shopping Center, as well as business driveways, would need to turn right and make a U-turn at a signalized location.	X	
Outer Banks, US 158 South of NC 12 to Grissom Street: Left turners to and from business driveways would need to make U-turns at a signalized location to reach these driveways. Left turns into the Regional Medical Center from US 158 would be accommodated. Those wishing to turn left out of the Regional Medical Center would need to turn right and make a U-turn.	X	
Outer Banks, NC 12 at US 158: Left turners from the Outer Banks Visitors Bureau would need to turn right and make a U-turn at a signalized location. Its middle ingress/egress point being closed.	X	
Outer Banks, NC 12 in Currituck County between Monteray Drive and Corolla Bay: The northern intersection of North Harbor View Drive with NC 12 would be relocated.		X

4.1.9 Effects to Parks, Recreation Opportunities, and Other Community Services and Facilities

4.1.9.1 Preferred Alternative

The FEIS concluded that parks, recreation opportunities, and other community services and facilities (including emergency services) would not be affected by the Preferred Alternative except for three duck blinds near the bridge location. This finding is unchanged since no new parks, recreation opportunities (including additional duck blinds), and other community services and facilities (including emergency services), were built near the Preferred Alternative, including the revised design, since the preparation of the FEIS.

Currituck County is considering obtaining, for park purposes, land adjacent to the property obtained in February 2016 by NCDOT that would be used for the Outer Banks Mid-Currituck Bridge terminus. There are no definite county plans for how the land sought for park purposes would be used. Potential amenities under consideration include walking trails, boat/kayak launch areas, a wading beach, wetlands, information center, restrooms, parking, picnic areas, etc. The county is interested in carrying a multi-use path under the eastern end of the bridge near the shoreline. At a meeting in January 2016, the county discussed with NCDOT joint planning of the proposed bridge right-of-way and the land the county is seeking to obtain. The county plans to add the potential future park to its master plan so that grant funding potentially could be utilized. Construction of the park would not occur until the Mid-Currituck Bridge project is complete. NCDOT is agreeable to a joint planning effort.

4.1.9.2 ER2

The revised ER2 design no longer eliminates access to some local streets, eliminating the associated impact to emergency services accessing those neighborhoods.

4.1.10 Effects on Pedestrian and Bicycle Provisions

The FEIS indicated that existing pedestrian and bicycle multi-use paths at the time of construction that are displaced would be replaced. Where NC 12 is widened, space would be left along NC 12 for multi-use paths to be built by others. The compatibility of the current preliminary design for the Preferred Alternative with the Connecting Corolla plan recommended locations for future multi-use paths is addressed in Section 4.1.6.2.

4.1.10.1 Preferred Alternative

In 2016, Currituck County built multi-use paths along NC 12 within the portion of the project area between Albacore Street and Marlin Way. Their locations are shown in Figure 4-1. The paths are on the east side of NC 12 within the existing right-of-way. The paths are concrete and 10-feet-wide. The new multi-use paths were compared to the locations allocated for multi-use paths in the project's preliminary design. Existing multi-use paths would not be affected by the Preferred Alternative's or ER2's revised designs except the Preferred Alternative relocates the existing multi-use path in the Dolphin Street and Ocean Forest Court areas and a portion of the path along Albacore Street. The relocated Dolphin Street and Ocean Forest Court path would remain on the

west side of NC 12. Preferred Alternative design includes space for a multi-use path on the west side of NC 12 from Ocean Forest Court to its northern terminus at Corolla Bay per the Currituck County plan. The relocated Albacore Street path would remain on the north side of the street.

The county's *Connecting Corolla Bike, Pedestrian, Access & Wayfinding Plan* (Currituck County, 2013) plan recommends the installation of pedestrian crosswalks on NC 12 at one intersection affected by the Preferred Alternative with revised design, North Harbor View Drive. The Preferred Alternative commits to building a marked pedestrian crossing at North Harbor View Drive. No other planned or existing marked pedestrian crossings would be affected by the revised design of the Preferred Alternative. Pedestrian crossings also would be built at the bridge terminus (one across NC 12 and one across the bridge approach road) as indicated in the FEIS.

Like with the FEIS design, the continuity of the Southern Shores multi-use path along US 158 would not be impaired by the Preferred Alternative's design (FEIS and revised) for a hurricane evacuation lane, although, like the FEIS design, minor adjustments would be made in the path's location.

4.1.10.2 ER2

As with the FEIS design, the revised ER2 design would restore existing marked pedestrian crossings in Southern Shores. The continuity of the Southern Shores multi-use path along US 158 would not be impaired by ER2's revised design, although, like the FEIS design, minor adjustments would be made in the path's location. A sidewalk would be built on the south side of US 158.

4.1.11 Crime Rates

The FEIS concluded that crime rates are not anticipated to increase with the Preferred Alternative, which would provide a direct connection between the mainland and the Currituck County Outer Banks. The basis for this finding, no change in the visibility of bicycle and pedestrian paths along thoroughfares, tolls, and the distance to urban areas as a deterrent to thieves that might burglarize homes during the off season, remains unchanged. It also was concluded that it was not anticipated that ER2 would increase crime rates. The FEIS indicated that crime rates in Currituck County decreased between 1997 and 2007. The data from 2012 showed essentially no change from 2007 (2,449 versus 2,453 crimes per 100,000 persons) (NC Department of Justice, 2013).

4.1.12 Farmlands

4.1.12.1 Preferred Alternative

Section 3.1.12 of the FEIS stated that the Preferred Alternative would affect approximately 37 acres of prime farmland soils and 72 acres of state and locally important farmland soils, primarily in the US 158/Mid-Currituck Bridge interchange area. The impact would be less than 0.01 percent of all farmland soils in Currituck County. With the Preferred Alternative's revised design, this impact drops to

approximately 30.3 acres of prime farmland soils and 28.9 acres of state and locally important farmland soils.

4.1.12.2 ER2

ER2's impact of less than 2 acres of prime farmland soils and less than 2 acres of state and locally important farmland soils did not change with the revised design of ER2.

4.2 Cultural Resources

Section 3.2.1 of the FEIS stated that in consultation with the State Historic Preservation Office (HPO), it was determined that no adverse effect on historic architectural resources would result from the Preferred Alternative or ER2. This conclusion was affirmed by HPO for the Preferred Alternative in a July 20, 2015 letter and for ER2 in an April 7, 2017 letter (Appendix A.)

The FEIS also stated that the potential exists for archaeological resources to be affected by the Preferred Alternative or ER2. It indicates that additional studies would be conducted after selection of an alternative for implementation.

4.2.1 Preferred Alternative

Additional terrestrial and underwater archaeological surveys conducted in October 2011 did not find any archaeological sites that would be affected by the Preferred Alternative. The HPO and Office of State Archaeology (OSA) concurred with the October 2011 survey findings for terrestrial archaeological sites. However, they requested that diving be done in Currituck Sound to affirm the October 2011 underwater survey findings. A September 2012 diving survey did not find any historically significant underwater cultural resources in the area that would be affected by the Preferred Alternative. Concurrence on both terrestrial and underwater archaeological findings is included in a December 14, 2012 letter from the HPO (Appendix A).

These findings are unchanged because there is no reason to believe historic and archaeological resource findings from cultural resource surveys in 2007, 2008, and 2009, as well as additional archaeological studies conducted in 2011 and 2012 for the Preferred Alternative, have changed. The impact area of the Preferred Alternative's revised design was included in the 2011 and 2012 surveys. This conclusion was affirmed by the HPO in a July 20, 2015 letter (Appendix A).

4.2.2 ER2

Additional archaeological studies for ER2 were not conducted because it was not identified as the Preferred Alternative in the October 2010 *Preferred Alternative Report*. Should this alternative ultimately be selected for implementation in the Mid-Currituck Bridge Project's Record of Decision, additional archaeological terrestrial studies will be conducted to identify the presence or absence of National Register-eligible archaeological sites.

4.3 Natural Resources

The FEIS identified the following key impact findings for the Preferred Alternative's and ER's revised designs related to natural resources:

- Water Quality Impacts
  - Preferred Alternative
    - Potential for increased turbidity levels during Mid-Currituck Bridge construction.
    - Increased levels of bridge and highway runoff with 71.5 acres of increased impervious surface.
  - ER2: Increased levels of highway runoff with 89.0 acres of increased impervious surface
- Natural Upland Biotic Communities
  - Preferred Alternative
    - Fill in Natural and Naturalized Upland Communities (includes mixed pine-hardwood forest, hardwood forest, maritime shrub-grassland, and maritime forest): 33.6 acres
    - Clearing Natural and Naturalized Upland Communities (includes mixed pine-hardwood forest, hardwood forest, maritime shrub-grassland, and maritime forest): 1.3 acres
  - ER2
    - Fill in Natural and Naturalized Upland Communities (includes mixed pine-hardwood forest, hardwood forest, maritime shrub-grassland, and maritime forest): 85.3 acres
    - Clearing Natural and Naturalized Upland Communities (includes mixed pine-hardwood forest, hardwood forest, maritime shrub-grassland, and maritime forest): 0.0 acres
- Land Wildlife Habitat Impact
  - Preferred Alternative: Removal and alteration of wildlife habitat (both by habitat use and bridging) and habitat edge effects
  - ER2: The least invasive to wildlife habitat, since construction would occur in primarily man-dominated areas. Road widening would increase the role of existing roads as impassable barriers that restrict wildlife movement.

- Aquatic Bottom (water depths ≤ 6 feet) Shaded:
  - Preferred Alternative: 8.7 acres
  - ER2: 0.1 acre
- Water Wildlife Habitat Impact:
  - Preferred Alternative: Altered light levels and the introduction of piles as a hard substrate in Currituck Sound; localized noise, turbidity, and siltation during construction.
  - ER2: Minor impacts to aquatic habitat. Runoff from active construction areas could result in temporary increases in turbidity, siltation, and sedimentation in aquatic habitat areas, but these affects are expected to be minimal and cease after revegetation.
- SAV Impact
  - Preferred Alternative
    - Existing SAV Beds Shaded: 3.8 acres
    - Existing Beds and Potential (water depths ≤ 6 feet) SAV Shaded: 8.7 acres
  - ER2: No SAV impact
- Wetlands Impact
  - Preferred Alternative
    - Wetlands within Slope-Stake Line, plus Additional 25-foot Buffer and Grubbing at Maple Swamp Bridge foundations: 8.3 acres. The wetlands impact shown in Table 3-10 of the FEIS for the Preferred Alternative was 7.9 acres. The 0.4-acre increase reflects grubbing that would be needed at pile bents along the Maple Swamp Bridge. This change was made based on a comment made by USACE in their FEIS comment letter of March 12, 2012 (Appendix C).
    - Total CAMA Wetland Impact: 0.0 acre
  - ER2
    - Wetlands within Slope-Stake Line, plus Additional 25-foot Buffer: 12.6 acres
    - Total CAMA Wetland Impact: 0.7 acre

- CAMA Areas of Environmental Concern Affected
  - Preferred Alternative
    - Fill: 0.0 acre
    - Pilings: 0.1 acre
    - Clearing: 0.0 acre
  - ER2
    - Fill: 0.9 acre
    - Pilings: 0.0 acre
    - Clearing: 0.0 acre
- Essential Fish Habitat Affected
  - Preferred Alternative
    - Fill: 0.0 acre
    - Pilings: 0.1 acre
    - Shading: 27.8 acres
  - ER2
    - Fill: 1.8 acre
    - Pilings: 0.0 acre
    - Shading: 0.1 acre
- Threatened and Endangered Species Habitat Affected:
  - Preferred Alternative: "May Affect, Not Likely to Adversely Affect" for three of the 11 threatened and endangered species under USFWS jurisdiction for which a biological conclusion is required. They are the piping plover, West Indian manatee, and loggerhead sea turtle. "No Effect" on the other eight species under USFWS jurisdiction for which a biological conclusion is required. "May Affect, Not Likely to Adversely Affect" for four of the six threatened and endangered species under NMFS jurisdiction for which a biological conclusion is required. They are the green sea turtle, Kemp's ridley sea turtle, loggerhead sea turtle, and shortnose sturgeon. "No Effect" on the other two species (hawksbill sea turtle and leatherback sea turtle) under NMFS jurisdiction for which a biological conclusion is required.
  - ER2: No Effect on threatened and endangered species

No notable change in these findings has occurred as documented in the sections that follow.

Updated jurisdictional delineations and the revived design approved in 2016 decreased the wetlands impacts of the Preferred Alternative from 8.3 acres to 4.2 acres. The wetland impact for ER2 decreased from 12.6 to 8.5 acres. Updated SAV surveys in 2018 show the shading impact to SAV beds for the Preferred Alternative is now 3.5 acres rather than 3.8 acres. The updated number is less than the range found in the FEIS for all alternatives with a Mid-Currituck Bridge of 3.8 to 5.5 acres of SAV bed shading impact. The combination of shading existing beds and potential (water depths < 6 feet) SAV habitat is now 8.8, slightly higher than in the FEIS. Permanent fill impacts to upland biotic communities decreased for both the Preferred Alternative (87.8 to 66.1 acres) and ER2 (121.2 to 36.4 acres). Temporary impacts to upland biotic communities increased a small amount for both alternatives. Impervious area added decreased compared to the FEIS for both alternatives (89.0 acres to 33.7 acres with ER2 and 71.5 acres to 64.3 acres with the Preferred Alternative).

There are three additional federally protected species assessed below that were listed since the preparation of the FEIS: Atlantic sturgeon, rufa red knot, and northern long-eared bat. In the case of the Atlantic sturgeon and rufa red knot, the biological conclusion for the Preferred Alternative is "May Affect, Not Likely to Adversely Affect." For ER2, the biological conclusion is "No Effect." USFWS has developed a programmatic biological opinion (PBO) in conjunction with FHWA, USACE, and NCDOT for the northern long-eared bat in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. Under the PBO, the programmatic determination for the northern long-eared bat is "May Affect, Likely to Adversely Affect." This determination applies to the Mid-Currituck Bridge project including both the Preferred Alternative and ER2.

4.3.1 Water Resources

4.3.1.1 Preferred Alternative

The FEIS concluded that the most notable temporary impact to water quality would be increased turbidity levels produced during construction of the Mid-Currituck Bridge as a part of the Preferred Alternative (either design). Permanent impacts to water quality would be primarily associated with increased levels of bridge and highway runoff. The project will comply with the NCDOT's National Pollutant Discharge Elimination System (NPDES) permit (NCS000250) and requirements of the post-construction stormwater program. A preliminary stormwater management plan for minimizing the potential impact of project pollutants was proposed in the FEIS and would be finalized in association with NCDEQ Division of Water Resources (DWR) and other state and federal environmental resource and regulatory agencies during final design of the Preferred Alternative and in the process of obtaining related permits.

Since the preparation of the FEIS, two changes in water resources have occurred within the impact area of the Preferred Alternative. The first is the eastern shoreline of Currituck Sound within the impact area. It has eroded in some places (approximately 45 feet in one spot south of the bridge terminus). As such, the impact to Currituck Sound water habitat has increased marginally. The second is that an additional stream was

delineated by USACE in the 2016 jurisdictional resource delineations. This stream would not be affected by the Preferred Alternative.

There are no changes to water use classification, the quality of water resources, or water quality or stormwater law since the release of the FEIS. NCDOT remains committed to the stormwater management commitments made in the FEIS, although there are plans to discuss alternative approaches with environmental resource and regulatory agencies during preparation of the final stormwater management plan.

As shown in Table 4-3, the revised design for the Preferred Alternative would result in less new impervious surface (additional pavement) than the FEIS design.

Table 4-3 Existing and Proposed Impervious Surface Areas

	FEIS Design (acres)		Revised Design (acres)	
	ER2	Preferred Alternative	ER2	Preferred Alternative
Existing Impervious Surface	290.4	290.4	290.4	290.4
Proposed Impervious Surface	379.4	361.9	324.1	354.7
Increase in Impervious Surface				
Road	89.0	32.9	33.3	27.2
Bridge	0.0	38.6	0.3	37.1
Total/Percent Increase	89.0/30.6%	71.5/24.6%	33.7/11.6%	64.3/22.1%

4.3.1.2 ER2

The primary change within the impact area of ER2 is five additional jurisdictional streams feeding into US 158 drainage ditches on the mainland in Currituck County. The impact on these streams is documented in Section 4.3.6.

ER2 (either design) would have minor impacts to water resources. Runoff from active construction areas could result in temporary increases in turbidity, siltation, and sedimentation in water resources, but these affects are expected to be minimal and cease after revegetation.

The revised design for ER2 also would result in less new impervious surface (additional pavement) than the FEIS design. When comparing the revised ER2 and Preferred Alternative designs, ER2 now adds 55.3 less acres of impervious surface and the Preferred Alterative adds 7.2 less acres of impervious surface. Most of the reduction in impervious surface from the two FEIS designs is associated with fewer improvements on NC 12. The Preferred Alternative now adds the most imperious surface, 64.3 acres

versus 33.7 acres with ER2. This change occurs because of the long length of NC 12 improvements removed from the ER2 design for its revised design.

4.3.2 Biotic Resources

Permanent impacts to biotic communities with the FEIS and revised design are shown in Table 4-4. With the revised design, impacts to biotic communities overall are reduced. In general, impacts are also reduced or are unchanged for each category of community. Exceptions are as follows:

- With the Preferred Alternative (revised design):
  - Agricultural land used rose from 15.3 acres to 22.0 acres.
  - There is now a 0.1-acre pond impact.
  - Wetland clearing associated with the Maple Swamp Bridge rose from 25.5 to 32.9 acres.
  - SAV shading impact declined from 3.8 acres to 3.5 acres using 2018 SAV mapping.
- With ER2 (revised design):
  - Five additional jurisdictional streams were identified during 2017 surveys that are perpendicular to US 158 on the mainland and connect to US 158 roadside ditches. The proposed hurricane evacuation lane could affect with fill a total of 99.6 feet of these streams, but the total acres of impact would be less than 0.1 acre.
  - Bridge shading at Jean Guite Creek rose from 36.0 feet to 42 feet or 0.1 acre of total shading.

Temporary impacts to biotic communities with the FEIS and revised design are shown in Table 4-5. In general, impacts to uplands went up slightly with ER2 and down slightly with the Preferred Alternative, generally reflecting small changes in temporary easement. Temporary wetland impacts went down. One notable change, as indicated in Table 4-5, is that the stream clearing impact of ER2 rose from 171.7 feet from the FEIS to 218.5 feet because the 2017 delineations identified five jurisdictional streams along US 158 on the mainland.

Wetlands within the Preferred Alternative's slope-stake line plus an additional 25-foot buffer were listed as 7.9 acres in the FEIS. Based on a comment made by USACE in their FEIS comment letter of March 12, 2012, this number increased to 8.3 acres. The 0.4 acre increase reflected grubbing that would be needed at pile bents along the Maple Swamp bridge. The FEIS indicated that the equivalent number for ER2 was 12.6 acres. The revised designs would reduce wetland impacts using the measure of slope-stake plus 25 for the Preferred Alternative to 4.2 acres and ER2 to 8.5 acres. Specific changes in

Table 4-4 Revised Permanent Impacts to Biotic Communities

Biotic Community	FEIS Designs (acres)								Revised Designs (acres)							
	ER2				Preferred Alternative				ER2				Preferred Alternative			
	Fill	Pilings	Shading	Clearing	Fill	Pilings	Shading	Clearing	Fill	Pilings	Shading	Clearing	Fill	Pilings	Shading	Clearing
Upland Impact																
Upland man-dominated land	35.7	0.0	0.0	0.0	38.9	0.0	0.1	0.4	12.0	0.0	0.1	0.0	20.6	0.0	0.1	0.0
Upland agricultural land	0.2	0.0	0.0	0.0	15.3	0.0	0.0	0.0	0.2	0.0	0.0	0.0	22.0	0.0	0.0	0.0
Upland natural or naturalized communities	85.3	0.0	0.0	0.0	33.6	0.0	0.4	1.3	23.9	0.0	0.0	0.0	22.8	0.0	0.2	0.0
Other Upland	--	--	--	--	--	--	--	--	0.2	0.0	0.0	0.0	0.6	0.0	0.1	0.0
Total upland	121.2	0.0	0.0	0.0	87.8	0.0	0.5	1.7	36.4	0.0	0.1	0.0	66.1	0.0	0.4	0.0
Wetland Impact																
Wetland man-dominated land	0.2	0.0	0.0	0.0	1.1	0.0	0.0	0.1	0.4	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Wetland natural or naturalized communities	4.8	0.0	0.0	0.0	5.0	0.0	10.1	25.4	3.2	0.0	0.0	0.0	2.2	0.0	8.1	32.9
Other Wetland	--	--	--	--	--	--	--	--	1.1	0.0	0.0	0.0	1.0	0.0	0.2	0.0
Total wetland	5.0	0.0	0.0	0.0	6.1	0.0	10.1	25.5	4.6	0.0	0.0	0.0	3.5	0.0	8.4	32.9
Pond Impact	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Aquatic Bottom Impact (total/≤6 feet deep)	0.1/ 0.1	0.0/ 0.0	0.1/ 0.1	0.0/ 0.0	0.0/ 0.0	0.1/ 0.0	27.8/ 8.7	0.0/ 0.0	0.1/ 0.1	0.0/ 0.0	0.0/ 0.0	0.1/ 0.1	0.0/ 0.0	0.1/ 0.0	24.7/ 7.8	0.0/ 0.0
SAV Beds (Existing) Impact	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0
Stream Impact																
Stream (acreage)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Stream (linear feet)	0.0	0.0	36.0	0.0	0.0	0.0	0.0	0.0	99.6	0.0	42.0	0.0	0.0	0.0	0.0	0.0
TOTAL IMPACT	126.6	0.0	0.2	0.0	93.9	0.1	38.4	27.2	41.3	0.0	0.2	0.0	69.7	0.1	33.5	32.9

Notes: Other upland and wetland are areas outside the FEIS biotic communities survey area for which wetlands were distinguished from uplands in the 2015 and 2016 wetland delineations, but for which the biotic communities were not classified beyond upland and wetland. The numbers in this table were rounded to the nearest tenth, so minor rounding error exists when adding the individual numbers to get the totals. [1]The biotic community impacts are based on a preliminary design. Although useful in the context of differentiating potential permanent and temporary impacts of the detailed study alternatives to biotic communities, the wetland fill numbers presented in this table are not considered ideal for evaluating potential fill impacts to USACE jurisdictional resources because the preliminary design is subject to change based on a more detailed terrain model, hydraulic design, and other factors. As such, NCDOT uses the edge of earthwork, or slope-stake line plus 25 feet, as a reasonable estimate for potential jurisdictional resource fill impacts. This information is presented in the jurisdictional impact discussion in Section 4.3.6

Table 4-5 Revised Temporary Impacts to Biotic Communities

Biotic Community	FEIS Designs (acres)		Revised Designs (acres)	
	ER2	Preferred Alternative	ER2	Preferred Alternative
Upland Impact				
Upland man-dominated land	75.0	2.1/0.5	77.6	1.5/0.0
Upland agricultural land	29.9	0.0	29.9	0.0
Upland natural communities	8.3	0.0/0.6	9.9	0.0/0.0
Other Upland	--	--	0.5	0.2
Total upland	113.2	2.1/1.1	117.9	1.7/0.0
Wetland Impact				
Wetland man-dominated land	0.5	0.0	0.3	0.0
Wetland natural communities	1.7	0.0	2.1	0.4
Other wetland	--	--	0.1	0.1
Total wetland	2.2	0.0	2.5	0.5
Pond Impact	0.0	0.0	0.0	0.0
Open Water Impact	0.1	0.0	0.0	0.0
SAV Beds (Existing) Impact	0.0	0.0	0.0	0.0
Aquatic Bottom	0.0	0.0	0.0	0.0
Stream Impact				
Stream (acreage)	0.0	0.0	0.1	0.0
Stream (linear feet)	171.7 (clearing)	0.0	218.5 (clearing)	0.0
TOTAL IMPACT	115.5	11.1	120.5	2.2

Notes: The numbers in this table were rounded to the nearest tenth, so minor rounding error exists when adding the individual numbers to get the totals. The number after the slash reflects the area of a permanent utility easement. Impacts in the easement would occur when utilities are relocated and then the impacted features within the easement would be restored.

wetland and other jurisdictional resource impacts since the preparation of the FEIS are discussed in Section 4.3.6.

The FEIS identified extensive recent logging in Maple Swamp. The extent of logged areas within the impact area of the Preferred Alternative has not changed. Enough time has passed since the logging that some of these logged areas could now be mapped as a different biotic community, primarily young forests. These transitional communities reflect habitat types previously identified in the project area and are neither unique nor rare. In general, animals and plants associated with regenerating forests are opportunistic, transitional, widespread, and common, and as forests mature, they often become more complex in structure and function, which in turn supports a greater

diversity of species. No new habitat or expanded habitats preferred by protected species is expected with these transitional communities.

In July 2014, the North Carolina Natural Heritage Program (NHP) replaced the term "significant natural heritage area" (SNHA) with "NHP natural area" (personal communication, Suzanne Mason, January 29, 2015). Figure 3-5 in the FEIS and Figure 7 of the 2011 NRTR continue to accurately reflect the NHP natural areas (then SNHAs) in the project area. No new NHP natural areas or rare and threatened communities are within the impact area of the Preferred Alternative or ER2.

4.3.3 Land Wildlife

4.3.3.1 Preferred Alternative

The FEIS indicated that the Preferred Alternative would result in the removal of existing vegetative habitats and the displacement of wildlife within the project construction limits. Since the preparation of the FEIS, except for the Currituck Sound minor shoreline erosion and transitional communities in logged areas on the mainland discussed above, there have been no substantial changes to the biotic communities and wildlife species in the area. Therefore, there have been no changes to land wildlife impacts except for the general reduction in the acres of biotic community impact for the Preferred Alternative since the preparation of the FEIS. The alignment of the bridge through Maple Swamp was approximately 500 feet north of the powerline that parallels Aydlett Road with the FEIS design. With the revised design, it is approximately 430 to 720 feet north. Thus, the revised design for the Preferred Alternative through Maple Swamp would have similar fragmentation impacts to wildlife compared to the FEIS design. Breaks in the forest canopy across Maple Swamp occur with the existing Aydlett Road and powerline crossing to the north of Aydlett Road and from logging activities. Bridging Maple Swamp avoids and minimizes impacts to wetlands and reduces impediments to movement of terrestrial wildlife.

The revised design did not change the location of the Mid-Currituck Bridge. Wintering waterfowl (i.e., ducks, geese, and swans) and movements/behavior of waterbirds within the sound could be affected by the presence of the bridge but substantial adverse impacts are not expected. Many waterfowl species have daily and seasonal movements between different habitats; including deep and shallow waters/marshes, and some species use terrestrial habitats (i.e., agricultural fields) during the day and roost in the sound at night. Many migrating species are likely to avoid the bridge by flying at higher altitudes. Many species and thousands of birds annually use and migrate to/through the Pea Island National Wildlife Area approximately 45 miles south of the area, and waterfowl were not encountered in bird collision studies of the Bonner Bridge crossing Oregon Inlet at the north end of the Refuge (NCDOT, 2013).

Bird collisions studies by NCDOT surveyed bird mortality on six bridges in the Outer Banks area, including the Wright Memorial Bridge, which crosses the southern end of Currituck Sound. The results are documented in a February 4, 2013 memorandum by Kathy Herring of NCDOT's Natural Environment Section (NCDOT, 2013). Data from 25 surveys of these six bridges conducted between December 2011 and December 2012

showed an average of 27.4 dead birds per mile, with gulls (four species) comprising about 88 percent of the total mortalities. From this same referenced data set, an average of 11.1 dead birds per mile was found along the 2.8-mile Wright Memorial Bridge and 84 percent of those birds were gulls. For the Bonner Bridge Replacement project, NCDOT and USFWS agreed that because gull were the predominant species killed on area bridges no measures to reduce potential bird mortality on the new bridge over Oregon Inlet were needed. NCDOT believes the same conclusion is appropriate for the Mid-Currituck Bridge.

Although not a regulatory requirement, features to discourage roosting/perching birds on the bridge would be considered during final design. Commitment 4 in the Project Commitments in Appendix G of this reevaluation study report was updated to make this commitment, which was based on the United States Environmental Protection Agency (USEPA) comment on the FEIS.

4.3.3.2 ER2

There have been no substantial changes to the biotic communities and wildlife species in the area. Therefore, there have been no changes to land wildlife impacts for ER2 since the preparation of the FEIS except for the general reduction in the acres of biotic community impact.

The FEIS found that ER2 would be the least disruptive to wildlife habitat, since construction would occur in and along primarily man-dominated areas. This continues to be the case with the revised design.

4.3.4 Aquatic Wildlife

The FEIS indicated that fill, pile placement, shading, and clearing would result directly in the permanent loss or alteration of aquatic habitat and the wildlife that live there. Aside from the narrower bridge deck over Currituck Sound, the revised design for the Preferred Alternative is the same as the design assessed in the FEIS in areas where aquatic impact would occur. As stated in the FEIS, construction operations could result in temporary impacts. Aquatic impacts would be the greatest with alternatives that include a Mid-Currituck Bridge, including the Preferred Alternative. The FEIS indicated that the Preferred Alternative would shade 3.8 acres of existing SAV.

Since the preparation of the FEIS, except for the Currituck Sound shoreline erosion discussed above, there have been no changes to aquatic habitat (except the location of SAV), aquatic species, or aquatic species impacts. All of Currituck Sound is Essential Fish Habitat (EFH) and that remains the case so overall EFH impacts of the Preferred Alternative are reduced (shading of the sound drops from 27.8 to 20 acres) because of the narrower bridge deck over Currituck Sound. Updated surveys for the presence of SAV in the impact area of the Preferred Alternative were conducted by NCDOT in 2015, 2016, 2017 and, 2018. The results are discussed in Section 4.3.7. Based on 2017 SAV mapping, the revised design of the Preferred Alternative would shade 3.5 acres of SAV habitat. The FEIS design and 2010 SAV mapping indicated 3.8 acres of SAV habitat would be shaded.

Aside from the narrower bridge deck, neither the characteristics of the Preferred Alternative's bridge nor Currituck Sound as habitat have changed, except for the area of the Currituck Sound bottom that contains SAV, since the preparation of the FEIS (as described above under Section 4.3.1). NCDOT remains committed to the water resource mitigation documented in FEIS Section 3.3.7.2, as well as Section 3.3.4.4 related to mitigating potential temporary and long-term impacts to water quality including SAV habitat.

Therefore, impacts from noise, turbidity, and siltation for the Preferred Alternative essentially remain as documented in the FEIS. Since the location of the Preferred Alternative and its proposed navigation span has not changed since the preparation of the FEIS, potential impacts to commercial fisheries have not changed.

The FEIS concluded that ER2 would result in minor impacts to aquatic habitat. Runoff from active construction areas could result in temporary increases in turbidity, siltation, and sedimentation in aquatic habitat areas, but these affects were expected to be minimal and cease after revegetation. The impact would be confined to the crossing of Jean Guite Creek with either design. The portions of ER2 improvement adjacent to Currituck Sound are no longer included in ER2's revised design eliminating impacts in that area.

4.3.5 Invasive Species

There are several potential invasive exotic plant species listed by NCDOT that could occur in the county and construction of the project would introduce disturbed habitats that could be invaded by *Phragmites australis*. *Phragmites* does serve some ecological functions, but because of its invasive nature and tendency to form monocultures, it is often regarded as a nuisance species. Roadside ditches and wetland areas are often invaded by this species and it would out compete native wetland species. The shorelines of Currituck Sound also can be invaded. The FEIS stated that NCDOT would follow NCDOT's BMPs for the management of invasive plant species during project construction. That remains NCDOT's commitment for both the Preferred Alternative and ER2.

4.3.6 Jurisdictional Resources

A field survey for the FEIS Preferred Alternative in February 2015 and revised designs for the Preferred Alternative and ER2 in December 2016 found several differences in the delineated wetland boundaries used to assess impacts in the FEIS. In addition, the delineations used in the FEIS, which were approved by the USACE in 2009, had expired. Therefore, updated USACE jurisdictional resource surveys were conducted for the impact area of the Preferred Alternative and ER2. The updated delineations for the Preferred Alternative were approved by USACE in 2016. The updated delineation for ER2 and the revised Preferred Alternative were verified by USACE, NCDWR, and NCDCM in 2017.

The FEIS indicated that the Preferred Alternative would require placing fill in 7.9 acres of jurisdictional wetland within the slope stake line of the preliminary design plus 25

feet and ER2 would require 12.6 acres, as shown in Table 3-10 of the FEIS. Based on a comment made by the USACE on the FEIS, the FEIS number increased to 8.3 acres since the preparation of the FEIS. The 0.4-acre increase reflects grubbing that would be needed at pile bents along the Maple Swamp Bridge (Table 4-6).

As shown in Table 4-6, based on the updated delineations and revised design, the wetland impacts associated with the Preferred Alternative's slope stake plus 25 line dropped from 8.3 acres to 4.2 acres. With the updated delineations and revised design for ER2, slope-stake plus 25 impacts dropped from 12.6 acres to 8.5 acres.

Also, as shown in Table 4-6, with the Preferred Alternative's revised design, the wetland fill impact is reduced but the clearing impact in Maple Swamp rose resulting in a higher total wetland impact.

Impacts to open water, streams, and ponds generally changed a small amount from the FEIS. The most notable change in jurisdictional impacts was related to the impact of stream fill with ER2, which rose from 0.0 feet to 99.6 feet because the 2017 delineations identified additional jurisdictional streams along US 158 on the mainland that connect to roadside ditches. However, the total acres of impact would be less than 0.1 acre. Clearing during construction would occur on 218.5 feet of these streams.

The FEIS described opportunities for mitigation and indicated that efforts were made to avoid and minimize impacts to these wetlands, including project refinements incorporated into the Preferred Alternative between the release of the DEIS and FEIS. A permit for these impacts would be required. The FEIS indicated that NCDOT proposed the Ballance Farm Wetlands Mitigation Site for mitigating the wetland fill impact of the Preferred Alternative. The FEIS indicated that the mitigation credit available from the Ballance Farm Wetlands Mitigation Site could potentially provide for all, or at least a portion of, the mitigation required for impacts to palustrine wetlands for the Preferred Alternative or ER2. As of 2017, there are no non-riparian credits available at the Ballance Farm site and the wetland impacts of the Preferred Alternative and ER2 are to non-riparian wetlands. There are, however, other NCDEQ-DMS sites in the area that have non-riparian credits available.

Appendix E of the *Natural Resources Technical Report* (December 2011) included a conceptual wetland mitigation plan for jurisdictional impacts. It listed mitigation options that could be used in combination as:

- Enhancement, preservation, or creation of wetlands in the Preferred Alternative's proposed right-of-way.
- Use of Ballance Farm mitigation credits. [Other sites with non-riparian credits are available in the area.]

Table 4-6 Jurisdictional Impacts for the Preferred Alternative and ER2

	Preferred Alternative		ER2	
	FEIS Design Based on 2009 Delineations and USACE FEIS Comments (acres)	Revised Design Based on 2016 and 2017 Delineations (acres)	FEIS Design Based on 2009 Delineations	Revised Design Based on 2017 Delineations (acres)
Wetlands				
Fill	6.1	3.5	5.0	4.6
Pilings	0.0	0.0	0.0	0.0
Clearing[1]	25.5	32.9	0.0	0.0
Total Permanent Impacts	31.6	36.4	5.0	4.6
Temporary	0.0	0.5	2.1	2.5
Total Wetland Impacts	31.6	36.9	7.1	7.1
Open Water				
Fill	0.0	0.0	0.1	0.0
Pilings	0.1	0.1	0.0	0.0
Clearing	0.0	0.0	0.0	0.0
Total Permanent Impacts	0.1	0.1	0.1	0.0
Temporary	0.0	0.0	0.1	0.0
Total Open Water Impacts	0.1	0.1	0.2	0.0
Total Stream Impacts (acres/feet)	0.0/0.0	0.0/0.0	0.0/0.0	0.0/99.6
Total Pond Impacts (Fill)	0.0	0.1	0.3	0.0
Total Jurisdictional Impacts	31.7	37.1	7.6	7.4
Wetland within Slope-Stake Line, plus Additional 25-foot buffer	8.3	4.2	12.6	8.5

Notes: [1]Cleared areas would be a permanent impact in that it is expected that they would remain cleared in the long-term. However, stumps would not be removed nor the area grubbed and graded except at the pile bents. Therefore, these areas would remain wetlands and the impact would not be considered a permanent fill impact requiring mitigation under Section 404.

- Payment to the NCDEQ-DMS, formerly the North Carolina Ecosystem Enhancement Program.
- Wetland preservation in locations other than the Preferred Alternative's proposed right-of-way.

The wetland impact associated with either the Preferred Alternative or ER2 can be mitigated.

4.3.7 CAMA Areas of Environmental Concern and Essential Fish Habitat

The shorelines and waters of Currituck Sound, as well as the marsh communities found within the project area, are all considered AECs under CAMA. This also includes Jean Guite Creek, which is a Primary Nursery Area. In addition, Jean Guite Creek, Currituck Sound, and the Intracoastal Waterway are considered public trust waters that fall under CAMA jurisdiction. Within the project area, Currituck Sound comprises approximately 3,900 acres, Jean Guite Creek comprises approximately 0.5 acre, and the Intracoastal Waterway approximately 1.9 acres. The estuarine shorelines within the project area are considered coastal and not inland shorelines because they fall under joint responsibility of NCDEQ Division of Marine Fisheries (DMF) and NCWRC. Coastal shoreline areas include a 75-foot offset from the normal high water level of estuarine waters and a 30-foot offset from the normal high water level of inland public trust waters.

4.3.7.1 Preferred Alternative

The FEIS indicated that the greatest impact to CAMA resources, essential fish habitat, and SAV habitat (including existing beds) or potential SAV habitat (water depths 6 feet or less) would be associated with shading by a Mid-Currituck Bridge. The FEIS found that Preferred Alternative would not affect CAMA wetlands. This remains true based on the updated jurisdictional delineations as affirmed in the field by a NCDEQ-DCM representative in March 2016 and September 2017.

Bridge piles with the Preferred Alternative would affect 0.1 acre of the bottom of Currituck Sound and bridge the sound's shorelines. Both are CAMA AEC. This impact has not changed since the release of the FEIS.

Figure 3-6 of the FEIS compares SAV information from 2003, 2006, 2007, and 2010. The 2010 data was used to determine potential impacts to SAV of the Preferred Alternative in the FEIS. Figure 4-2 compares the 2010, 2015, 2016, 2017, and 2018 SAV survey boundaries. In the 2010 survey, no SAV beds were found near the western shore line in the 2010 survey. Isolated plants were found. Small pockets of SAV beds were found near the western shoreline in the 2015 survey. These small pockets were not found in the 2017 survey. Figure 4-2 shows that near the eastern shoreline of Currituck Sound, SAV beds have filled in and retreated slightly towards the shoreline in the last 6 and 7 years. The 2015 pattern is similar to the 2007 SAV pattern shown in the 2013 FEIS in Figure 3-6.

The 2018 pattern is a hybrid of the 2007 SAV patterns and 2010 SAV pattern shown in Figure 4-2. Table 4-7 indicates that the shading impact of the Preferred Alternative to SAV beds rose from the 2010 to the 2015 surveys from 3.8 acres to 4.5 acres. The 4.5 acres declined to 3.7 acres in 2018 assuming the FEIS design. With the revised design's narrower shoulders, the SAV shading impact is 3.5 acres. The 3.5 acres is less than the range found in the FEIS for all alternatives with a Mid-Currituck Bridge of 3.8 to 5.5 acres of bed shading impact. The acres of potential SAV habitat shaded was 4.9 acres in

Legend

- Preferred Alternative Bridge Corridor
- Outer Boundaries of 2010, 2015, 2016 and 2017 Surveys
- Outer Boundaries of 2018 SAV

Note: The 2018 survey results are classified as SAV beds. The combined 2010 to 2018 data is classified as SAV habitat.

SAV Data from 2010 to 2018

Figure

4-2

the FEIS and slightly increased to 5.1 acres. In addition, by approaching the Outer Banks on an alignment perpendicular to the shore, the Preferred Alternative continues to minimize the shading of SAV, which lines the shoreline. Mitigation is not required for potential SAV habitat. Mitigation is only required for SAV habitat.

The CAMA AEC's pertinent to the impact area are public trust areas (Currituck Sound and a 75-foot AEC boundary from the shoreline), estuarine waters (Currituck Sound), coastal shoreline, and coastal wetlands (marsh communities). Changes in the shoreline on the east side of Currituck Sound were noted in Section 4.3.1. No changes in marsh were observed in the impact area.

NMFS, South Atlantic Marine Fisheries Council, and Mid-Atlantic Fishery Management Council web sites were reviewed in January 2015 and no changes in fish species managed under the Magnuson-Stevens Fishery Conservation and Management Act have occurred since the preparation of the FEIS. Review of 2012 and 2013 NC Division of Marine Fisheries trip ticket data (Alan Bianchi, personal communications, January 2015) indicated that no new managed fish species have been found in Currituck Sound since the preparation of the FEIS. There are no changes to primary or secondary nursery areas in the project area.

Bridge piles of the Preferred Alternative would still affect 0.1 acre of the bottom of Currituck Sound and bridge the sound's shorelines. The Preferred Alternative with its narrower bridge shoulders would shade 24.7 acres of EFH rather than the FEIS' 27.8 acres and 0.0 acres of primary nursery areas.

NCDOT remains committed to the water resource mitigation documented in FEIS Section 3.3.7.2, as well as section 3.3.4.4 on page 3-54, related to mitigating potential temporary and long-term impacts to water quality including SAV habitat, although there are plans to discuss alternative approaches to stormwater management with environmental resource and regulatory agencies during preparation of the final stormwater management plan. Since the FEIS was published, the Currituck Sound Ecosystem Restoration Project coordinated by USACE has not progressed. However, the Currituck Sound Monitoring Array, coordinated by USACE, has been initiated since the FEIS. Participation in this effort would serve as an option for SAV mitigation.

4.3.7.2 ER2

ER2 (either design) would not affect Currituck Sound. In terms of fill in EFH, ER2 would affect palustrine emergent (0.2 acre), palustrine forested (0.3 acre), and palustrine forested or palustrine emergent (0.2 acre) wetlands, for a total of 0.7 acres. The total EFH impact was 1.8 acres in the FEIS. ER2 (revised design) also would result in increased shading (0.1-acre total) of Jean Guite Creek (a Primary Nursery Area).

Table 4-7 Permanent Impacts to Submerged Aquatic Vegetation by the Preferred Alternative

SAV and Open Water (Currituck Sound) Communities (acres)	Fill	Pilings	Shading[6]	Clearing
• SAV beds (2010[1]/2015[2]/2016[3]/2017[4]/ 2018[5])	0.0/0.0/0.0	0.0/0.0/0.0	3.8/4.5/4.7/ 3.9 (3.7)/3.7 (3.5)	0.0/0.0/0.0
• Areas <4 feet deep (potential SAV habitat)	0.0/0.0/0.0	0.0/0.0/0.0	2.0/1.9/1.9/ 2.3 (2.0)/2.6 (2.3)	0.0/0.0/0.0
• Areas 4 to 6 feet deep (potential SAV habitat)	0.0/0.0/0.0	0.0/0.0/0.0	2.9/3.0/3.2/ 3.4 (3.0)/3.4 (3.0)	0.0/0.0/0.0
• Areas >6 feet deep (unsuitable SAV habitat)	0.0/0.0/0.0	0.1/0.1/0.1	19.1/18.4/18.3/ 18.34 (16.1)/18.3 (16.1)	0.0/0.0/0.0
• Total Over Currituck Sound	0.0/0.0/0.0	0.1/0.1/0.1	27.8/27.8/28.1/ 27.9 (24.9)/27.9 (24.9)	0.0/0.0/0.0
SAV Habitat[7]	0.0/0.0/0.0	0.0/0.0/0.0	4.8/4.9/5.0 (4.7)/5.1 (4.7)	0.0/0.0/0.0

Notes: [1]Based on Luczkovich, 2010. [2]Based on 2015 Wadelynn Geospatial LLC surveys as documented in CZR Incorporated, 2015 Based 2015 SAV beds and water depth data documented by Wadelynn Geospatial LLC surveys. [3]SAV beds based on 2016 Wadelynn Geospatial LLC surveys (unpublished data); habitat based on the 2015 Wadelynn Geospatial LLC surveys. [4]SAV beds based on 2017 Wadelynn Geospatial LLC surveys (unpublished data). [5]SAV beds based on 2018 RK&K surveys (unpublished data). [6]The number in parentheses reflects the use of an 8-foot bridge shoulder with the revised design. The other numbers assume the 10-foot shoulder of the FEIS design. [7]SAV habitat as defined by the North Carolina Marine Fisheries Commission is currently vegetated with one or more appropriate (native) SAV species, or has been vegetated by one or more appropriate species within the past 10 annual growing seasons, and meets the average growing conditions needed (water depth of 6 feet or less, average light availability [Secchi depth of 1 foot or more], and limited wave exposure). Available SAV survey data for FEIS evaluation 2000 to 2010 included surveys from 2003, 2006, 2007, and 2010 (see Figure 3-6 of the FEIS). Available SAV data for this evaluation (2008 to 2018) includes SAV surveys from 2010, 2015, 2016, 2017, and 2018 (Figure 4-2 shows the outer boundaries of the 2010 to 2017 data and separately the 2018 data. In calculating impacts, the area between the eastern boundary of the survey data shown on Figure 4-2 and the Outer Banks shoreline of Currituck Sound was assumed to contain SAVs.

4.3.8 Threatened and Endangered Species

The FEIS found that there are 13 federally protected species in Dare and Currituck counties; there is habitat present for 10 of them in the project area.

4.3.8.1 Preferred Alternative

The biological conclusion for the Preferred Alternative was "May Affect, Not Likely to Adversely Affect" for three of the 11 threatened and endangered species under USFWS jurisdiction for which a biological conclusion is required, and "No Effect" on the other eight species under USFWS jurisdiction for which a biological conclusion is required. The biological conclusion for the Preferred Alternative was "May Affect, Not Likely to Adversely Affect" for four of the six threatened and endangered species under NMFS jurisdiction for which a biological conclusion is required, and "No Effect" on the other two species under NMFS jurisdiction for which a biological conclusion is required. The FEIS indicated that all construction would follow USFWS guidelines for the protection of eagles. There have been no notable changes in the Preferred Alternative or the listing of these protected species since the FEIS and thus, these findings are unchanged.

The Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) has been listed as endangered and granted protection under the Endangered Species Act since the FEIS was prepared. Two species, the rufa red knot (*Calidris canutus rufa*) and the northern long-eared bat (*Myotis septentrionalis*) have been listed as threatened.

The Atlantic sturgeon was included and addressed in the project's 2011 Biological Assessment as a species proposed for protection and an effects determination was proposed. Atlantic sturgeons use and occupy the Atlantic Ocean and Currituck Sound. NC Natural Heritage Program (NCNHP) has a 2012 record of an Atlantic sturgeon within the project area of the Currituck Sound (NCNHP, 2015). Exact locations for this record are unknown, but it was within or near the proposed bridge over Currituck Sound. Two Atlantic sturgeon were reported in Currituck Sound through the NCDMF Observer Program in 2013 (both north of the impact area and one was reported in 2014 (near the Wright Memorial Bridge) (Jacob Boyd, protected species biologist, NCDMF, personal communication, February 11, 2015)). At the time the 2011 Biological Assessment was prepared there were no sightings of the Atlantic sturgeon in Currituck Sound on record. However, the Biological Assessment indicated and took into consideration in its findings that Atlantic sturgeon are expected to exist in Currituck Sound, at least part of the year. In its October 18, 2011 letter agreeing with the conclusions of the Biological Assessment for listed marine species, NMFS agreed that the Preferred Alternative was not likely to adversely affect the Atlantic Sturgeon. There have been no changes in the Preferred Alternative in Currituck Sound since the FEIS and thus, these findings are unchanged.

A critical habitat designation for the Atlantic sturgeon was assigned by NMFS for several rivers in North Carolina effective September 18, 2017 (*Federal Register*, Vol. 82, No. 158). The Mid-Currituck Bridge project area does not occur within the drainage basins with listed critical habitat. Because neither the Preferred Alternative nor ER2 would cross any of rivers listed as critical habitat and none of the listed rivers drain into Currituck Sound, the above findings related to the Atlantic sturgeon in the previous paragraph are not affected by the critical habitat designation.

The rufa red knot is a long-distance migrant bird and occasional visitor (but does not nest in North Carolina) throughout the year to ocean-front habitats along the Outer Banks. The rufa red knot was mentioned in the 2011 Natural Resources Technical Report as a candidate species. A technical memorandum on the potential for an effect on the rufa red knot (*Calidris canutus rufa*) and the northern long-eared bat (*Calidris canutus rufa*) was provided to USFWS in May 2015 by the Federal Highway Administration for its consideration. The technical memorandum concluded that the potential impact on the rufa red knot is "May Affect, Not Likely to Adversely Affect" and the northern long-eared bat is "May Affect, Likely to Adversely Affect." The USFWS concurred with this conclusion in a letter dated June 29, 2015 (Appendix A).

The Preferred Alternative may indirectly affect the rufa red knot because there is a reasonable expectation of induced beach driving if beach use by private vehicles remains unregulated. Increased beach traffic and disturbances could be a source of increased effects to foraging and resting rufa red knot. However, the potential increase in beach driving would not likely create a new form of impact to the rufa red knot. No expansion of the area used for beach driving would occur because of the Preferred Alternative because all beaches that could be affected by increased beach driving are currently open for vehicle use, and are used between the foreshore and the dune line whether for driving or parking. Further, current beach driving volumes are already considered notable, as opposed to minor, by those concerned with the impact of beach driving. Any changes to effects because of the project would be discountable because of the inability to meaningfully measure, detect, or evaluate the change in effects from current beach driving.

USFWS has developed a PBO in conjunction with FHWA, USACE, and NCDOT for the northern long-eared bat in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. Under the PBO, the programmatic determination for the northern long-eared bat is "May Affect, Likely to Adversely Affect." This determination applies to the Mid-Currituck Bridge project. The PBO provides incidental take coverage for the northern long-eared bat and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Currituck County where the Mid-Currituck Bridge project is located.

The FEIS indicated that the Preferred Alternative and ER2 would have No Effect on the RCW (*picoides borealis*) because its habitat was not present. A RCW evaluation was conducted in the area of the Preferred Alternative (Environmental Services, Inc., March 2016). It consisted of a stand evaluation within this area to determine if suitable foraging or nesting habitat is present. Pines 60 years in age or older within this area were surveyed for the presence of RCW cavities. Field work was conducted March 16 to 17, 2016. A review of NCNHP records, updated to March 2016, indicated no known RCW occurrence within 1.0 mile of the Preferred Alternative area. Field surveys found that forested stands in this area consist primarily of hardwood vegetation with a minor pine component. Loblolly pine was the dominant pine species observed in this area. Most the tree stands evaluated include a dense understory and midstory. Suitable

foraging and nesting RCW habitat is not present in this area based on the level of pine dominance and age of appropriate pine species. Older pines within several predominantly hardwood stands were examined for the presence of RCW cavities. No RCW cavity trees were observed. The Biological Conclusion reached based on this evaluation was again No Effect because no suitable foraging or nesting habitat was identified within the Preferred Alternative area and there are no known RCW trees or clusters within 1.0 mile of this area.

A bald eagle nest survey was conducted for the Preferred Alternative in 2012. Suitable nest trees exist throughout the area and because this species is rebounding, and new nesting sites are expanding, the potential of new nests in the project area remains a possibility. The project area was surveyed for eagles and eagle nests near the project area during a February 2015 field reconnaissance. The February 2015 survey was limited to selected areas and along most of the public roads in the wetland reevaluation area. No potential eagle nests were detected; however, two sub-adult bald eagles were seen. If any eagles were to nest within 660 feet of the project construction area, this activity could affect the timing of construction activities; this distance would be 0.5 mile in the case of loud, intermittent noises. Surveys would be appropriate closer to project construction to avoid and minimize potential disturbance and impacts to construction timing. This is added to the project commitments presented in Appendix G. All construction would follow USFWS guidelines for the protection of bald eagles as described in the National Bald Eagle Management Guidelines (USFWS, 2007).

4.3.8.2 ER2

The biological conclusion for ER2 for all species is "No Effect" except for the northern long-eared bat. Under the PBO, the programmatic determination for the northern long-eared bat is "May Affect, Likely to Adversely Affect." Like the Preferred Alternative, construction of ER2 would follow USFWS guidelines for the protection of bald eagles as described in the National Bald Eagle Management Guidelines (USFWS, 2007) and eagle and eagle nest surveys would be conducted prior to project construction.

4.4 Other Physical Characteristics

The FEIS identified the following key impact findings for the Preferred Alternative and ER2 related to other physical characteristics:

- Noise Impact
  - Preferred Alternative: It would impact the fewest receptors (22). Traffic noise impact would occur at one mainland noise receptor. Noise abatement measures would not be cost-effective at sites on the Currituck County mainland (one receptor with the Preferred Alternative). Barriers were considered on three sections of NC 12 between Currituck Clubhouse Drive and the Mid-Currituck Bridge terminus where impacts were predicted because the proposed four-lane NC 12 roadway shifts closer to homes and higher future traffic volumes. Noise abatement would be cost-effective at some locations on the Outer Banks (13 of 21

impacted receptors). However, the impacts of barriers on drainage and flooding on the Outer Banks could be substantial.

  - ER2: With ER2, noise is predicted to approach or exceed Noise Abatement Criteria (NAC) at 337 noise-sensitive sites on the Currituck County mainland and 355 noise-sensitive sites on the Outer Banks. At the receptors on the mainland the impact occurs only because existing noise levels already exceed the FHWA's NAC. Generally, the increase in noise levels would be no more than 1 dB(A), an imperceptible amount. Barriers considered on four sections of NC 12 between US 158 and Albacore Street. Noise abatement would be cost-effective at some locations (25 of 355 impacted receptors). Again, the impacts of barriers on drainage and flooding on the Outer Banks could be substantial.

- Air Quality: No impact with either the Preferred Alternative or ER2.

- Energy: Energy used in constructing, operating, and maintaining the Preferred Alternative or ER2 likely would be greater than simply continuing to operate and maintain existing roads.

- Accelerated Sea Level Rise: Some existing roads would be affected by sea level rise, including in the Waterlily area of the US 158 interchange, but no component of the Preferred Alternative would be affected by sea level rise. As an alternative route to the mainland, a Mid-Currituck Bridge would be a useful asset in reducing the impact of sea level rise on the project area's road system because with sea level rise, NC 12 would be broken by inundation at the Dare/Currituck County line.

- Visual Impact:

  - Preferred Alternative: Mid-Currituck Bridge features would be introduced into views along US 158 and in Aydlett (including views of Currituck Sound); would adversely affect views of Currituck Sound from adjoining subdivisions.

  - ER2: It would introduce an interchange into views in Kitty Hawk.

  - Both: Wider pavement and new drainage features would be introduced along NC 12. This change would be the least with the Preferred Alternative. Roadside vegetation would be lost to provide for the drainage features.

- Hazardous Materials and Underground Storage Tank Sites:

  - Preferred Alternative: It would potentially affect five potential hazardous material or underground storage tank (UST) sites with negligible to medium risk.

  - ER2: It would potentially affect 25 negligible to low or low risk sites

- Floodplains: No impact with either the Preferred Alternative or ER2.

No notable change in these findings has occurred as documented in the sections that follow. In general, with the revised designs, impacts were reduced for both the Preferred Alternative and ER2.

4.4.1 Noise

The FEIS concluded that each of the detailed study alternatives would cause some increased traffic noise. The Preferred Alternative was found to impact the fewest receptors – 21 on the Outer Banks and one receptor on the mainland for a total of 22. The next lowest impact identified was 83 receptors on the Outer Banks. This alternative was MCB4 with the C2 terminus on the Outer Banks. ER2 was found to impact 355 receptors on the Outer Banks and 337 receptors on the mainland. Noise abatement measures were found not to be cost-effective at sites on the Currituck County mainland (one receptor with the Preferred Alternative). Noise abatement was found to be cost-effective at some locations on the Outer Banks (13 of 21 impacted receptors with the Preferred Alternative). With ER2, noise barriers were found to benefit three receptors of 232 along NC 12 on the Outer Banks. However, the impacts of barriers on drainage and flooding on the Outer Banks could be substantial.

The potential for noise impacts was reassessed for the Preferred Alternative and ER2 reflecting the revised designs of both alternatives, the updated traffic forecasts and measures of congestion, new noise-sensitive receptors built or permitted for construction since the original noise assessment, and adoption of the updated 2016 NCDOT *Traffic Noise Policy*. The noise reassessment is documented in the Mid-Currituck Bridge Noise Reevaluation Memorandum (WSP, February 2018). The February 2018 analysis results have been used to compare the revised ER2 design to the FEIS study findings.

In June 2018, an additional noise analysis was conducted for the revised Preferred Alternative design following the 2016 NCDOT *Traffic Noise Policy*. This analysis is documented in the *Mid-Currituck Bridge Project Traffic Noise Report* (WSP, June 2018). Compared to the 2012 FEIS study, the noise analysis accounted for the revised designs of both alternatives, updated traffic forecasts and measures of congestion, new noise-sensitive receptors built or permitted for construction since the original noise assessment, updated ambient noise measurements, and the development of noise prediction models with additional roadway and terrain detail. The analysis also included the area of US 158 north of the Intracoastal Waterway, which was not included in the FEIS assessment. The Preferred Alternative includes no road improvements north of the Intracoastal Waterway, only reversing the existing center turn lane during a hurricane evacuation. The June 2018 analysis results (excluding the area north of the Intracoastal Waterway) have been used to compare the revised Preferred Alternative design to the FEIS study findings.

A noise-sensitive site is any property (owner-occupied, rented, or leased) where human activity occurs (typically outdoors) and where a lowered noise level would be of benefit. The noise-sensitive sites adjoining the Preferred Alternative and ER2 consist mostly of the exterior areas of low density and medium density residential

areas. Residential land use coincides with the FHWA land use category B and loudest-hour traffic noise levels were calculated at these locations.

The September 2017 noise impact assessment revealed 1,145 noise-sensitive sites (down from 1,877 in the FEIS) in proximity to the Preferred Alternative and ER2. As with the FEIS, noise-sensitive sites along US 158 consist of isolated homes adjacent to the roadway right-of-way, a visitor center, churches, recreational areas, and a library. Noise-sensitive sites in Aydlett consist of single family homes. Noise-sensitive sites along NC 12 include isolated single-family homes (adjacent to the roadway right-of-way), single family homes in new and established subdivisions, hotels, apartments, and condominiums.

4.4.1.1 Revised Predicted Noise Levels

In general, traffic noise impacts would be less with the revised designs than the FEIS designs. The June 2018 analysis found that the number of receptors the Preferred Alternative would impact dropped from 22 in the FEIS to five. Noise would approach or exceed FHWA's NAC at two receptors (previously one in the FEIS) on the Currituck County mainland and three receptors (previously 21 in the FEIS) on the Outer Banks. No properties would experience a substantial increase in noise levels with the Preferred Alternative.

With ER2, the September 2017 analysis found that noise would approach or exceed NAC at 309 sites (previously 337 in the FEIS) on the Currituck County mainland and 101 noise-sensitive sites (previously 355 in the FEIS) on the Outer Banks. No properties would experience a substantial increase in noise levels with ER2.

The reduced number of predicted noise impacts compared to the FEIS findings are because of modifications to the proposed Preferred Alternative and ER2 roadway designs and traffic forecasts.

Regarding the ER2 impacts related to the hurricane evacuation lane on the mainland, as stated in the FEIS, noise levels resulting from the project were not predicted to be notably higher than existing levels, but because in most cases noise levels currently exceed the NAC, the sites are impacted and consideration of noise abatement was warranted.

With both alternatives, noise levels on the Outer Banks would increase over the No-Build Alternative because wider roads could carry more traffic at the speed limit, and travel lanes would be closer to noise sensitive receptors.

4.4.1.2 Revised Noise Abatement

NCDOT's Traffic Noise Policy (October 6, 2016) states that "traffic noise abatement for NCDOT highway projects is warranted and must be considered when traffic noise impacts are created by either of the following two conditions:

1. The predicted traffic noise levels for the design year approach (i.e., reach one decibel less than, for example 66 dB(A) for land use Activity Category B) or exceed the NAC; or

2. The predicted traffic noise levels for the design year (2040 for this project) substantially exceed existing noise levels. NCDOT defines a substantial noise increase as a predicted future noise level that exceeds the existing noise level by 10 dB(A) or more.

Because noise levels at locations along the two alternatives were determined to approach or exceed the NAC for Activity Categories B, C, and E, the feasibility and reasonableness of noise abatement measures were reevaluated. These measures include buffer zones, transportation systems management measures, alignment modifications, and noise barriers. Use of a buffer zone, transportation systems management measures, and alignment modifications were found not to be feasible and reasonable in the FEIS. Thus, the FEIS and this updated noise analysis focus noise abatement considerations on barriers.

Noise barriers reduce noise levels by blocking and extending the sound path between a roadway and noise-sensitive sites. To be effective in reducing traffic-induced noise, a noise barrier must be relatively long, continuous (with no intermittent openings), sufficiently dense, and high enough to provide the necessary reduction in noise levels. For a barrier to be considered feasible and reasonable, it must meet the following 2016 NCDOT criteria:

- Provide a minimum insertion loss (noise reduction) of 5 dB(A) for at least two impacted receptors (it was one impacted receptor in the criteria in force for the FEIS).

- Consider adverse impacts created by or upon property access, drainage, topography, utilities, safety, and maintenance requirements.

- Not exceed the maximum allowable base quantity of noise barriers per benefited receptor of 1,500 square feet (previously 2,500 square feet for the FEIS). Additionally, an incremental increase of 500 square feet (previously 35 square feet for the FEIS) shall be added to the base quantity based on (1) the average increase in dB(A) between existing and predicted future exterior noise levels of all impacted receptors and (2) the average exposure in dB(A) to absolute noise levels relative to NAC criteria for all impacted receptors.

- Evaluate a noise reduction design goal of at least 7 dB(A) for all benefited receptors. At least one benefited receptor must achieve this noise reduction design goal to indicate the noise abatement measure effectively reduces traffic noise.

- Solicit viewpoints of the property owners and residents of all benefited receptors.

For the Preferred Alternative, noise barriers were found to not be feasible. For ER2, noise barriers were found to be preliminarily reasonable at a few locations along NC 12 and along US 158 (on the Outer Banks) in Dare County.

Preferred Alternative Barrier Feasibility

The revised Preferred Alternative design would impact five receptors (three of which are on the Outer Banks) in the area with roadway improvements. Noise abatement measures would not be feasible at the two impacted sites on the Currituck County mainland because both impacted receptors are isolated. The same conclusion was reached for the one impacted mainland receptor identified in the FEIS. Similarly, noise abatement measures would not be feasible at the three impacted receptors on the Outer Banks because the sites were all determined to be isolated. For comparison, the FEIS found that 21 receptors would be impacted on the Outer Banks, 13 of the 21 receptors would benefit from noise barrier construction, and those same noise barriers would lower noise levels for up to 19 additional receptors not impacted.

The differences in the revised Preferred Alternative noise abatement results compared to the FEIS findings are because of modifications to the proposed roadway design, updated traffic forecasts, and the updated NCDOT Traffic Noise Policy.

In addition to the five impacted receptors in the area with roadway improvements, there would be 54 receptors impacted by traffic noise along US 158 north of the Intracoastal Waterway. This traffic noise impact, however, is not related to the Preferred Alternative's road improvements because the Preferred Alternative includes no road improvements north of the Intracoastal Waterway, only reversing the existing center turn lane during a hurricane evacuation. The noise impact of traffic north of the Intracoastal Waterway was not assessed in the FEIS because it was unrelated to any change in traffic or road improvements associated with the Preferred Alternative. Because of changes in NCDOT's Noise Policy since the FEIS, the noise study area was extended to include the area on US 158 north of the Intracostal Waterway.

ER2 Barrier Feasibility

For the revised ER2 design, noise barrier feasibility, as well as the noise reduction benefit of noise barriers, was found to occur sporadically on the three-lane sections of NC 12 because driveway and street accessibility requirements limited the locations where acoustically effective barriers could feasibly be considered. Along NC 12, 65 receptors (previously 232 in the FEIS) would be impacted by traffic noise. Of those 65 receptors, two (three percent) would benefit from a noise barrier, whereas previously in the FEIS 21 of 232 (one percent) would benefit from a noise barrier. That barrier would also lower noise levels for one (previously 11 in the FEIS) additional receptor not impacted.

US 158 from the Wright Memorial Bridge to just south of NC 12 has less frequent street intersections and driveways than NC 12. Thus, the benefit of noise barriers with ER2's six-lane super-street would be greater. ER2 would impact 36 receptors in this area. Of the 36, 18 (50 percent) would benefit from noise barrier construction. Those same noise

barriers would not lower noise levels for any additional receptors that were not impacted. A barrier analysis was not needed in this area for the FEIS.

The impacted sites along the third outbound emergency lane from NC 168 to the Wright Memorial Bridge were found to not be eligible for noise abatement. Reasons included infeasibility because of frequent direct access to US 158 or receptors are isolated. This also was the case in the FEIS.

The differences in the revised ER2 noise abatement results compared to the FEIS findings are because of modifications to the proposed roadway design, updated traffic forecasts, and the updated NCDOT Traffic Noise Policy.

If ER2 was constructed, the potential for barriers to affect drainage and flooding remains as presented in the FEIS, as does NCDOT's commitment to the construction of feasible and reasonable noise abatement measures at the noise-impacted receptors, contingent upon the conditions listed beginning on page 3-78 of the FEIS.

4.4.2 Air Quality

4.4.2.1 National Ambient Air Quality Standards

Currituck and Dare counties remain in attainment with the National Ambient Air Quality Standards (NAAQS). Since the proposed project is in an attainment area, Title 40 CFR, Parts 51 (the NAAQS) and 93 (determination of conformity with a state implementation plan for air quality reduction) remain not applicable. USEPA's air quality regulations do not require hotspot analysis of pollutants in attainment areas (and neither does FHWA). The Preferred Alternative is not anticipated to create any adverse effects on the air quality of this attainment (geographic) area.

4.4.2.2 Mobile Source Air Toxics

The FEIS concluded that the proposed project would reduce regional emissions of MSAT, with the greatest reduction associated with the introduction of a Mid-Currituck Bridge, including the Preferred Alternative. Changes in traffic growth trends discussed in Section 2.4 indicate that growth in development in the project area has been slower than was forecast for the FEIS. Slower growth reduced the forecast future (2035) vehicle-miles traveled and congested vehicle-miles traveled from that presented in FEIS Table 3-17 of the MSAT analysis. Updated results, as well as the results presented in FEIS Table 3-17 are shown in Table 4-8.

Table 4-8 indicates that the conclusion regarding MSATs of the FEIS remains valid. Despite slower traffic growth, a Mid-Currituck Bridge would still provide a shorter route to many destinations in the project area for future travelers, decreasing total VMT from the No-Build Alternative by 10.7 million VMT. Congested VMT with slower vehicle speeds and associated additional emissions would increase by 1.2 million VMT. ER2 would increase both VMT and congested VMT over the No-Build Alternative.

Table 4-8 Estimated Total Vehicle-Miles Traveled and Congested Vehicle-Miles Traveled[1]

	Total Vehicle-Miles Traveled (millions)	Change in Total Vehicle-Miles Traveled from No-Build (millions)	Percent Change in Total Vehicle-Miles Traveled from No-Build	Congested Vehicle-Miles Traveled (millions)	Change in Congested Vehicle-Miles Traveled from No-Build (millions)	Percent Change in Congested Vehicle-Miles Traveled from No-Build
2035 Traffic Forecasts/2000 HCM Model						
Annual Existing (2006)	355.1	—	—	5.4	—	—
Annual Future (2035)						
• No-Build	663.9	—	—	66.1	—	—
• ER2	663.9	0.0	0.0%	51.4	-14.7	-22.2%
• Preferred Alternative	578.3	-85.6	-12.9%	40.2	-25.9	-39.2%
2040 Traffic Forecasts/2016 HCM Model						
Annual Existing (2015)	330.3	—	—	3.8	—	—
Annual Future (2040)						
• No-Build	426.8	—	—	34.4	—	—
• ER2	463.2	+36.4	+8.5%	50.4	+16.0	+46.5%
• Preferred Alternative	416.1	-10.7	-2.5%	35.6	+1.2	+3.5%

Notes: [1] The 2040 results for the No-Build Alternative and ER2's VMT and congested VMT assume planned and expected development in Currituck County is constrained by inadequate capacity on NC 12 to serve summer weekend travel demand. With unconstrained development, the 2040 annual VMT would be higher at 502.1 million VMT for both the No-Build Alternative and ER2.

The updated 2040 No-Build Alternative VMT and congested VMT presented in Table 4-8 take into consideration that severe congestion on NC 12 could reduce planned and expected development on the Currituck County Outer Banks by 2,476 housing units (from 13,122 to 10,646). With ER2, which would add capacity to NC 12 south of the Duck commercial area, that reduction is 1,545 housing units (13,122 to 11,577). The bridge associated with the Preferred Alternative would substantially reduce the trip length between the Currituck County Outer Banks and points north on US 158. This reduction in trip length counters the additional trips of 2,476 housing units to achieve the reduction in annual VMT. ER2 would not reduce trip length, as such the additional trips of 1,545 housing units would increase annual VMT. Therefore, the Preferred Alternative likely would reduce regional MSAT emissions compared the No-Build Alternative. ER2 likely would increase regional MSAT emissions compared the No-Build Alternative.

In October 2016, FHWA updated their September 2009 *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA* to incorporate an analysis conducted using MOVES (Motor Vehicle Emission Simulator) rather than the older emissions model of Mobile6.2. This resulted in changes to the National MSAT emissions trends 1999-2050 table presented as Figure 1 in the 2016 FHWA interim guidance. The updated guidance also provided an update on the status of scientific research on air toxics. Neither change altered the approach to which MSAT emissions are considered in FHWA environmental impact documentation. Under the 2016 guidance, the proposed project continues to fall in the category of a Tier 2 project. Use of a Tier 2 analysis (qualitative analysis for projects with low potential MSAT effects) remains valid. The discussion of VMT above revises the Tier 2 analysis presented in the January 2010 *Air Quality Technical Report* and in Section 3.4.2.2 of the FEIS.

Based on the October 2016 guidance, the following paragraphs replace Section 3.2.2 "Information that is Unavailable or Incomplete" in January 2010 *Air Quality Technical Report.*

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

USEPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. USEPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, www.epa.gov/iris). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations also are active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Several HEI studies are summarized in Appendix D of FHWA's 2016 *Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*. Among the adverse health effects linked to MSAT compounds at high exposures are: cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI Special Report 16, www.healtheffects.org /publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects) or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (Special Report 16, www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. USEPA states that with respect to diesel engine exhaust, "[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk (USEPA IRIS database, Diesel Engine Exhaust, Section II.C. https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0642.htm#quainhal)."

There also is the lack of a national consensus on an acceptable level of risk. The current context is the process used by USEPA as provided by the Clean Air Act to determine whether more stringent controls are required to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires USEPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld USEPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable

(www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/$file/07-1053-1120274.pdf).

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

4.4.3 Energy

Section 3.4.3 of the FEIS concluded the energy used in constructing, operating, and maintaining the Preferred Alternative, ER2, as well as the other detailed study alternatives, likely would be greater than simply continuing to operate and maintain existing roads. This revised analysis reaffirms that conclusion. Further, changes in VMT and congested VMT findings from those of the FEIS make that difference even greater.

The FEIS said that with the Preferred Alternative, ER2, and the other detailed study alternatives, however, there would be a substantial reduction in long-term future traffic operations energy use resulting from a decrease in millions of VMT in the case of bridge alternatives and reductions in annual congested VMT in the case of all alternatives (Table 4-8). As shown in Table 4-8, with the updated 2040 traffic forecasts this finding changed as follows:

- The reduction in total annual VMT in the design year (2035 in the FEIS and 2040 in this reevaluation) with the Preferred Alternative compared to the No-Build Alternative is less, 85.6 million in the FEIS and now 10.7 million.

- The annual congested vehicle-miles in the design year would rise from that with the No-Build Alternative with both ER2 and the Preferred Alternative, but only 1.2 million with the Preferred Alternative. However, as described in Section 3.2.1.5, compared to the No-Build Alternative, the congestion experienced with the Preferred Alternative would be:

  – Less severe, with traffic demand during periods of congestion generally not exceeding the capacity of the road.

  – Of shorter duration of congestion on NC 12 in Dare County, 10 to 12 hours versus 13 to 15 hours on the summer weekend with the No- Build Alternative.

  As shown in Table 3-8, if improvements to NC 12 were not built as a part of ER2, NC 12's constraint on development would be the same as the No-Build Alternative and the remaining improvements on US 158 would reduce congested VMT from 34.4 million to 32.8 million rather than increase them.

Differences in energy use related to the construction of the detailed study alternatives are reflected in differences in their cost (Caltrans Transportation Laboratory, July 1983). The higher the cost, the more energy that would be expended. The construction costs of the detailed study alternatives (in this case all costs except right-of-way costs) were presented in Table 2-4 of the FEIS. The lowest cost alternative was ER2. The FEIS said the Preferred Alternative would require 1.8 times the construction energy use of ER2. Updated cost estimates presented in Section 1.2.4 reflect both the revised designs and rises in the cost of materials in labor. The cost of the Preferred Alternative is now approximately 1.8 times that of ER2 and in turn the energy use to construct the Preferred Alternative would be approximately 1.8 times that of ER2.

4.4.4 Accelerated Sea Level Rise

In Section 3.4.4 of the FEIS, it was found that when considering the various accelerated sea level rise scenarios that by year 2100 portions of the existing project area road network (including those sections of US 158 and NC 12 improved by the detailed study alternatives including the Preferred Alternative and ER2) would be inundated (permanently under water for 1.5 to 2.5 miles) or at risk during a storm surge (3.8 to 7.7 miles). Portions of the Mid-Currituck Bridge interchange area with US 158 would be at risk during a storm surge. Areas likely to be inundated along the bridge corridor would be bridged with either Preferred Alternative design.

Section 3.4.4 of the FEIS also concluded that the only parts of the Preferred Alternative that would be affected by 1 meter of sea level rise are roadway components on the mainland along US 158 in the Waterlily Road area. This part of US 158 also would be affected with the No-Build Alternative. The revised design of the Preferred Alternative's does not change this conclusion. The discussion also found that a Mid-Currituck Bridge would be a useful asset in reducing the impact of sea level rise on the project area's road system. Under all sea level rise scenarios considered, the entire barrier island would be inundated at the Dare/Currituck County line, creating a breach in the island and making a Mid-Currituck Bridge the only way off the Currituck County Outer Banks unless the breach was bridged.

In May 2016, an update to the 2010 *North Carolina Sea Level Rise Assessment Report* and 2012 Addendum was released by the NC Coastal Resources Commission Science Panel. The report indicated that when using existing gauge rates, sea level rise across North Carolina by 2045 would vary from a low estimate of 2.4 inches (with a range between 1.9 and 2.8 inches) at Southport to a high estimate of 5.4 inches (with a range between 4.4 and 6.4 inches) at Duck. The report also indicated that when considering the Intergovernmental Panel on Climate Change (IPCC) low greenhouse gas emissions scenario (RCP 2.6) combined with vertical land movement, sea level rise would vary from a low mean estimate of 5.8 inches (with a range between 3.5 and 8.0 inches) at Wilmington to a high mean estimate at Duck of 7.1 inches (with a range between 4.8 and 9.4 inches). Also, when considering IPCC's high greenhouse gas emissions scenario (RCP 8.5) with vertical land movement, sea level rise would vary from a low estimate of 6.8 inches (with a range between 4.3 and 9.3 inches) at Wilmington to a high estimate at Duck of 8.1 inches (with a range between 5.5 and 10.6 inches).

The Town of Duck is within the Mid-Currituck Bridge project area. The FEIS addressed the impacts of sea level rise scenarios for the entire project area ranging from 2.4 to 23.2 inches. The FEIS also considered the impacts of 1-meter (39.4 inches) of sea level rise on the Preferred Alternative. The upper limits of 23.2 inches and 39.4 inches considered in the FEIS for the project area and Preferred Alternative, respectively, are more than the highest estimate noted in the NC Coastal Resources Commission Science Panel's report at Duck of 10.6 inches. Further, the Science Panel's 2045 forecasts are beyond the 2035 design year considered in planning the Mid-Currituck Bridge project as identified in the FEIS and the current design year of 2040. Therefore, the findings of the FEIS related to sea level rise are unchanged.

It is acknowledged that there are risks and uncertainty in the future regarding sea level rise and storm events. While NCTA and FHWA are aware of the risks and vulnerability, the Mid-Currituck Project is still a useful project. NCDOT will follow FHWA's policy as set forth in in FHWA Order 5520, "Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events" and guidance as set forth in FHWA's publications "Highways in the River Environment-Floodplains, Extreme Events, Risk, and Resilience" June 2016, (FHWA-HIF-16-018) and "Highways in Coastal Environment: Assessing Extreme Events" October 2014, (FHWA-NHI-14-006) to minimize climate and extreme weather risks and protect transportation infrastructure.

4.4.5 Visual Quality

4.4.5.1 Preferred Alternative

No substantial changes have occurred in the visual characteristics of the Preferred Alternative's setting.

Section 3.4.5 of the FEIS said that the primary visual impacts of the Preferred Alternative would be the introduction of Mid-Currituck Bridge features into views along US 158 and in Aydlett (including views of Currituck Sound). On the Outer Banks, a Preferred Alternative's bridge terminus would adversely affect views of Currituck Sound from Phase I of the Corolla Bay subdivision and the northern part of Monteray Shores. Wider pavement and new drainage features would be introduced along NC 12. This change was found to be the least with the Preferred Alternative compared to the other detailed study alternatives because it would alter NC 12 the least. Roadside vegetation would be lost to provide for the drainage features.

The revised design of the Preferred Alternative includes a changed interchange/toll plaza design, and the Maple Swamp alignment has shifted slightly north in the Aydlett area, but crosses Narrow Shore Road in the same place as the FEIS design. No new viewers of the project are added with these changes; no additional vertical elements are added; and thus, the nature of the visual impact is unchanged. Since the preparation of the FEIS, a few homes have been built in Aydlett and in Corolla Bay Phase I on lots that would have bridge views (Section 4.1.1). The homes were built on lots that existed prior to the preparation of the FEIS and thus the impact on their views was accounted for in the FEIS. The revised design reduces the impact along NC 12 by eliminating proposed

improvements to NC 12 (except for a left turn lane from Albacore Street to NC 12) from the Albacore Street area south.

4.4.5.2 ER2

No substantial changes have occurred in the visual characteristics of ER2's setting.

Section 3.4.5 of the FEIS said that the primary visual impacts of ER2 were that the superstreet and associated interchange east of the Wright Memorial Bridge would be introduced into the views of business patrons along US 158, pedestrians and bicyclists on multi-use paths, and motorists on US 158. Principal viewers of the interchange would be users of the Aycock Brown Welcome Center, which would overlook the interchange; businesses near the interchange; a multi-story hotel; and motorists on US 158. The superstreet would be the only street of such a large scale on the Outer Banks. The interchange would be the only interchange on the Outer Banks. Although the road and interchange would serve a useful purpose in terms of serving travel demand in this area, neither is what one would expect to see in a beach vacation area like the Outer Banks, with its mostly low-density development. The primary change to ER2 that would affect this impact is changing the proposed US 158/NC 12 interchange to an intersection. The visual impact would, thus, be less because the improvement would remain at the existing grade and no bridge taking NC 12 over US 158 would be built.

Like the Preferred Alternative, on NC 12, wider pavement and new drainage features would be introduced along NC 12. With the FEIS design this would be from Southern Shores to Albacore Street in Currituck County. With the revised design, NC 12 improvements would no longer occur between Albacore Street and the Duck commercial area, eliminating that visual change. With the revised ER2 design, the distance of visual change along NC 12 would continue to longer than the revised Preferred Alternative design.

4.4.6 Hazardous Materials and Underground Storage Tanks

4.4.6.1 Preferred Alternative

Section 3.4.6 of the FEIS indicated that the Preferred Alternative would potentially affect five potential hazardous material or underground storage tank (UST) sites. The risk of increased project cost or schedule delays resulting from affecting any of these sites was judged to range from negligible to medium. This risk was not a factor in choosing an alternative for implementation. Field observations in February 2015 did not reveal any changes in land use for the Preferred Alternative that would change these conclusions. With the revised design for the Preferred Alternative, potential affects to two UST sites on the Outer Banks near Albacore Street would not occur, reducing the number of hazardous waste sites potentially affected to three.

4.4.6.2 ER2

Section 3.4.6 of the FEIS indicated that ER2 would potentially affect 27 potential hazardous material or underground storage tank (UST) sites. All but three of the affected sites would be affected by the third outbound emergency lane in Dare County.

With the revised ER2 design, potential effects to the UST site at the gas station near the intersection of NC 12 and US 158 would be reduced. Under the FEIS design, right-of-way on the property was being acquired to widen NC 12 in front of the gas station. Under the revised design, there only would be a construction easement on the property, reducing impacts to the soils. Potential effects to the other two sites in Dare County are unchanged with the revised design.

4.4.7 Floodplains

Section 3.4.7 of the FEIS concluded there would be no hydraulic impacts to floodplains in the project area and no significant encroachment on those floodplains with the Preferred Alternative or ER2. This finding is unchanged.

In 2015, new preliminary Federal Flood Insurance Maps were released that include changes in floodplain boundaries in Currituck County and Dare County. Across both counties, the new maps show a reduction in the extent of the floodplain as well as a lower base flood elevation. For this reason, impacts to the floodplain caused by the Preferred Alternative would be reduced. On the mainland side of the Mid-Currituck Bridge, the floodplain still extends under where the bridge would be placed in Maple Swamp; however, the east/west extent of the floodplain boundary was reduced slightly. On the Outer Banks side of the Mid-Currituck Bridge, the 100-year floodplain moved closer to the edge of the sound. The location where the Mid-Currituck Bridge would intersect with NC 12 is now outside of the 500-year floodplain, and in no mapped flood zone. The Preferred Alternative with the revised design would affect the 100-year floodplain as indicated in the FEIS; however, these impacts would be notably reduced with the revised design. Based on the 2015 preliminary maps, the Preferred Alternative with the revised design would require fill in the tidally-influenced 100-year floodplain for 0.27 acres on the mainland (rather than 9.8 acres) and 0.13 on the Outer Banks terminus of the Mid-Currituck Bridge (rather than 0.5 acre).

ER2 with the revised design continues to place no fill in the 100-year floodplain.

4.5 Construction Impacts

Section 3.5 of the FEIS addressed potential construction impacts. Changes in the design features of the Preferred Alternative and ER2 do not change the construction approach described in Section 2.4 of the FEIS, or commitments to mitigate construction impacts. No changes have occurred in the project's setting, including natural and community features and the road network that would alter the findings of the FEIS regarding the magnitude of construction impacts. The design revisions in the Preferred Alternative and ER2 would eliminate direct construction impact along parts of NC 12 no longer proposed for improvement.

The most notable change with the Preferred Alternative is at the powerline on the mainland. The FEIS indicated that the Preferred Alternative would relocate powerline towers at four locations in the US 158/Mid-Currituck Bridge area without service disruption. In 2015, Dominion North Carolina Power added a 230 kilovolt (kV)

transmission line in Currituck County. A portion of that line is in the project area, paralleling the existing Shawboro to Aydlett line that also parallels US 158. The new line is in a 60-foot right-of-way that is adjacent to the existing powerline right-of-way. The Preferred Alternative as currently designed would reduce the number of powerline towers relocated from four to two, again without service disruption.

4.6 Indirect and Cumulative Effects

Indirect and cumulative effects were addressed in Section 3.6 of the FEIS. The assessment concluded that forecast development would be the predominant contributor to cumulative impacts, irrespective of whether the Preferred Alternative is built. The improved accessibility to the Currituck County Outer Banks with the bridge would cause the order of future development to change such that development occurs first in Currituck County and later in Dare County. In addition, in terms of indirect impacts, the presence of the bridge could result in business development (68 acres) in proximity to the bridge's interchange with US 158, with associated use of farmland and visual change. This development, however, is desired by Currituck County.

The FEIS analysis found that constrained growth could result with the No-Build Alternative and ER2 (widening existing roads) would reduce vacation homes and hotel rooms in 2035. This remains the case with the updated 2040 traffic forecasts, with both similar constraints on development.

Given the pervasiveness of existing development and that much of the land that would be developed is within existing subdivisions, the FEIS concluded land not developed because of constrained growth would be generally in scattered parcels. The FEIS and *Indirect and Cumulative Effects Technical Report* (East Carolina University and Parsons Brinckerhoff, November 2011) indicated that less land being converted to development would result in smaller impervious cover. There also would be less demand on the water supply and fewer septic and sewage systems. Less development would not be expected to result in an appreciable improvement in surface water quality. This is because stormwater management in new development is regulated by county and state laws; the buildable beach parcels are on sandy soils; and the reduction in new growth would not be associated with a proportionate reduction in impermeable roadways, just homes and driveways. In the non-road accessible area, there would be less conversion of wild horse habitat and remnant patches of maritime forest, less growth of traffic in the wild horse area, less disturbance of dunes, and fewer, or less use of, septic and on-site sewer systems. The revised constrained development analysis does not change these general conclusions.

4.6.1 Study Area Directions and Goals and Notable Features

Since the preparation of the FEIS, there has been no notable change in the project area directions and goals described in Section 3.6.1.2 of the FEIS and the discussion of land use compatibility in Section 4.1.6.

Three changes of note have occurred regarding land use and residential development:

1. Currituck County – U.S. Fish and Wildlife Service Land Swap: Currituck County has entered into an agreement with the USFWS to exchange Currituck National Wildlife Refuge land north of Corolla for county-owned land on Knotts Island.

   The swap allows Currituck County to preserve unpaved motor-vehicle travel north of the end of NC 12 and facilitate beach safety. As a part of the swap the County obtained 3 acres of land that can be improved with a small public beach day use facility, a sheriff substation, and a transition of beach driving patterns for 1 mile to improve the safety for people using the beach. The county is concerned that the peak season volumes of drivers and pedestrians on the beach create safety issues. For 1 mile of beach, the county will transition the beach driving location from the foreshore (wet sand) portion of the beach back to the dry sand but in front of the dune line. This will reduce the likelihood of future accidents along the foreshore. To encourage current and expected future beach-goers to use this safer portion of beach, the County is planning beach day use facilities and a sheriff substation at the start of this mile of beach. No additional beach amenity improvements are planned for beaches north of Corolla. The County was committed to this safety improvement regardless of the presence of the Mid-Currituck Bridge project.

   The land swap involves two separate transactions. The USFWS purchased 287.64 acres on Knotts Island from The Conservation Fund, a non-profit entity, for full fair market value of $944,900.00. Currituck County purchased 95.39 acres on Knotts from The Conservation Fund for full fair market value of $981,100.00. Currituck County then exchanged the 95.39 acres with USFWS in an equal value for value exchange. USFWS will then own the entire 383.25 acres of property on Knotts Island. Currituck County received 719.95 acres from the USFWS on the Outer Banks. With the except of three acres that will allow the afore mentioned day visitor facility, a sheriff substation and the state easement, the USFWS land was conveyed to Currituck County with a series of restrictions (USFWS, Exchange Deed). Currituck County agrees to prohibit, in perpetuity:

   a) With the exception of erosion mitigation there will be no filling, grading, excavating, dredging, leveling or performing any other land disturbing or earth moving activities.

   b) With the exception of standard range management practices used for wildlife habitat improvements; no cutting, moving, removing, damaging or harming will be permitted.

   c) No camping or any related activities are permitted; (campfires, tents, overnight sleeping).

d) Only planting of native grasses will be permitted for habitat improvements; no invasive grasses or plants will be permitted.

e) The construction of any roads other than sand roads is prohibited.

f) With the exception of Tract (10) - No off-site material shall be deposited on the property for any purpose.

g) No vehicular traffic is permitted outside of the designated "slick easement" area.

h) The construction or placement of signs outside of the slick easement area is prohibited;

i) The construction or placement of buildings, mobile homes, utility poles or towers, fences and any other permanent or temporary structures is prohibited

j) Any activity which would impact the drainage or water quality, or disrupt or alter the hydrology or drainage ways of the property, is prohibited

k) Dumping, placing or storing soil, trash, debris, ashes, garbage, or other waste is prohibited

l) No grazing of domestic animals

m) No agriculture or horticulture

The restrictions that are conveyed with the property deed ensure no development beyond the public beach facility and a sheriff substation will be placed on the exchanged parcels. Currituck County plans to use its new property on the soundside for wild horse habitat.

2. State Regulation for Number of Bedrooms Per Rental: A recent North Carolina state law forbids local ordinances that limit the number of bedrooms in a house. In response to the new legislation Dare County and Duck removed their provisions that limit the number of bedrooms but the original land use density requirements remained in place. Southern Shores removed the bedroom limits from their ordinances, replacing it with a new ordinance lowering the maximum density of housing units. Currituck County was not regulating homes by the number of bedrooms, so the legislation had no change on county ordinances. Currituck County does use parking standards and lot coverage standards to regulate housing density. While the means of regulating density may have changed because the state legislation, the ability of local ordinances to regulate the density of development remains.

3. Currituck Health Study: The USACE Coastal and Hydraulic Laboratory is currently conducting a long-term study of the Currituck Sound. The study, which began in 2016, utilizes platforms in the sound to monitor water quality and pollutant load with the goal of monitoring long-term trends in the health of the Sound. Currently, there is no publicly published data and the compilation first-year results have not been completed.

Notable ecosystem and socioeconomic features (see Section 3.6.1.3 of the FEIS and discussions in Sections 4.2, 4.3, and 4.4) also have not notably changed.

4.6.2 Impact-Causing Activities

There have been some changes to impact-causing activities presented in Section 3.6.1.4 of the FEIS. These changes and their potential influence on the findings are related to the following questions:

1. What is the potential for an increase in permanent residents on the Outer Banks?

2. What is the potential for an increase in the number of day trips to the Outer Banks? Where would an increased number of day trips potentially occur? What would be the nature of those trips?

3. Would development in the paved NC 12-accessible Outer Banks change in terms of future development location, rate, or type?

4. Would development within the non-paved-road accessible area north of the terminus of NC 12 on the Currituck County Outer Banks change in terms of future development location, rate, or type?

5. Would development on mainland Currituck County change in terms of future development location, rate, or type?

The findings are as follows:

- The Proposed Project. The Preferred Alternative's and ER2's design characteristics have changed since the release of the FEIS. The changes reduced community impacts along NC 12 and, with ER2, business access impacts in the US 158/NC 12 intersection area. They did not, however, alter the accessibility changes introduced by ER2 and the Preferred Alternative, which was the aspect of the project that contributed to the answers to the five questions above.

- Proposed Development and Provision of Infrastructure. Characteristics of private development and infrastructure have not changed, however, the rate of development slowed in recent years (Section 2.4.1). In addition, major new development that has occurred since the 2008 indirect and cumulative effects (ICE) study area development activity listed in Table 4-1 of the *Indirect and Cumulative Effects Technical Report* (East Carolina University and Parsons Brinckerhoff, 2011) includes:

- Airport area development: A new development project around the airport was completed in Spring of 2017. A large athletic complex was developed near Barco to facilitate large sport tournaments. Consistent with the county recreational master plan, land use plan, Maple-Barco small area plan, and the airport overlay plan, the goal of the complex is to stimulate an athletic tourism sector on mainland Currituck County. Additional public investment in the area includes a proposed rest stop on US 158 near Barco. These projects are designed to stimulate and steer private investment to the airport area, specifically hospitality industry to support athletic tourism. This includes attracting restaurants, retail and a potential hotel near Barco.

  The airport recently completed adding a full taxiway parallel to the existing runway and future improvements are expected in the future. The primary airport users are aircraft needing to refuel along a popular flight path. Tourist also utilize the airport, although not necessarily Outer Banks visitors as the airport is a poplar stop for duck hunters visiting the area during duck season. Future development may include housing a school of aviation at the airport.

  The county economic development director indicated that the Mid-Currituck Bridge could allow for out-of-season athletic tourism to extend to the rental homes near Corolla. With sport tournaments in the spring and fall, it is anticipated that some teams will rent otherwise vacant beach houses out-of-season for the tournaments. Since the primary connection between athletic tourism and the Currituck County Outer Banks is in the non-summer season when there is no congestion on the project area's thoroughfare network, the development of athletic tourism does not affect the congestion findings of this reevaluation.

- Waterpark: A waterpark opened in the summer of 2017 along US 158 in mainland Currituck County in unincorporated Powell's Point. Situated on the mainland, the waterpark is unlikely to generate any additional visitors to the Outer Banks, however, it would likely generate additional trips from the Outer Banks to the mainland. Situated on a site zoned for full service and limited service, the waterpark is compatible within the existing land use plan for Currituck County. No zoning variances were issued for Phase I of the development and no variances are anticipated for a future Phase II project for the waterpark. If the waterpark does induce future development, it would likely be in mainland Currituck County along US 158 in areas designated for such development in the county land use plan and would occur with or without the Mid-Currituck Bridge Project.

  A traffic impact assessment was completed for the water park project (VHB, 2016). The developers assume that 90 percent of the traffic will be to and from the Outer Banks via the Wright Memorial Bridge. It included a recommendation for turn lanes at park entrances so intersections serving the park would operate at an acceptable level-of-service. As illustrated in Figure 3-2, Figure 3-4, and

Figure 3-5, US 158 on the mainland is expected to operate at a desirable level-of-service in 2040, including Powell's Point where the water park is located. The traffic forecasts take into consideration traffic growth from new development on the mainland, as well as the Outer Banks, including such development as the water park and additional development it might induce.

- Potential Currituck County developments: County economic development representatives are currently in preliminary conversation with a potential grocery store chain to locate a store in the Corolla area. The proposed site would fit in with an existing Planned Unit Development (PUD) site plan in a parcel zoned for commercial development. The county is also in early conversations with a medical facility and hotel looking to locate in mainland Currituck County.

- Potential Dare County and Municipal developments: Duck, Southern Shores and Kitty Hawk are all near full build-out and have no new subdivisions planned. Anticipated development in Duck includes a new 20,000 square foot public safety building and two or three small commercial in-fill areas in the village (small retail and restaurants). Southern Shores has a small number of single family dwelling permits pending. These developments fit within existing land use plans; no variances were issued. Dare County anticipates additional development in the southern half of the county irrespective of the Mid-Currituck Bridge project.

- Powerline in interchange area: A second Dominion power line between Waterlily Road and Aydlett Road that parallels an existing powerline.

These additional developments do not alter the conclusions of Section 3.6.14 of the FEIS because they are compatible with county and municipal land use plans, the implementation of which was assumed in the cumulative impact assessment.

Since the completion of the cumulative impacts assessment, the rate of development on the Outer Banks has slowed. However, the rate was not a factor important to the conclusions about altering patterns of private development on the Outer Banks. The potential constraint on Outer Banks development if the Mid-Currituck Bridge is not built was found to have changed minimally when considering the updated traffic forecasts and congestion analyses, as noted in the introduction to Section 4.6. The potential constraint on development if a Mid-Currituck Bridge were not built was discussed as a factor in the change in development (location, rate, or type) on the paved and non-paved road-accessible Outer Banks as it relates to the No-Build Alternative and ER2. The changes are discussed in the next section (4.6.3).

- Other Transportation Projects in the STIP. Changes to the STIP since the release of the FEIS are described in Section 1.2.1.2 of this reevaluation study report. The removal and addition of the projects listed in Section 1.2.1.2 does not alter conclusions in Section 3.6.1.4 of the FEIS related to patterns of private development on the Outer Banks resulting from changes in road access, capacity, and circulation

patterns because as indicated in the FEIS, they would occur with or without the implementation of the Preferred Alternative or ER2 and are all on the mainland.

- Logging in Forested Areas, Including Wetlands. Logging in the area affected by the Preferred Alternative has not occurred since the preparation of the FEIS.

- Beach Driving. Since the preparation of the FEIS, Currituck County began regulating commercial ventures that involve beach driving. Vendors are no longer permitted to rent four-wheel drive vehicles to visitors in Currituck County for use on the beach. For beaches north of the end of NC 12, group trips are now regulated annually. Each year the county monitors the number of visitors and gives operational permits to tour companies. Ten annual licenses are granted each year. Each license holder can operate up to five vehicles, with a maximum capacity of 15 persons. No action has been taken since the FEIS to regulate beach driving in personal vehicles north of the end of NC 12 (personal communication, Ben Woody, Planning Director, Currituck County Planning Department, February 12, 2015; personal communication with Jennie Turner and Laurie LoCicero, Currituck County Planning Department, July 31, 2017).

  In May 2017, Currituck County revised the beach driving ordinance for specific areas with NC 12 access. The new provisions allow for motorized commercial vehicles to deliver and retrieve recreational equipment (such as umbrella and chairs rentals) during the hours of 6:00am- 7:30am and 5:30pm-7:00pm. The provision also allows planned unit development communities adjacent to the beach or with ownership of beach adjacent properties to drive on the beach for management purposes from 7:30am-5:30pm; however, the vehicles must only cross dune line from 6:00am-7:30am and 5:30pm-7:00pm. All vehicles must be permitted as required by Section 10-64 of the Currituck County Code of Ordinances (Section 10-63 of Chapter 10 of the Currituck County Code of Ordinances).

  Finally, beach driving patterns are changing on a one mile stretch of beach north of the paved road. As described in Section 4.6.1, a USFWS land swap allows for 1 mile the transition of driving patterns from the foreshore (wet sand) portion of the beach back to the dry sand but in front of the dune line. This pattern was changed to reduce the potential for accidents between vehicles and pedestrians on the beach. To encourage beach-goers to use this safer portion of beach, the county is planning a beach day use facility at the start of this mile of beach. No additional beach amenity improvements are planned for beaches north of the end of NC 12.

  The focus of these efforts is to improve pedestrian safety and to limit beach driving by commercial vehicles and to increase beach use. As such, they do not affect the conclusions in Section 3.6.1.4 of the FEIS associated with potential changes in the patterns of development.

- Sea Level Rise. Accelerated sea level rise characteristics have not changed since the preparation of the FEIS (Section 4.4.4).

For the reasons indicated above, changes to impact-causing activities listed since the release of the FEIS do not affect conclusions in Section 3.6.1.4 of the FEIS associated with potential changes in the patterns of development related to:

- An increase in permanent residents on the Outer Banks
- An increase in the number of day trips to the Outer Banks
- Change in development (location, rate or type) on mainland Currituck County
- Change in development (location, rate, or type) on the non-paved road-accessible Outer Banks
- Change in development (location, rate, or type) on the paved road-accessible Outer Banks

4.6.3 NC 12 Capacity as a Development Constraint

The FEIS in Section 3.6.1.4 said that a differential in realized development could occur if traffic congestion on NC 12 becomes a constraint. There would be no such constraint with the Preferred Alternative or other bridge alternatives. However, traffic congestion could create such a constraint with the No-Build Alternative and ER2. The 2035 traffic forecasts used in assessing project need and the benefits of the detailed study alternatives assessed in the DEIS and FEIS and the updated 2040 traffic forecasts assume full build-out of the NC 12-accessible area and a continuation of building trends in the non-road accessible area and represent 85 percent (corrected from 86 percent based on an FEIS comment) of maximum build-out from Southern Shores to the Virginia Line.

The maximum combined build-out in both areas (NC 12-accessible and non-road accessible) in terms of homes or hotel rooms is approximately 15,400. Eighty-five percent is 13,100 homes or hotel rooms (corrected from 86 percent and 13,200 presented in the FEIS). The 86 percent and 13,200 resulted from a rounding error made when incorporating analysis results into the FEIS. With the No-Build Alternative, the FEIS said congestion on NC 12 could be great enough to constrain development in the Outer Banks portion of the larger project area to 70 percent of maximum build-out from the Virginia Line to Southern Shores or a practical build-out of approximately 10,800 homes or hotel rooms (2,300 units less than 13,100). The FEIS estimated that ER2 could create a practical build-out at 75 percent of maximum build-out from the Virginia Line to Southern Shores or a practical build-out of approximately 11,600 homes or hotel rooms (1,500 units less than 13,100).

Based on 2015 traffic counts along NC 12, the assumptions used in the FEIS constrained development analysis changed as follows:

- The trip rate per dwelling unit in the project area dropped from 4.5 trips per unit to 4.4 trips per unit.

- The critical point at which congestion can limit the amount of development occurring further north had changed from the three-lane section in Duck to the intersection of 13th Avenue/Sea Oats Drive and NC 12 in Southern Shores. There is a traffic signal at this intersection that stops NC 12 flow and multiple turning movements are allowed. It is currently the most congested intersection along NC 12.

- The capacity of a two-lane NC 12 was changed south of the Duck commercial area to reflect a Class III 2-lane arterial as defined in the 2016 HCM (Section 2.5).

The FEIS analysis found that constrained growth that could result with the No-Build Alternative and ER2 (widening existing roads) would reduce vacation homes and hotel rooms in 2035 by 2,300 units and 1,500 units, respectively, from the 13,100 with the Preferred Alternative. The 13,100 is a correction from the 13,200 presented in the FEIS. The 13,200 was a rounding error made when incorporating analysis results into the FEIS. Assuming an average acreage per dwelling unit on the Outer Banks, acres developed would be 770 to 500 acres less, respectively.

With the changed assumptions listed above, the updated assessment of constrained growth found that the No-Build Alternative and ER2 would reduce vacation homes and hotel rooms in 2040 by approximately 2,500 units (instead of 2,300) and remain approximately 1,500 (unchanged from FEIS) units, respectively, from the 13,100 with the Preferred Alternative. Assuming the average acreage per dwelling unit on the Outer Banks, acres developed would be 830 acres less (instead of 770) for the Preferred Alternative and remain 500 for ER2.

The results are similar because the additional constraint of less capacity on NC 12 is offset by the lower trips per dwelling unit. The change in the critical point had a nominal impact of the FEIS findings because most of the lots between the updated and original critical point are already almost entirely developed.

4.6.4 Indirect/Cumulative Effects

4.6.4.1 Indirect Effects

Regarding indirect effects, Section 3.6.2.2 of the FEIS concluded that there is adequate land considered suitable for business development near the US 158/Mid-Currituck Bridge interchange with the Preferred Alternative. This land also is adequate to accommodate the park-and-ride lot noted in Currituck County's CTP. Potential visual and traffic impacts would be associated with that development. Also, with the Preferred Alternative, shifts in the timing of development on the Outer Banks are likely (i.e., more Currituck County lots developing before Dare County lots).

Under the No-Build Alternative and ER2 (widening existing roads), severe traffic congestion could serve as a practical constraint to planned development on the Outer Banks, although the constraint is about 200 units more than what was presented in the FEIS for the Preferred Alternative, increasing the amount of land that would remain undeveloped by approximately 60 acres.

With the Preferred Alternative, the potential exists for increased day visitors to the Currituck County Outer Banks.

All three of these effects were found in the FEIS to be compatible with area land use plans, social health and well-being goals, economic opportunity goals, and ecosystem protection goals.

Because the project and the new accessibility it would provide, as well as Currituck County land use and economic development plans (Section 4.1.6) have not changed, the potential indirect impacts discussed in Section 3.6.2.2 of the FEIS have not changed since the preparation of the FEIS except for the small change in constrained development levels.

4.6.4.2 Cumulative Effects

The assessment of cumulative effects in Section 3.6.2.3 of the FEIS found that future effects would be primarily associated with growth in Currituck County, irrespective of any detailed study alternative being implemented, including the Preferred Alternative and ER2. It also found that the growth trend assumed in area land use plans, with a horizon year of 2025, does not appear to be sustainable to 2035 on the Currituck County mainland. If plan densities and growth continued, then most land suitable for development, including land designated as Rural Areas in the current plan, would be developed. This appears to conflict with Currituck County plan goals. As described in Section 2.4.1, development rates on the mainland have slowed and thus the amount of development assumed in the Currituck County land use plan may not occur by its horizon year of 2025.

Section 3.6.2.3 of the FEIS said that for most of the notable features identified in Table - 3-18 and Table 3-19 of the FEIS, the detailed study alternatives would not notably contribute to cumulative impacts on the resource. Given that direct impacts are lower with the revised designs, the development rates in Currituck County dropping, new development being consistent with county land use plans, and the small change in NC 12 development constraints identified in this reevaluation, this finding does not change. Section 3.6.2.3 of the FEIS addressed cumulative impacts of the following noteworthy natural environmental features:

- The FEIS said estuaries/water quality would likely experience impacts from growth that is generated independent of any detailed study alternatives. With a Mid-Currituck Bridge, the potential additional commercial growth on the mainland with forecasted approximately 44 acres of impervious surface, and the direct impacts of runoff from additional roadways (64.4 acres of impervious surface with the revised design of the Preferred Alternative; down from 71.5 acres in the FEIS) were minor components of the cumulative impacts. With ER2 and the No-Build Alternative, the potential constraint on development rates was not found in FEIS Section 3.6.2.2 to lead to a demonstrable improvement in surface water quality. Consequently, the cumulative effects of all future development and actions on surface water quality were not expected to be affected by this potential reduction in the amount of new

development in the future. Public water supplies similarly were found to be mostly affected by planned development. With any of the bridge alternatives, the location of a forecast approximately 34 businesses on the mainland were expected to exert minor additional water demand there.

The additional commercial development on the mainland is still reasonably foreseeable and additional impervious surface did not change because the location of the Preferred Alternative did not change. The decrease in the development constraint identified by the updated traffic studies does not change the conclusion that less Outer Banks development would not lead to a demonstrable improvement in surface water quality.

- The FEIS said that SAV would be affected by the general conversion of agricultural land to developed land and, in the case of bridge alternatives, from shading by the bridge. During land development, the increase in sediment loading and turbidity would increase, although once developed with a perennial ground cover, the conditions likely would be an improvement over tilled agricultural land. The FEIS said the bridge alternatives assessed in the FEIS would shade up to 5.5 acres of existing SAV beds and up to 13.3 acres of SAV habitat and potential SAV habitat. The FEIS indicated that the Preferred Alternative would shade 3.8 acres of SAV beds and 8.7 acres of SAV habitat and potential SAV habitat.

  Changes in SAV beds in Currituck Sound identified during updated 2018 SAV surveys and the revised design found that the Preferred Alternative would shade 3.5 acres of SAV beds and 5.1 acres of SAV habitat and potential SAV habitat. This smaller SAV bed impact is less than the range found in the FEIS for all alternatives with a Mid-Currituck Bridge of 3.8 to 5.5 acres of bed shading impact. In addition, by approaching the Outer Banks on an alignment perpendicular to the shore, the Preferred Alternative would minimize the shading of SAV, which lines the shoreline. Mitigation is not required for potential SAV habitat. Mitigation is only required for SAV habitat.

- The FEIS said non-coastal wetlands would be affected by the cumulative effect of logging and, in the case of bridge alternatives, the direct impacts of land alteration and construction through Maple Swamp. Logging was found to be the major factor and is a historic land use in non-coastal wetlands in the indirect and cumulative effects study area.

  The extent of logged areas within the impact area of the Preferred Alternative has not changed since the completion of the FEIS.

- The FEIS said extensive waterbird habitats exist in the indirect and cumulative effects study area. Declining numbers since 1950 suggested environmental stresses to the habitats. The FEIS said new development would convert land uses and introduce increased levels of ambient noise and light. The No-Build Alternative and ER2 were found to pose the least potential cumulative impact because they would utilize already developed land. The Preferred Alternative and other bridge

alternatives were found to contain project-related activities including new bridges through Maple Swamp and Currituck Sound, bisecting waterfowl habitats and introducing vehicles, noise, and light. This could contribute additional stress to the habitats. Other activities include ongoing private development on all landscapes, which is altering habitat; and ongoing beach driving, which is believed to degrade nesting habitat for shore birds. The FEIS said substantial improvement in the quality of Currituck Sound, including SAV beds, could cause a recovery in waterfowl habitat and indicated the direct project-related impacts from a bridge would be mitigated. Therefore, the FEIS concluded there would be no substantial impact on waterbirds in the indirect and cumulative effects study area. No new information was found during the reevaluation that would change this conclusion nor would the revised design of the Preferred Alternative change this conclusion.

Section 3.6.2.3 of the FEIS also addressed cumulative impacts of the following noteworthy socioeconomic features:

- The FEIS said that agriculture currently is a major land use on the Currituck County mainland. The greatest factor affecting agriculture was found to be the projected 33,000 acres of new development between 2005 and 2035. With slower rates of development in Currituck County, less agricultural land would be developed. With the bridge alternatives, possible induced commercial development of approximately 68 acres of current agricultural land was found to be a very minor contributing factor. The FEIS said the Preferred Alternative would affect 109 acres of prime or state and locally important farmland on the mainland. With the Preferred Alternative's revised design, this impact drops to approximately 30.3 acres of prime farmland soils and 28.9 acres of state and locally important farmland soils. ER2's impact of less than 2 acres of prime farmland soils and less than 2 acres of state and locally important farmland soils would not change with the revised design of ER2.

- The FEIS said that neighborhoods and village communities and scenic and natural area character would be most affected by 2035 by the extensive development forecast for the study area regardless of any detailed study alternatives. Control of these attributes would be most strongly determined by municipal planning measures. The FEIS said there also are potential project-related impacts. With ER2, the visual character and sense of place on the Outer Banks would be affected by a widening of NC 12. With the Preferred Alternative, the scenic character of Currituck Sound would be affected by the presence of a bridge. The communities at either end of the bridge also would be affected by the visual presence of the bridge. Also, although below levels that do not require consideration of noise barriers as abatement, traffic noise from the bridge would be audible in Aydlett.

  These findings have not changed except with slower development rates neighborhoods and village communities and scenic and natural area character could be affected less. In addition, visual impacts would be less along NC 12 because of fewer road improvements on NC 12 with both the Preferred Alternative and ER2.

4.6.5 Possible Minimization of Substantial Indirect/Cumulative Effects

With the Preferred Alternative, Section 3.6.3 of the FEIS indicated that the substantial indirect effects would be visual and traffic effects at the US 158/Mid-Currituck Bridge interchange. Substantial cumulative effects are those associated with continued development in Currituck County. NCDOT would minimize impacts associated with the US 158/Mid-Currituck Bridge interchange itself in the manner described in the FEIS. Minimization of other impacts would remain the responsibility of Currituck County. This finding has not changed since the release of the FEIS.

4.7 Local Short-term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

Section 3.7 of the FEIS addressed local short-term uses on man's environment and the maintenance and enhancement of long-term productivity from the perspective of travel benefits of the detailed study alternatives and consistency with area land use plans. As discussed in Section 3.2, considering the updated 2040 traffic forecasts, the Preferred Alternative continues to offer the greatest benefits, primarily on the summer weekend. They are:

- Less severe congestion, with traffic demand during periods of congestion generally not exceeding the capacity of the road.
- A shorter duration of congestion on NC 12 in Dare County, 10 to 12 hours versus 13 to 15 hours on the summer weekend with the No- Build Alternative.
- Travel demand not exceeding the capacity of NC 12 on the summer weekend makes, short of a crash of other lane blockage, it is unlikely that queues on NC 12 would back-up onto US 158 with the associated disruption of other US 158 traffic and maintaining the current temptation for visitors to use local streets in Southern Shores to bypass a portion of NC 12.
- The greatest reduction in travel time, particularly for drivers using the Mid-Currituck Bridge to reach the Currituck County Outer Banks.

The Preferred Alternative also would result in a hurricane clearance time of 32.3 hours compared with 34.4 hours with the No-Build Alternative.

The inclusion of a six-lane superstreet component of ER2 along US 158 east of the Wright Memorial Bridge instead of a Mid-Currituck Bridge would offer the following benefits over the No-Build Alternative:

- Substantial reductions in summer weekend congestion, including a desirable level of service between the Wright Memorial Bridge and NC 12.

- Reducing the length of back-ups on US 158 associated with NC 12 queuing. The additional eastbound lane could be used for NC 12 queues leaving two through lanes for traffic traveling to other parts of the Outer Banks.

- A hurricane clearance time of 30.7 hours.

However, ER2 would not address congestion on NC 12. Also, the constrained development analysis found that a continuous NC 12 center turn lane from US 158 to the Duck commercial area would reduce the constraint on development associated with NC 12 and congestion on NC 12 would worsen from the perspective of severity, duration, and length of NC 12 affected.

In terms of area land use and transportation plans the Preferred Alternative, which includes a Mid-Currituck Bridge, remains consistent with the maintenance and enhancement of the long-term productivity of the project area.

4.8 Irreversible and Irretrievable Commitment of Resources

The features of the Preferred Alternative and ER2 and thus the commitment of resources involved in building either alternative listed in Section 3.8 of the FEIS remain unchanged except with the revised designs the commitment of resources for each alternative would be less in both cases, with ER2 continuing to require the least commitment of resources.

The commitment of resources to the proposed project remains based on the concept that residents in the immediate area, region, and state as well as visitors to the area, would benefit by increasing the capacity of the thoroughfare system in the project area, thereby reducing travel time to the Outer Banks and hurricane evacuation clearance times. Such benefits are anticipated to outweigh the commitment of resources.

5.0 Agency, Local Government, and Local Business and Tourism Organization Coordination

In February 2015, contacts were made with state and federal agency, local government, and local business and tourism organizations representatives to obtain information related to:

- Changes in local plans and development ordinances and their enforcement.
- Changes in community-related characteristics, including building permits issued, new subdivisions, population forecasts, public services, and recreational or commercial use of Currituck Sound.
- Changes in natural resources requirements and characteristics, including new or changed NHP natural areas, new duck blinds, new or changed Primary Nursery Areas, new CAMA AEC, changes to water quality classifications, changes in state stormwater quality law, changes in driver trespassing in USFWS protected areas in the non-road accessible area, and status of wetland mitigation credits available at Ballance Farm Wetlands Mitigation Site.

These contacts augmented project area characteristics information gathered in the field in February 2015 related to:

- New development near the Preferred Alternative
- Changes in viewsheds
- New parking spaces at businesses near the Preferred Alternative that could be affected
- Changes in non-road accessible development patterns
- Changes in multi-use paths (existing and planned)
- New community facilities
- Notable changes in impervious surfaces, including new road and structure development
- New logging in Maple Swamp
- Notable changes in the boundaries of jurisdictional wetland and coastal wetlands where they are affected by the Preferred Alternative
- Notable loss of or other changes in natural areas

The results of this information gathering are reflected in the conclusions of this document. This information gathering also resulted in the decision to prepare:

- Updated traffic forecasts and an updated assessment of project needs and benefits based on the updated forecasts
- Updated Section 404 jurisdictional resource delineations
- Updated SAV surveys in 2015, 2016, 2017, and 2018

In April 2017, contact was made with local government agencies to obtain information on any changes, updates or additions on:

- Residential housing density ordinances, specifically any changes considering the new state legislation that prohibits limiting the number of bedrooms for homes
- New development in or adjacent to the project area along both the Preferred Alternative and ER2
- Land use and redevelopment trends for use in the hurricane evacuation modeling
- Updates on waterpark plan, economic development around the airport and USFWS land swap at Corolla beach in Currituck County

In May 2017, phone interviews were conducted with two local real estate companies regarding check-in protocols for residential rentals, a possible mid-week rental market, and the average number of occupants per unit during peak season.

The findings of the studies are reflected in this reevaluation. Personal contacts made with agency, local government, and local business and tourism organization representatives are listed in the sections that follow.

On March 14, 2018, FHWA and NCDOT met with the environmental resource and regulatory agencies to provide an update on the project and to review changes that have occurred since the 2012 FEIS. Meeting minutes, including a list of the agencies involved, and the electronic slide show presented are included in Appendix H. A framework for regular communication among all the agencies involved in the environmental review process is documented under a Section 6002 Agency Coordination Plan (Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users [SAFETEA LU] [23 U.S.C § 139]). An update of the coordination plan also is included in Appendix H.

5.1 Community Characteristics

- Currituck County

Dan Scanlon	Donna Voliva
County Manger	Senior Planner

Ben Woody
Planning Director

Peter Bishop
Economic Development Director

Laurie Lo Cicero
Planning Assistant Director

Larry Lombardi
Economic Development Director

- Dare County

Bobby Outten
County Manager

Donna Creef
Planning Director

- Currituck County Visitors Center

Judy Vassar
Office Manager

- Dare County Tourism Board & Outer Banks Visitors Bureau

Aaron Tuell
Director of Public Relations

Amy Wood
Executive Assistant

- Town of Duck

Christopher Layton
Town Manager

Joseph Heard
Director of Community Development

Sandy Cross
Permit Coordinator

- Town of Southern Shores

Peter Rascoe
Town Manager

Wes Haskett
Planner/Code Enforcement Officer

Dabni Shelton
Permit Officer

- Town of Kitty Hawk

Andy Stewart
Town Manger

5.2 Natural Resource Characteristics

- US Fish and Wildlife Service

Mike Hoff
Refuge Manager
Mackay Island and
Currituck National Wildlife Refuges

Gary Jordon
Raleigh Field Office

John Stanton
Supervisory Wildlife Biologist
Migratory Bird Field Office

- North Carolina Wildlife Resources Commission

  David H. Allen
  Coastal Wildlife Diversity
  Supervisor

  Sara H. Schweitzer, Ph.D.
  Wildlife Diversity Program
  Coastal Waterbird Management
  and Investigations Project Leader

- North Carolina Division of Marine Fisheries

  Alan Bianchi
  Trip Ticket Coordinator
  License and Statistics Section

  Jacob Boyd
  Protected Species Biologist

- Currituck County

  Andy Newbern
  Currituck County Commissioner
  (regarding duck blinds)

5.3 Traffic Forecasts

- Currituck County

  Peter Bishop
  Economic Development Director

- Dare County

  Donna Creef
  Planning Director

- Town of Southern Shores

  Wes Haskett
  Planner/Code Enforcement Officer

- Town of Duck

  Joseph Heard
  Director of Community Development

6.0 Conclusion

This reevaluation was prepared to meet FHWA regulations requiring a written evaluation of a FEIS if a ROD is not prepared within three years (23 CFR 77l.l29(a}}. The time lapse since the FEIS approval is primarily because in 2013, the North Carolina General Assembly, as part of the STI Law (Session Law 2013-183 and House Bill 817) withdrew the annual state appropriations or "gap funding" for the Mid-Currituck Bridge project. State funding for the project was subsequently included in the 2016 to 2025 STIP and preparation of this reevaluation was initiated.

Notable updated information and its resultant effect and/or outcome are summarized in Table 6-1. In the context of this reevaluation responses were prepared to comments received on the FEIS; responses were prepared to comments received from non-governmental organizations (NGO) during the reevaluation; and errata to the FEIS was prepared based on comments received on the FEIS. These items are included in the appendices of this report. The FEIS and NGO comments, as well as the FEIS errata were considered in the preparation of this reevaluation.

As summarized in Table 6-1 and presented in this reevaluation study report, traffic, need, benefits, alternatives, design, regulatory, project setting, impact, and commitments are updated and expanded. There are no substantial changes in the substance of the proposed action nor are there significant new circumstances or information relevant to environmental concerns. While the designs of the alternatives were revised, they have not undergone any substantial change in location or features. Changes primarily reduced the area of impact of the alternatives. While environmental studies were updated throughout the course of the reevaluation, the project study area has not been expanded or otherwise altered to indicate that there is significant new information relevant to environmental concerns. From its inception, the proposed project has been developed in coordination with a federal and state Turnpike Environmental Agency (TEAC) team created under Section 6002 of SAFETEA-LU, which is codified as 23 USC § 139. Work with the TEAC included a systematic evaluation of environmental impacts throughout the project development process.

Summary - The updates and changes demonstrate that there are no new issues of significance associated with this project. Conclusions reached in this reevaluation considered all comments on the FEIS that were received, including those from the public, government officials, and NGOs, as well as comments received from two NGOs during the preparation of this reevaluation. A Supplemental or a new EIS is not required because there are no substantial changes in the proposed action nor are there significant new circumstances or information relevant to environmental concerns (40 CFR 1502.9(c)(1)).

Table 6-1. Summary of Updated Information/Changes Since FEIS Approval

Notable Change/Development Since FEIS Approval in 2012	Substantial Change to Proposed Action?	Significant Environmental Impacts Not Evaluated in the FEIS
Updated Traffic Studies • Updated traffic forecasts • Updated congestion measures • Updated travel time measures • Updated hurricane clearance time measures • Considered both constrained and unconstrained Currituck County planned and expected development	No	No
Updated Measures of Project Need and Benefit • Based on updated congestion, travel time and hurricane clearance time findings • Project need remains and overall the Preferred Alternative continues to provide the greatest congestion and travel time benefits	No	No
Updated Alternatives Screening • Other bridge and road widening alternatives • Shifting Rental Times • Transportation Systems Management • Bus Transit • Ferry • Composite Alternative • The decision to not assess these alternatives as detailed study alternatives did not change.	No	No
Changes in Study Alternatives to Consider Updated Traffic Forecasts • Revised Preferred Alternative design • Revised ER2 (widening existing roads) design • Changes associated with the revised designs generally did not change or decreased the impact of the proposed project	No	No
Regulatory Changes and New Environmental Studies • Regulatory changes – New NCDOT *Traffic Noise Policy* – Updated FHWA *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA* – Updated *North Carolina Sea Level Rise Assessment Report* – Updated FHWA guidance on climate change and extreme weather risks – New CEQ guidance on greenhouse gas emissions and climate change (rescinded) – Currituck County regulation of beach driving commercial ventures – New land use and transportation plans • Environmental Studies – Field surveys and interviews with local officials – Updated demographic data – Updated natural resource data and regulatory requirements – Re-delineation of wetlands and other USACE jurisdictional resources	No	No

Table 6-1 (continued). Summary of Updated Information/Changes Since FEIS Approval

Notable Change/Development Since FEIS Approval in 2012	Substantial Change to Proposed Action?	Significant Environmental Impacts Not Evaluated in the FEIS
– Additional Section 7 consultation – RCW evaluation – Updated SAV surveys – Obtained new Federal Flood Insurance Mapping • Regulatory changes and new environmental studies did not reveal any factors that would increase or otherwise change the environmental impacts associated with the proposed project	No	No
Changes in Project Setting • Community – New multi-use paths on NC 12 in Currituck County – Second power distribution line on mainland • Natural Resources – Changed wetland and other jurisdictional resource boundaries – Changed SAV boundaries – Three newly listed protected species: Atlantic sturgeon, rufa red knot, and northern long-eared bat • Other Physical Characteristics: new preliminary Federal Flood Insurance Maps • Indirect and Cumulative Impact Study Area – Land swap between Currituck County and USFWS – New North Carolina ordinance forbidding limiting beach house bedrooms – New long-term study of Currituck Sound – New development project around the Currituck County airport – New water park at Powell's Point – Pending small development projects on the Outer Banks • Changes in the environmental setting combined with the revised designs did not reveal any factors that would increase or otherwise change the environmental impacts associated with the proposed project	No	No
Updated Project Impacts No change or decreased impacts except: • ER2 – Increased relocations – The length of US 158 shading Jean Guite Creek, a primary nursery area, increased from 35 to 42 feet – Three new threatened and endangered species in the project area not addressed in the FEIS, two with a biological determination of "No Effect" and one with a biological determination of "May Affect, Likely to Adversely Affect" • Preferred Alternative – Three new threatened and endangered species in the project area not addressed in the FEIS, two with a biological determination of "May Affect, Not Likely to Adversely Affect" and one with a biological determination of "May Affect, Likely to Adversely Affect"	No	No

Table 6-1 (concluded). Summary of Updated Information/Changes Since FEIS Approval

Notable Change/Development Since FEIS Approval in 2012	Substantial Change to Proposed Action?	Significant Environmental Impacts Not Evaluated in the FEIS
– Impacts to cultivated agricultural land increased from 15.3 acres to 22.0 acres, although the use of prime and state and locally important farmland soils decreased – Wetland clearing associated with the Maple Swamp bridge increased from 25.4 to 32.9 acres – Traffic noise receptors impacted were reduced from 22 found in the FEIS to five. These findings changed because of updates to the roadway design, revised traffic forecasts, and the updates to the NCDOT traffic noise policy.	No	No
Updated Project Commitments • Updated based on FEIS comments • Modified commitments based on changed conditions	No	No

The ROD will incorporate for the Selected Alternative the revised basis for selecting the Preferred Alternative; revised design, cost, and financing plan; updated impacts; updated measures to minimize harm, and updated project commitments documented in the reevaluation report and this study report.

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National Marine Fisheries Service. http://sero.nmfs.noaa.gov/sustainable_fisheries/index.html; accessed January 2015

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South Atlantic Marine Fisheries Council http://safmc.net/fish-id-and-regs/regulations-species; accessed January 2015

7.3 Personal Communications

Allen, David H., Coastal Wildlife Diversity Supervisor, NC Wildlife Resource Commission

Bianchi, Alan, Trip Ticket Coordinator, License and Statistics Section, North Carolina Division of Marine Fisheries

Bishop, Peter, Currituck County Economic Development Director

Boyd, Jacob, Protected Species Biologist, NC Division of Marine Fisheries

Creef, Donna, Planning Director, Dare County

Haskett, Wes, Planner/Code Enforcement Officer, Town of Southern Shores

Heard, Joseph, Town of Duck, Director of Community Development

Hoff, Mike, Refuge Manager, Mackay Island and Currituck National Wildlife Refuges, US Fish and Wildlife Service

Layton, Christopher, Town of Duck, Town Manager

LoCicero, Laurie, Currituck County Planning Director

Mason, Suzanne, North Carolina Natural Heritage Program

Newbern, Andy, Currituck County Commissioner

Shelton, Dabni, Permit Officer, Town of Southern Shores

Schweitzer, Sara H., Ph.D., Wildlife Diversity Program, Coastal Waterbird Management and Investigations Project Leader, NC Wildlife Resources Commission

Stanton, John, Supervisory Wildlife Biologist, Migratory Bird Field Office. US Fish and Wildlife Service

Tuell, Aaron, Director of Public Relations, Dare County Tourism Board and Outer Banks Visitors Bureau

Turner, Jennie, Currituck County Planner II

US Fish and Wildlife Service. 2007. *National Bald Eagle Management Guidelines*.

Vassar, Judy, Office Manager, Currituck County Visitors Center

Voliva, Donna, Currituck County Senior Planner

Wood, Amy, Executive Assistant, Dare County Tourism Board and Outer Banks Visitors Bureau

Woody, Ben, Currituck County Planning Director

Appendix A

Agency Correspondence and Relocation Reports

A. Agency Correspondence and Relocation Reports

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

June 29, 2015

John F. Sullivan, III, P.E.
Federal Highway Administration
310 New Bern Avenue, Ste. 410
Raleigh, North Carolina 27601

Dear Mr. Sullivan:

This letter is in response to your letter of June 25, 2015 regarding re-initiation of Section 7 consultation for the Mid-Currituck Bridge Project (TIP R-2576). The U.S. Fish and Wildlife Service (Service) previously provided Section 7 concurrence on July 8, 2011. However, since that time two additional federally threatened species have been listed and are known to occur in Currituck County. Your recent letter and attached Technical Memorandum (dated May 2015) provide the biological conclusion of the North Carolina Department of Transportation (NCDOT) and Federal Highway Administration that the Mid-Currituck Bridge Project may affect, but is not likely to adversely affect the federally threatened rufa red knot (*Calidris canutus rufa*). In addition, you reference the recently completed programmatic formal Section 7 consultation conducted for the northern long-eared bat (*Myotis septentrionalis*). The following comments are provided in accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

Based on the information provided in the submitted Technical Memorandum and other available information, the Service concurs with your conclusion that the proposed project may affect, but is not likely to adversely affect the rufa red knot. Direct effects to the species are not expected, and any potential indirect effects are expected to be insignificant and/or discountable.

The Service recently completed a formal programmatic Section 7 consultation for the northern long-eared bat, culminating in a Programmatic Biological Opinion which took effect on May 4, 2015. This Programmatic Biological Opinion provides incidental take coverage for all NCDOT projects with a federal nexus in Divisions 1-8 until May 3, 2020. The Mid-Currituck Bridge Project is covered by this Biological Opinion, and no additional consultation is required for the northern long-eared bat during this timeframe.

We believe that the requirements of Section 7(a)(2) of the ESA have been satisfied. We remind you that obligations under Section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a

manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action.

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,

for Gary Jordan
Pete Benjamin
Field Supervisor

Electronic copy:

Ron Lucas, FHWA, Raleigh, NC
Tracey Wheeler, USACE, Washington, NC
Travis Wilson, NCWRC, Creedmoor, NC
Kathy Herring, NCDOT, Raleigh, NC

North Carolina Department of Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Beverly Eaves Perdue, Governor
Linda A. Carlisle, Secretary
Kevin Cherry, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

December 14, 2012

MEMORANDUM

TO: Matt Wilkerson
Office of Human Environment
NCDOT Division of Highways

FROM: Ramona M. Bartos RSL for Ramona M. Bartos

SUBJECT: Revised Draft Report: Terrestrial and Underwater Archaeological Survey of the Preferred Alternative of the Mid-Currituck Bridge Project, R-2276, Currituck and Dare Counties, CH 94-0809

Thank you for letter of November 20, 2012, transmitting the revised draft report for the above project. We have reviewed this report and offer the following comments.

The terrestrial archaeological survey portion of the project conducted revisits to five previously recorded sites within the APE. These sites included 31CK36/CK36**, 31CK145**, 31CK146**, 31CK174**, and 31CK216**. None of these sites were recommended as eligible for inclusion on the National Register of Historic Places (NRHP). No further work was recommended for these sites. We concur with these recommendations.

Sixteen previously unrecorded archaeological sites were documented within the APE in addition to the five sites revisited. These sites included 31CK218** through 31CK233**. None of these sites were recommended as eligible for inclusion on the NRHP. No further work was recommended for these sites. We concur with these recommendations.

Additional comments related to the terrestrial survey are presented on a separate sheet for the convenience of the authors. Please submit two copies of the revised, final report to the Historic Preservation Office.

During the course of the submarine survey 88 magnetic anomaly targets and 60 sonar targets were discovered. Of these, five clusters of targets and two single source anomalies were further investigated. None of these targets proved to be archaeologically significant. The contractor has recommended no additional work relating to submerged archaeological resources within the bridge corridor. We concur with this recommendation.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579. In all future communication concerning this project, please cite the above-referenced tracking number.

Location: 109 East Jones Street, Raleigh NC 27601 **Mailing Address**: 4617 Mail Service Center, Raleigh NC 27699-4617 **Telephone/Fax**: (919) 807-6570/807-6599

Revised Draft Report: Terrestrial and Underwater Archaeological Survey and Site Evaluation For The Preferred Alternative of the Mid-Currituck Bridge Project, R-2576, Currituck and Dare Counties, CH 94-0809.
Specific Comments

- A Guilford PP/K was recovered at one previously unrecorded site within the APE (31CK222). This diagnostic projectile point type is generally associated with Middle Archaic occupations in North Carolina. Throughout the report the point is noted to be associated with the Early Archaic. This incorrect temporal reference appears on Pages iii, 88, 118, 121, and 179 of the revised draft report. Please edit the report to reflect a Middle Archaic temporal designation for the Guilford projectile point found at site 31CK222.

July 20, 2015

MEMORANDUM

TO: John Conforti, Project Development Engineer jgconforti@ncdot.gov
NCDOT/PDEA

FROM: Renee Gledhill-Earley RGE for Ramona M. Bartos
Environmental Review Coordinator

SUBJECT: Re-evaluation of FEIS for Mid-Currituck Bridge, R-2576, Currituck and Dare Counties, CH 94-0809

Thank you for your June 29, 2015, letter concerning the above-referenced undertaking. We have considered the status of the architectural and archaeological surveys, including terrestrial and underwater resources, as well as the effects determinations for the historic properties in the Area of Potential Effects. If as you state, the location and design of the Preferred Alternative have not changed since the preparation of the 2012 FEIS, we see no reason to recommend additional survey work or a change in the effects determination.

Given Governor McCrory's desire for major infrastructure projects to be more artistically designed, we hope the Department of Transportation plans to incorporate concepts from "Art That Moves You" in the plans for the new bridge.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Mary Pope Furr, mfurr@ncdot.gov
Matt Wilkerson, mtwilkerson@ncdot.gov

April 7, 2017

MEMORANDUM

TO: John Conforti
Project Development and Environmental Analysis
NC Department of Transportation

FROM: Renee Gledhill-Earley

SUBJECT: Re-evaluation of FEIS for Mid-Currituck Bridge, R-2576, Currituck County, CH 94-0809

Thank you for your March 15, 2017, letter asking us to comment on the revaluation of the FEIS for the above-referenced project. We have reviewed your documentation of our coordination to-date and do not believe there is a need for any additional architectural and archaeological (terrestrial or underwater) surveys. Further, we believe the findings of effect for the undertaking are still valid in that changes to the project have reduced, not enlarged or changed, its footprint.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Mary Pope Furr, NCDOT, mfurr@ncdot.gov
Matt Wilkerson, NCDOT, mtwilkerson@ncdot.gov

Phone (252) 232-2115
Fax (252) 232-2750

Mary Beth Newns
Director

Currituck County
EMERGENCY MANAGEMENT
P.O. Box 240 •
Currituck, North Carolina 27929

October 7, 2010

Ms. Jennifer H. Harris, P.E.
NC Turnpike Authority
1578 Mail Service Center
Raleigh, NC 27699-1578

Re: Evacuation of Currituck Beaches

Dear Ms. Harris:

I wanted to take a moment to make you aware of traffic issues we encountered during the recent evacuation of the Currituck Outer Banks due to anticipated effects of Hurricane Earl.

The Emergency Operations Center determined that there was too much uncertainty in Hurricane Earl's forecasted track and that an evacuation of our visitors would be appropriate. The tourists staying at our beaches were very compliant and traffic volumes started to build. Although traffic was heavy, it was moving adequately until an accident occurred in Duck which was then compounded by a malfunctioning traffic light. This turned the Currituck portion of highway 12 into a literal parking lot for several hours. Our call center was over loaded with concerned, scared and angry tourists.

While we understand that putting a mid-county bridge in our county will not alleviate all traffic issues and will not be protected from the occasional accident, it does offer us the opportunity to reroute traffic. How can we expect people to continually respond well to our evacuation orders if they must sit on a road with thousands of other vehicles and not move for long periods of time? Many of these people turned around and went back to their rental properties because they naturally assumed the traffic was going to be this way throughout the evacuation route.

As the storm passed, the Currituck Emergency Operations Center started working on re-entry. The same challenges surfaced immediately; when was Dare County going to let people re-enter and were Southern Shores and Duck going to permit our returning population back into the Currituck Outer Banks? Mr. Scanlon's previous statement about having control of our financial destiny was certainly pondered in those hours.

Phone (252) 232-2115
Fax (252) 232-2750

Mary Beth Newns
Director

Currituck County
EMERGENCY MANAGEMENT
P.O. Box 240 •
Currituck, North Carolina 27929

Currituck County Emergency Operations looks forward to the progress in the efforts to build a mid-county bridge.

Sincerely,

Mary Beth Newns

Mary Beth Newns

Cc: Currituck County Board of Commissioners
Dan Scanlon, Currituck County Manager
Sandy Sanderson, Dare County Emergency Management
Jerry Jennings, North Carolina Department of Transportation

CAMDEN
CHOWAN
CURRITUCK
DARE
GATES
HYDE
PASQUOTANK
PERQUIMANS
TYRRELL
WASHINGTON
COLUMBIA
CRESWELL
DUCK
EDENTON
ELIZABETH CITY
GATESVILLE
HERTFORD
KILL DEVIL HILLS
KITTY HAWK
MANTEO
NAGS HEAD
PLYMOUTH
ROPER
SOUTHERN SHORES
WINFALL

February 12, 2019

The Honorable Elaine Chao
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Madam Secretary:

The Rural Transportation Advisory Committee (RTAC) is the duly recognized transportation planning policy board for the Albemarle Rural Planning Organization (ARPO) of which Currituck County is a member. The ARPO RTAC supports the North Carolina Department of Transportation (NCDOT) submitting an application for an Infrastructure for Rebuilding America (INFRA) federal grant to support the construction of the Mid Currituck Bridge.

Currently there is only one crossing of the Currituck Sound along the North Carolina Coast the Wright Memorial Bridge on US 158 at the southern end of Currituck County near its border with Dare County. The Outer Banks are a major tourism destination in the Mid-Atlantic Region and an economic engine for eastern North Carolina. The Mid-Currituck bridge project will substantially improve traffic flow on the thoroughfares in the project area, substantially reduce travel time for Outer Bank visitors and commuters, and substantially reduce hurricane clearance time. Additional benefits of the Project include reducing operating costs for passenger cars and freight vehicles and improving public health by reducing air emissions from vehicles.

After accounting for funding from toll revenue and the funding expected from a Transportation Infrastructure Finance and Innovation Act(TIFIA) loan, the NCTA is requesting a$ 75 million INFRA award to construct the project. INFRA funds will be used for construction costs. The Mid- Currituck Bridge project meets all INFRA grant merit criteria and would positively affect mobility throughout the region, state and Mid- Atlantic states.

Sincerely,

Lloyd Griffin III

Lloyd E. Griffin III
ARPO RTAC Chairman

Camden County
Camden, North Carolina

February 14, 2019

The Honorable Elaine Chao
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

SUBJECT: Support for the Mid-Currituck Bridge Project

Dear Madam Secretary:

Camden County supports the North Carolina Department of Transportation (NCDOT) Turnpike Authority submitting an application for an Infrastructure for Rebuilding America (INFRA) federal grant to support the construction of the Mid-Currituck Bridge.

Currently there is only one crossing of the Currituck Sound along the North Carolina Coast, which is the Wright Memorial Bridge, on US 158 at the southern end of Currituck County near its border with Dare County. The Outer Banks are a major tourism destination in the Mid- Atlantic Region and an economic engine for northeastern North Carolina.

The Mid-Currituck Bridge project will substantially improve traffic flow on the thoroughfares in the project area, substantially reduce travel time for Outer Banks visitors and commuters, and substantially reduce hurricane clearance time. Additional benefits of the Project include reducing operating costs for passenger cars and freight vehicles and improving public health by reducing air emissions from vehicles.

After accounting for funding from toll revenue and the funding expected from a Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, the North Carolina Turnpike Authority is requesting a $75 million INFRA award to construct the project. INFRA funds will be used for construction costs. The Mid-Currituck Bridge project meets all INFRA grant merit criteria and would positively affect mobility throughout the region, state and the Mid-Atlantic States.

Your support is greatly appreciated.

Sincerely,

Kenneth L. Bowman
County Manager

P. O. Box 190 • 117 North 343 • Camden, NC, 27921 • Phone (252) 338-1919 • Fax (252) 333-1603
www.camdencountync.gov

CURRITUCK
CHAMBER of COMMERCE
Currituck County, North Carolina

February 12, 2019

The Honorable Elaine Chao
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Madam Secretary:

The Currituck Chamber of Commerce supports the North Carolina Department of Transportation (NCDOT) Turnpike Authority submitting an application for an Infrastructure for Rebuilding America (INFRA) federal grant to support the construction of the Mid-Currituck Bridge.

Currently there is only one crossing of the Currituck Sound along the North Carolina Coast, which is the Wright Memorial Bridge, on US 158 at the southern end of Currituck County near its border with Dare County. The Outer Banks are a major tourism destination in the Mid- Atlantic Region and an economic engine for northeastern North Carolina.

The Mid-Currituck Bridge project will substantially improve traffic flow on the thoroughfares in the project area, substantially reduce travel time for Outer Bank visitors and commuters, and substantially reduce hurricane clearance time. Additional benefits of the Project include reducing operating costs for passenger cars and freight vehicles and improving public health by reducing air emissions from vehicles.

After accounting for funding from toll revenue and the funding expected from a Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, the North Carolina Turnpike Authority is requesting a $75 million INFRA award to construct the project. INFRA funds will be used for construction costs. The Mid-Currituck Bridge project meets all INFRA grant merit criteria and would positively affect mobility throughout the region, state and the Mid-Atlantic States.

Sincerely,

Joshua Bass
President

111D Currituck Commercial Dr. / Mailing: P.O. Box 937 Moyock, NC 27958
(252) 453-9497 Fax (252) 453-2349
www.currituckchamber.org info@currituckchamber.org

TOWN of DUCK
NORTH CAROLINA

February 12, 2019

The Honorable Elaine Chao
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Secretary Chao:

I am writing to you on behalf of the Town Council and the residents, property owners, business owners, and visitors to the Town of Duck to transmit a resolution adopted by the Town Council on March 1, 2017, in support of the Mid-Currituck Bridge Project. Specifically, I am writing to support the application by the NC Turnpike Authority for an Infrastructure for Rebuilding America Program (INFRA) Grant for the construction of the Mid-Currituck Bridge in the amount of $75 million.

The Mid-Currituck Bridge has been contemplated for nearly thirty years. As the North Carolina Turnpike Authority has stated in the Mid-Currituck Bridge Study FEIS Fact Sheet:

"N.C. 12 serves as the only highway corridor to the Currituck County Outer Banks. Due to high existing and future travel demand, there is a substantial need to improve traffic flow on the project area's thoroughfares (U.S. 158 and N.C. 12) and reduce travel time between the Currituck County mainland and the Currituck County Outer Banks. Evacuation times from the Outer Banks along U.S. 158 and N.C. 168 must also be reduced. The Mid-Currituck Bridge will improve mobility and road capacity within the project study area by providing an alternative route to and from the Currituck County Outer Banks."

The draft Environmental Impact Statement for the Mid-Currituck Bridge was completed in March 2010 and the Final Environmental Impact Statement (EIS) was completed in January 2012. The project is now in the North Carolina STIP awaiting the Record of Decision (ROD), originally expected this spring, with construction beginning shortly thereafter. Due to the time that has elapsed since its release, the Final EIS is undergoing a re-evaluation by the FHWA that will determine if there is any information that was not considered in the original document. The Town is hopeful that this re-evaluation will conclude that the information in the Final EIS is accurate and that the ROD will be published. Provided that the FHWA concludes, as anticipated, that supplemental information is not required, the FHWA signature on the ROD is expected imminently.

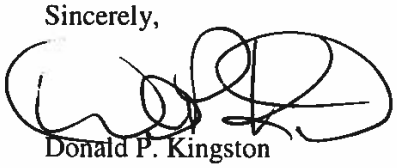
The Mid-Currituck Bridge project has a cost estimate of $591 million. A portion of the funding for the project will be derived from bonds to be paid back by toll revenue. Additional funding for the project will come from a Transportation Infrastructure Finance and Innovation Act (TIFIA) loan and $75 million in funding is requested from the INFRA grant. The Mid-Currituck Bridge

P.O. Box 8369 • Duck, North Carolina 27949 • 252.255.1234 • 252.255.1236 (fax)
www.townofduck.com

Project meets all INFRA grant merit criteria and would greatly affect mobility throughout the eastern region of North Carolina (and Virginia) and the other Mid-Atlantic states.

Secretary Chao, to reiterate, I, the Town Council, and the entire Town of Duck, fully support the application by the NC Turnpike Authority for an Infrastructure for Rebuilding America Program (INFRA) Grant for the construction of the Mid-Currituck Bridge in the amount of $75 million.

Sincerely,



Donald P. Kingston
Mayor

Enclosure

RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF DUCK, NORTH CAROLINA, SUPPORTING CONSTRUCTION OF THE MID-CURRITUCK BRIDGE AND ITS CONTINUED INCLUSION IN THE STATE TRANSPORTATION IMPROVEMENT PLAN

Resolution #17-02

WHEREAS, the Mid-Currituck Bridge project has been in the development process for over twenty-five years; and

WHEREAS, the popularity of Outer Banks of North Carolina, including Dare County and its towns, Currituck County and the Town of Duck, continues to grow, resulting in an ever increasing number of residents and visitors to the Outer Banks, particularly the northern Outer Banks; and

WHEREAS, the Outer Banks of North Carolina generates substantial revenue for the State of North Carolina, particularly through tourism, and also serves a role as an ambassador area for the State by introducing hundreds of thousands of visitors from all over the United States and the world to the many wonders of North Carolina; and

WHEREAS, this revenue and the goodwill that visitors feel towards the Outer Banks and North Carolina is tested annually through frustrations attributed directly to traffic congestion; and

WHEREAS, the purpose of the Mid-Currituck Bridge is to substantially improve traffic flow on the project area's thoroughfares, i.e. NC 12 and US 158, substantially reduce travel time for persons traveling between the Currituck County mainland, Dare County and Currituck County Outer Banks: and

WHEREAS, another purpose of the Mid-Currituck Bridge is to substantially reduce the hurricane clearance time for residents and visitors who use US 158 and NC 168 during coastal evacuation; and

WHEREAS, building the Mid-Currituck Bridge will reduce congestion and alleviate delays, thus promoting and enhancing economic development, while bolstering the tourism industry; and

WHEREAS, alternatives to the Mid-Currituck Bridge project have been studied thoroughly and have been rejected in favor of the Mid-Currituck Bridge; and

WHEREAS, in recognition of the viability and need of the Mid-Currituck Bridge, the North Carolina Department of Transportation has demonstrated a commitment to construction of the bridge by securing funding and including the project in the State Transportation Improvement Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF DUCK, NORTH CAROLINA, THIS 1st DAY OF MARCH, 2017, that it reaffirms its commitment to the Mid-Currituck Bridge project and advocates for advancement of this crucial project and its continued inclusion as a funded project in the State Transportation Improvement Plan.

Adopted this 1st Day of March, 2017

Mayor

ATTEST:

Town Clerk

Edenton•Chowan
Chamber of Commerce

February 14, 2019

The Honorable Elaine Chao
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Madam Secretary:

The Edenton-Chowan Chamber of Commerce supports the North Carolina Department of Transportation (NCDOT) Turnpike Authority submitting an application for an Infrastructure for Rebuilding America (INFRA) federal grant to support the construction of the Mid-Currituck Bridge.

Currently there is only one crossing of the Currituck Sound along the North Carolina Coast, which is the Wright Memorial Bridge, on US 158 at the southern end of Currituck County near its border with Dare County. The Outer Banks are a major tourism destination in the Mid- Atlantic Region and an economic engine for northeastern North Carolina.

The Mid-Currituck Bridge project will substantially improve traffic flow on the thoroughfares in the project area, substantially reduce travel time for Outer Bank visitors and commuters, and substantially reduce hurricane clearance time. Additional benefits of the Project include reducing operating costs for passenger cars and freight vehicles and improving public health by reducing air emissions from vehicles.

After accounting for funding from toll revenue and the funding expected from a Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, the North Carolina Turnpike Authority is requesting a $75 million INFRA award to construct the project. INFRA funds will be used for construction costs. The Mid-Currituck Bridge project meets all INFRA grant merit criteria and would positively affect mobility throughout the region, state and the Mid-Atlantic States.

Sincerely,

Rachel Johnson
President

Win Dale
Secretary

harbor of opportunity
Elizabeth City
ELIZABETH CITY | PASQUOTANK COUNTY
ECONOMIC DEVELOPMENT COMMISSION
405 East Main Street, Suite 4, Elizabeth City, NC 27909 | TF 888.338.1678 | PH 252.338.0169 | HarborOfOpportunity.com

February 14, 2019

The Honorable Elaine Chao
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Madam Secretary:

The Elizabeth City/Pasquotank County Economic Development Commission strongly supports the North Carolina Department of Transportation (NCDOT) Turnpike Authority's application for an Infrastructure for Rebuilding America (INFRA) federal grant to support the construction of the Mid-Currituck Bridge.

The Mid-Currituck Bridge is needed to increase access across the Currituck Sound to help drive economic development and tourism along the Outer Banks of North Carolina. Currently, the only vehicle access via the Currituck Sound is the Wright Memorial Bridge on US 158 which is located in the southern portion of Currituck County near its border with Dare County.

The new bridge would be located farther north providing better vehicular access and improved traffic flow for residents and visitors. In addition, new infrastructure investments like this aid in local public safety and emergency management efforts to provide additional passage from the mainland to the Outer Banks for hurricane evacuation efforts.

Please know that my community and organization fully supports this project and would love to see additional infrastructure investment in Northeastern North Carolina.

Respectfully,

Christian A. Lockamy
Director of Economic Development
Elizabeth City-Pasquotank County
252.339.7902 – calockamy@ecpcedc.com

The Outer Banks Chamber of Commerce

Serving Currituck and Dare Counties, Ocracoke Island

P.O. Box 1757 • 101 Town Hall Drive • Kill Devil Hills, NC 27948
252.441.8144 ***Voice*** • 252.441.0338 ***Fax***
info@outerbankschamber.com

February 13, 2019

The Honorable Elaine Chao
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Madam Secretary:

The Outer Banks Chamber of Commerce and its 950 members, board of directors and volunteers support the North Carolina Department of Transportation (NCDOT) Turnpike Authority submitting an application for an Infrastructure for Rebuilding America (INFRA) federal grant to support the construction of the Mid-Currituck Bridge.

Currently there is only one crossing of the Currituck Sound along the North Carolina Coast, which is the Wright Memorial Bridge, on US 158 at the southern end of Currituck County near its border with Dare County. The Outer Banks are a major tourism destination in the Mid- Atlantic Region and an economic engine for northeastern North Carolina.

The Mid-Currituck Bridge project will substantially improve traffic flow on the thoroughfares in the project area, substantially reduce travel time for Outer Bank visitors and commuters, and substantially reduce hurricane clearance time. Additional benefits of the Project include reducing operating costs for passenger cars and freight vehicles and improving public health by reducing air emissions from vehicles.

After accounting for funding from toll revenue and the funding expected from a Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, the North Carolina Turnpike Authority is requesting a $75 million INFRA award to construct the project. INFRA funds will be used for construction costs. The Mid-Currituck Bridge project meets all INFRA grant merit criteria and would positively affect mobility throughout the region, state and the Mid-Atlantic States.

Sincerely,

Karen S. Brown, MBA, CCE
President & CEO
Outer Banks Chamber of Commerce

Simply Connecting Since 1974 the Outer Banks

www.outerbankschamber.com

The Outer Banks®
OF NORTH CAROLINA

THE OUTER BANKS VISITORS BUREAU
One Visitors Center Circle, Manteo, NC 27954
252.473.2138 | outerbanks.org

February 12, 2019

The Honorable Elaine Chao
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Madam Secretary:

The Dare County Tourism Board (d.b.a. The Outer Banks Visitors Bureau) supports the North Carolina Department of Transportation (NCDOT) Turnpike Authority submitting an application for an Infrastructure for Rebuilding America (INFRA) federal grant to support the construction of the Mid-Currituck Bridge.

Currently, there is only one crossing of the Currituck Sound along the North Carolina Coast, which is the Wright Memorial Bridge, on US 158 at the southern end of Currituck County near its border with Dare County. The Outer Banks are a major tourism destination in the Mid- Atlantic Region and an economic engine for northeastern North Carolina.

The Mid-Currituck Bridge project will substantially improve traffic flow on the thoroughfares in the project area, substantially reduce travel time for Outer Bank visitors and commuters, and substantially reduce hurricane clearance time. Additional benefits of the Project include reducing operating costs for passenger cars and freight vehicles and improving public health by reducing air emissions from vehicles.

After accounting for funding from toll revenue and the funding expected from a Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, the North Carolina Turnpike Authority is requesting a $75 million INFRA award to construct the project. The Dare County Tourism Board/Outer Banks Visitors Bureau fully supports the request for a $75 million INFRA award to construct the Mid-Currituck Bridge.

Sincerely,

Lee R. Nettles
Executive Director, Outer Banks Visitors Bureau

PERQUIMANS COUNTY
Economic Development
P.O. Box 45
Hertford, NC 27944

February 14, 2019

The Honorable Elaine Chao
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Madam Secretary:

Perquimans County, a neighboring county to Currituck and Dare Counties in North Carolina, supports the North Carolina Department of Transportation (NCDOT) Turnpike Authority submitting an application for an Infrastructure for Rebuilding America (INFRA) federal grant to support the construction of the Mid-Currituck Bridge.

Currently there is only one crossing of the Currituck Sound along the North Carolina Coast, which is the Wright Memorial Bridge, on US 158 at the southern end of Currituck County near its border with Dare County. The Outer Banks are a major tourism destination in the Mid- Atlantic Region and an economic engine for northeastern North Carolina.

The Mid-Currituck Bridge project will substantially improve traffic flow on the thoroughfares in the project area, substantially reduce travel time for Outer Bank visitors and commuters, and substantially reduce hurricane clearance time. Additional benefits of the Project include reducing operating costs for passenger cars and freight vehicles, stimulating tourism in Northeast North Carolina and improving public health by reducing air emissions from vehicles.

After accounting for funding from toll revenue and the funding expected from a Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, the North Carolina Turnpike Authority is requesting a $75 million INFRA award to construct the project. INFRA funds will be used for construction costs. The Mid-Currituck Bridge project meets all INFRA grant merit criteria and would positively affect mobility throughout the region, state and the Mid-Atlantic States.

Sincerely,

David Goss
Economic Development Consultant
Perquimans County

COUNTY OF CURRITUCK

County Manager's Office
153 Courthouse Road, Suite 204
Currituck, North Carolina 27929
Telephone (252) 232-2075 / Fax (252) 232-3551
State Courier # 10-69-17

March 6, 2017

Mr. James H. Trogdon, III
Secretary of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

Dear Secretary Trogdon,

The Currituck County Board of Commissioners, at its February 6, 2017 meeting, adopted the enclosed resolution reaffirming its support for the construction of Mid-Currituck Bridge and the project's continued inclusion in the State Transportation Improvement Plan.

Building the Mid-Currituck Bridge is important to our region from a connectivity, mobility and economic perspective and remains a priority for Currituck County. The ongoing, annual traffic congestion along NC-168, NC-158 and NC-12, and the looming disaster of a major hurricane evacuation in the Outer Banks, underscore the safety and mobility elements of this project. The Mid-Currituck Bridge would also provide significant economic benefits for the entire Northeast North Carolina region.

We look forward to working with you as this long overdue project begins to move forward. If you would like more information please contact us. We are happy to discuss in more detail why the Mid-Currituck Bridge project is so important to Currituck County, its citizens and its many thousands of summer visitors.

Sincerely,

Bobby Hanig
Chairman

BH/lw

Cc: Senator Bill Cook
Representative Bob Steinburg
Representative John Torbett

COUNTY OF CURRITUCK

RESOLUTION OF THE CURRITUCK COUNTY BOARD OF COMMISSIONERS SUPPORTING CONSTRUCTION OF THE MID-CURRITUCK BRIDGE AND ITS CONTINUED INCLUSION IN THE STATE TRANSPORTATION IMPROVEMENT PLAN

WHEREAS, the popularity of the Currituck Outer Banks continues to grow, resulting in an ever increasing number of residents and visitors to the Currituck Outer Banks; and

WHEREAS, many thousands of vehicles use N.C. Highway 12 along the northern Outer Banks, the only means of ingress and egress to the Currituck Outer Banks, resulting in traffic congestion and significant delays, particularly on summer weekends; and

WHEREAS, building the Mid-Currituck Bridge will reduce congestion, alleviate delays, provide efficient beach access and promote and enhance economic development; and

WHEREAS, the Mid-Currituck Bridge will be a critical means of hurricane or other storm event evacuation, providing an alternate evacuation route to N.C. Highway 12 and insuring the safety of visitors and residents of the northern Outer Banks; and

WHEREAS, the Mid-Currituck Bridge will encourage and induce increased commerce on the Currituck County Mainland while positively impacting Currituck County's Land Use Plan and Transportation Plan; and

WHEREAS, the benefits of a Mid-Currituck Bridge have been recognized by towns and counties adjacent to Currituck County and garnered their strong support; and

WHEREAS, the North Carolina Department of Transportation has demonstrated a commitment to construction of the bridge by securing funding and including the project in the State Transportation Improvement Plan.

NOW THEREFORE BE IT RESOLVED that the Currituck County Board of Commissioners reaffirms its commitment to the Mid-Currituck Bridge project and advocates for advancement of this crucial project and its continued inclusion as a funded project in the State Transportation Improvement Plan.

ADOPTED this the 6th day of February, 2017.

Bobby Hanig, Chairman

(SEAL)

ATTEST:

Leeann Walton, Clerk to the Board

COUNTY OF CURRITUCK

County Manager's Office
153 Courthouse Road, Suite 204
Currituck, North Carolina 27929
Telephone (252) 232-2075 / Fax (252) 232-3551
State Courier # 10-69-17

May 27, 2015

The Honorable Bill Cook
300 N. Salisbury Street
Room 525
Raleigh, NC 27603

Dear Senator Cook,

During numerous meetings between Currituck County government officials and members of the Governor's staff and between Currituck County government officials and members of the General Assembly, we have been asked to place our faith in the State's new Strategic Transportation Investment (STI) process. The STI process was purported to remove subjectivity and politics from the transportation project approval process and rely instead on a data driven methodology that would include a combination of quantitative data, qualitative values and local input. Reliance on the STI process did, after forty years of strong local support and effort, achieve Currituck County's number one transportation goal of having the Mid-Currituck Bridge included within the State's Transportation Improvement Plan. At a subsequent Albemarle Regional Planning Organization (ARPO) meeting, the ARPO was advised of the bonus allocation provisions outlined in General Statute 136-189.11(f). Pursuant to the legislative requirements of G.S. 136-189.11(f), the ARPO was asked to support the next highest scoring Currituck County road project by assigning the bonus allocation funding to that specific project: the widening of US 158. This section of US 158 serves as a vital evacuation route for both Currituck and Dare County's Outer Banks areas.

Senator, you can imagine our dismay when we were thankfully contacted by your office and advised of *Bonus Allocation for Mid Currituck Bridge Project Section 29.19* is inserted into House Bill 97. Currituck County elected officials were not aware, not advised, nor otherwise consulted regarding the purpose or intent of this insertion. We are subsequently being told that this is a "technical correction". If this is in fact the case, would the correction to G.S. 136-189.11 for all tolled projects, rather than singling out the Mid Currituck Bridge Project, be more appropriate? We have been advised that other counties that have received a bonus allocation are not being subjected to the same "technical correction". It is difficult for us to believe that politics has not reared its way back into the STI process and Currituck County is being noticeably singled out.

On behalf of the Currituck County Board of Commissioners, we are respectfully seeking your support in having the *Bonus Allocation for Mid Currituck Bridge Project Section 29.19* removed from the State budget.

Sincerely,

S. Paul O'Neal
Chairman

SPO/lw

Cc: Governor Pat McCrory
Secretary Anthony Tata
Senator Phil Berger, Pres. Pro-Tempore
Representative Tim Moore, Speaker of the House
Representative Bob Steinburg
Malcolm Fearing

COUNTY OF CURRITUCK

County Manager's Office
153 Courthouse Road, Suite 204
Currituck, North Carolina 27929
Telephone (252) 232-2075 / Fax (252) 232-3551
State Courier # 10-69-17

December 2, 2014

Mrs. Kerry Morrow
Statewide Engineer, Transportation Planning Branch
North Carolina Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

Dear Mrs. Morrow,

I'm writing to provide additional comments in the form of a resolution on behalf of the Currituck County Board of Commissioners regarding NCDOT's Strategic Transportation Corridors draft maps and planning documents. Please note that this resolution is intended to supplement written comments first provided to NCDOT's Transportation Planning Branch in a letter dated June 12, 2014.

As Currituck County shared in that previous letter, we have grave concerns that the omission of the VA/NC 168 - US 158 corridors – including the Mid-Currituck Bridge – in this long-term planning process will undercut the County and Region's opportunities for critical highway improvements, project prioritization and consistent funding support.

The resolution included with this letter underscores the importance our citizens and Board of Commissioners place in role that the VA/NC 168 - US 158 corridor plays in Currituck County's tourism, economic development, growth and quality of life.

Mrs. Morrow, please include and share the attached resolution for consideration with the Transportation Planning Branch, consultants, the North Carolina Board of Transportation and relevant legislative oversight bodies.

Thank you for your time and attention to these comments.

Sincerely,

Daniel F. Scanlon, II
County Manager

CC: Currituck County Board of Commissioners
Angela Welsh, Planner & Coordinator, Albemarle Rural Planning Organization
Malcolm Fearing, NCDOT Board of Transportation, Division 1 Representative

COUNTY OF CURRITUCK

A RESOLUTION IN SUPPORT OF INCLUDING US 158, US 168 AND THE MID-CURRITUCK BRIDGE ON THE STRATEGIC TRANSPORTATION CORRIDORS NETWORK MAP

WHEREAS, the North Carolina Department of Transportation has recently replaced the Strategic Highway Corridors network map adopted by the North Carolina Board of Transportation in 2004 with the Strategic Transportation Corridors map; and

WHEREAS, the Strategic Transportation Corridors network map omits US 158, US 168 and the Mid-Currituck Bridge which were previously included on the Strategic Highway Corridors network map; and

WHEREAS, these corridors are vital for the economic development, mobility and safety of residents and visitors of Northeastern North Carolina; and

WHEREAS, the US 158 and US 168 corridors are the primary hurricane evacuation routes for residents and visitors of the Outer Banks and the State of Virginia has informed us, as part of the Barco Diversion Plan, they may close the border and require all North Carolina residents and visitors to enter Virginia via 1-95 ; and

WHEREAS, the US 158 and US 168 corridors connect Northeastern North Carolina to one of only two deep water ports on the east coast-the Port of Virginia; two major airports, and Hampton Roads; and

WHEREAS, the Mid-Currituck bridge would serve as an alternate hurricane evacuation route for residents and visitors of the Outer Banks, reduce congestion, create jobs; and create tax revenue for the State from toll revenue; and

WHEREAS, the Transportation Advisory Committee (TAC) is the duly recognized transportation planning policy board for the Albemarle Rural Planning Organization and hereby supports the inclusion of US 158, US 168 and the Mid-Currituck Bridge on the Strategic Transportation Corridors Map.

NOW, THEREFORE BE IT RESOLVED that the Currituck County Board of Commissioners strongly supports and encourages the inclusion of US 158, US 168 and the Mid-Currituck Bridge on the Strategic Transportation Corridors Map.

Adopted this the 1st day of December, 2014.

S. Paul O'Neal, Chairman
Currituck County Board of Commissioners
(SEAL)

ATTEST:

Leeann Walton, Clerk to the Board

COUNTY OF CURRITUCK

County Manager's Office
153 Courthouse Road, Suite 204
Currituck, North Carolina 27929
Telephone (252) 232-2075 / Fax (252) 232-3551
State Courier # 10-69-17

June 16, 2014

Mrs. Kerry Morrow
Statewide Engineer, Transportation Planning Branch
North Carolina Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

Dear Mrs. Morrow,

I'm writing to provide comments on behalf of Currituck County regarding NCDOT's new Strategic Transportation Corridors draft maps and planning documents. Currituck Economic Development Director Peter Bishop attended the May 7, 2014, stakeholder presentation in Edenton, providing the handouts and a brief for staff and the Board of Commissioners.

In reviewing the Strategic Transportation Corridors information – especially in comparison to the previous Strategic Highway Corridors planning maps and Currituck County's recently approved, citizen-driven Comprehensive Transportation Plan (CTP) – we are struck by glaring omissions of our most vital corridors connecting Northeast North Carolina to Hampton Roads and the Outer Banks.

The following points summarize Currituck County's review of and frustration with the proposed Strategic Transportation Corridors documents:

Omission of the NC 168-US 158 corridor connecting the Outer Banks to Hampton Roads, VA in STC

In the previous Strategic Highway Corridors vernacular, the NC 168-US 158 corridor was identified as a roadway critical to the region and the State. What has changed in only 2 years? If anything, its strategic value has *increased* due to steady tourism and population growth, not to mention ongoing seasonal traffic congestion.

Considering the descriptions criteria provided in the STC public presentation, the NC 168-US 158 corridor most certainly meets or exceeds the definition of a strategic corridor worthy of strong prioritization – in terms of system connectivity, mobility and economic prosperity. Note that this vital transportation corridor:

- Connects Northeast North Carolina's fastest growing, most-dense population base to an economic engine and urban core of Hampton Roads, Virginia
- Connects Northeast North Carolina to the Port of Virginia, Interstate 64 and two major airports
- Serves roughly 80% of the 7 million annual visitors to the Outer Banks
- Provides the primary hurricane evacuation route for the Outer Banks
- Accommodates significant commercial traffic for local and regional distribution networks

Given that the NC 168-US 158 corridor appears to meet the critical criteria of STC inclusion, it's perplexing that it didn't make the cut. Currituck County staff would like to review the precise scoring model and methodology used by NCDOT to provide the stratification and overall inclusion rankings to be included in the Strategic Transportation Corridors mapping and framework.

It was also noted by attending staff that Division 1 Engineer Jerry Jennings and NCDOT Board Member Malcolm Fearing urged the NCDOT staff present to include the NC 168-US 158 corridor in this planning process. They concur with Currituck County's stance that this transportation system is vital to the region and State and must be prioritized.

Omission of the Mid-Currituck Bridge & NC 168 – US 17 connector roads in STC

Two more projects of major importance to Currituck County were also omitted from the STC maps and planning documents: the Mid-Currituck Bridge and a new limited access roadway connecting US 17 and NC 168 through northern Camden and Currituck counties.

The Mid-Currituck Bridge, viewed alone or as a part of the above mentioned NC 168-US 158 corridor, remains an incredibly important infrastructure investment for the region and State on a connectivity, mobility and economic perspective. The ongoing, annual traffic congestion along this corridor and looming disaster of a major hurricane evacuation in the Outer Banks underscore the safety and mobility elements of this project.

Clearly, the Mid- Currituck Bridge would also provide significant economic benefits for the entire Northeast North Carolina region. In fact, the project obtained a perfect score in the STI scoring system in the economic competitiveness category.

Why isn't it included as a critical piece of the transportation system in the State, worthy of prioritization?

The other major omission in the STC planning process is a new facility connecting northern Camden County and Currituck County in the vicinity of Old Swamp Road / South Mills Road.

This new roadway would connect the US 17 corridor and the NC 168-US 158 corridor in a safer, more direct route. Currituck County officials had originally wanted this road in our Comprehensive Transportation Plan (CTP), but were rebuffed. We are in the process of working with Camden County to amend our CTP's to add it.

In response to a question about the inclusion of "new" facilities, NCDOT and Atkins Global representatives at the STC meeting in Edenton replied that the planning process was intended to cover only existing corridors, not new ones. This, of course, is in contrast to the SHC maps and planning process, which included the Mid-Currituck Bridge as a recommended improvement.

Why are new projects not relevant in the STC vernacular now, when they were in the previous SHC process? It would seem prudent in long-range planning and prioritization to identify future needs and solutions to existing problems through the consideration of new or upgraded facilities. Why is that not being done in the STC process?

The STC process, like the STI funding process, discounts or doesn't consider Currituck's unique needs

It's certainly no surprise that Northeast North Carolina appears to suffer in the Strategic Transportation Corridors planning process. A strict adherence to specific data points will always skew to areas with more people, more transportation facilities and more growth.

Currituck County urges the application of common-sense and consideration of unique geographic and contextual factors – especially seasonal inundations from visitors and hurricane evacuation needs.

The STC process is not formally connected to the STI funding process

Finally, it strikes Currituck County as curious that there is no direct connection of the Strategic Transportation Corridors planning process to the Strategic Transportation Investments funding requirements for facility improvement projects as laid out by the NC General Assembly in 2012-13.

Without such a connection, how does NCDOT reconcile short-term data-driven decisions made within the STI framework with long-term planning considerations on these prioritized corridors?

Indeed, such a strong focus in NCDOT on strict formulaic outputs seems at odds with establishing a long-term vision and more common-sense approach to regional and interstate transportation planning.

Mrs. Morrow, please include and share the above comments for consideration of the Transportation Planning Branch, your consultants and the North Carolina Board of Transportation. We would also appreciate NCDOT sharing the data and methodology used in coming to the proposed corridor decisions.

Thank you for your time and attention to these comments.

Sincerely,

Daniel F. Scanlon, II
County Manager

CC: Currituck County Board of Commissioners

COUNTY OF CURRITUCK

153 Courthouse Road, Suite 204
Currituck, NC 27929
Telephone (252) 232-2075 / Fax (252) 232-3551
State Courier # 10-69-17

December 30, 2014

The Honorable Pat McCrory
Governor
State of North Carolina
20301 Mail Service Center
Raleigh, NC 27699-0301

Dear Governor McCrory,

The Currituck County Board of Commissioners, residents, and business owners wish to extend a heartfelt thank you for your strong support in favor of construction of the Mid-Currituck Bridge. Your efforts and support demonstrated the importance of this project and allowed it to once again be included as part of North Carolina's Strategic Transportation plan.

The Mid-Currituck Bridge remains a priority for Currituck County, and is important for our region from a connectivity, mobility and economic perspective. The ongoing, annual traffic congestion along NC-168, NC-158 and NC-12, and the looming disaster of a major hurricane evacuation in the Outer Banks underscore the safety and mobility elements of this project. The Mid- Currituck Bridge would also provide significant economic benefits for the entire Northeast North Carolina region.

We will watch with great anticipation as the project moves forward, and we thank you again for your help in re-securing its place in North Carolina's transportation plan. We appreciate your efforts and remain grateful for your dedication to Currituck County, its citizens, and its many thousands of summer visitors.

Sincerely,

S. Paul O'Neal
Chairman

Cc: Senator Bill Cook
Representative Bob Steinburg
Representative Paul Tine

COUNTY OF CURRITUCK

153 Courthouse Road, Suite 204
Currituck, NC 27929
Telephone (252) 232-2075 / Fax (252) 232-3551
State Courier # 10-69-17

December 30, 2014

Mr. Jerry D. Jennings
NC Department of Transportation
113 Airport Road, Suite 100
Edenton, NC 27932

Dear Mr. Jennings,

The Currituck County Board of Commissioners thanks you for presenting and leading the December 15, 2014, meeting of the NC Department of Transportation that addressed the seasonal traffic issues our county faces each summer. It was apparent that the citizens of both Currituck and its neighboring communities appreciated the opportunity to engage in a dialogue, as was displayed by the residents' enthusiastic participation.

We are all aware that building the Mid-Currituck Bridge will be the most effective solution to our traffic problems. We are also aware that before the bridge becomes a reality we will need to find alternatives to ease the traffic congestion on NC-168, NC-158 and NC 12. You proposed several ideas during your presentation, including controlling traffic using signals or law enforcement, roadway improvements and signage, and providing alternative routes to visitors based on their destinations. We would like your thoughts as to which of these ideas would have the most impact in alleviating our traffic conditions, and which strategies are planned to be implemented prior to the 2015 summer tourist season.

It is our hope that your recommendations can be put in place as a way to provide some relief to our residents and business owners who are affected by heavy traffic gridlock during the summer months. We will await your reply and welcome additional suggestions and input. As always, we thank you for your consideration and time dedicated to the concerns of Currituck County.

Sincerely,

S. Paul O'Neal
Chairman

Cc: Anthony Tata, Secretary of Transportation
Senator Bill Cook
Representative Bob Steinburg
Malcolm Fearing, NCDOT Board Member

COUNTY OF CURRITUCK

153 Courthouse Road, Suite 204
Currituck, NC 27929
Telephone (252) 232-2075 / Fax (252) 232-3551
State Courier # 10-69-17

December 30, 2014

Anthony J. Tata
Secretary of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

Dear Secretary Tata,

The Currituck County Board of Commissioners, residents, and business owners wish to extend a heartfelt thank you for your strong support in favor of construction of the Mid-Currituck Bridge. Your knowledge of our area and first-hand experience allowed you to see the need for this project from a unique perspective. We believe your local point of view demonstrated the importance of the bridge, and was instrumental in the project being returned to North Carolina's Strategic Transportation plan.

The Mid-Currituck Bridge remains a priority for Currituck County, and is important for our region from a connectivity, mobility and economic perspective. The ongoing, annual traffic congestion along NC-168, NC-158 and NC-12, and the looming disaster of a major hurricane evacuation in the Outer Banks underscore the safety and mobility elements of this project. The Mid- Currituck Bridge would provide significant economic benefits for the entire Northeast North Carolina region.

We will watch with great anticipation as the project moves forward, and we thank you again for your help in re-securing its place in North Carolina's transportation plan. We appreciate your efforts and remain grateful for your dedication to Currituck County, its citizens, and its many thousands of summer visitors.

Sincerely,

S. Paul O'Neal
Chairman

Cc: Senator Bill Cook
Representative Bob Steinburg
Representative Paul Tine

BOARD OF COMMISSIONERS
S. Paul O'Neal, Chairman
Paul R. Martin, Vice-Chairman
O. Vance Aydlett, Jr.
Marion J. Gilbert
David L. Griggs
Kevin E. McCord
H.M. "Butch" Petrey

COUNTY OF CURRITUCK

County Manager's Office
153 Courthouse Road, Suite 204
Currituck, North Carolina 27929
Telephone (252) 232-2075 / Fax (252) 232-3551
State Courier # 10-69-17

DANIEL F. SCANLON II
County Manager
DONALD I. McREE, JR.
County Attorney
GWEN H. KEENE, CMC
Clerk to the Board

February 21, 2013

Mr. Anthony J. Tata
Secretary of Transportation
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

Dear Secretary Tata,

Greetings from beautiful Currituck County, and North Carolina's storied Outer Banks.

On behalf of the Currituck County Board of Commissioners, I'd like to congratulate you on your appointment to Secretary of Transportation for our great State. We look forward to working with you and Governor McCrory at the local level in helping restore a strong, growing and prosperous North Carolina.

I would also like to formally invite you and senior staff to Currituck County for an in-person meeting in March with our Board of Commissioners to discuss several critical transportation issues impacting our County, Region and State. Specifically, our Board would like to discuss the status and progress of the Mid-Currituck Bridge and the tolling of the Knotts Island Ferry.

The Currituck County Board of Commissioners has unanimously supported the construction of the Mid-Currituck Bridge throughout the 40 years of planning for this span, and has likewise supported the continued, toll-free operation of the Knotts Island Ferry system since its inception.

We respectfully request your time, Mr. Secretary, to discuss these vital transportation issues at your earliest convenience in March.

Sincerely,

S. Paul O'Neal
Chairman

cc: Board of Commissioners

COUNTY OF CURRITUCK

County Manager's Office
153 Courthouse Road, Suite 204
Currituck, North Carolina 27929
Telephone (252) 232-2075 / Fax (252) 232-3551
State Courier # 10-69-17

July 16, 2012

The Honorable Thom Tillis
Speaker of the House
NC House of Representatives
16 W. Jones Street, Room 2304
Raleigh, NC 27601-1096

Dear Speaker Tillis,

On behalf of the Currituck County Board of Commissioners and our citizens, I am writing to thank you for your support of two issues of great importance to us – the Mid-Currituck Bridge and proposed tolls on ferries.

I understand from Representative Bill Owens that you were a big influence in keeping our interests in these issues alive. You promised as long as you were speaker, the bridge would remain a priority and stay in the budget. You kept your word, and we thank you.

Again, your assistance in these matters on behalf of Currituck County residents and visitors is greatly appreciated.

Sincerely,

John D. Rorer
Chairman

JDR/mg
cc: Board of Commissioners
Representative Bill Owens

COUNTY OF CURRITUCK

153 Courthouse Road, Suite 204
Currituck, NC 27929
Telephone (252) 232-0300 / Fax (252) 232-3551
State Courier # 10-69-17

June 12, 2012

VIA ELECTRONIC MAIL (philbe@ncleg.net) AND UNITED STATES MAIL
The Honorable Phil Berger
President Pro Tempore
North Carolina Senate
16 W. Jones Street, Room 2008
Raleigh, NC 27601-2808

Re: HB 950 Modify 2011 Appropriations Act; Mid-Currituck Bridge

Dear Senator Berger:

On behalf of the Currituck County Board of Commissioners I am writing to express deep concern regarding the Senate's proposed budget that if adopted will apparently end the Mid-Currituck Bridge project. It is our understanding that the proposed Senate budget will revert funds appropriated to cover debt service or related financing costs for the Mid-Currituck Bridge project back to the Highway Trust Fund.

Since 1975 the State of North Carolina and Currituck County have supported the Mid-Currituck Bridge. The support is in large part due to the view that the Mid-Currituck Bridge is vital to the economic growth and well being of Currituck County and Northeastern North Carolina, will allow for the efficient and cost effective provision of county services to a remote area of the county heavily populated by tourists and most importantly enhance citizen and tourist safety in the event of hurricane evacuation. After so many years of hard work environmental studies have been completed, a construction firm is lined up to build the bridge, a completion date has been projected and the issuance of construction permits is imminent. Your support for continuation of a portion of funding for the Mid-Currituck Bridge is essential to its successful completion and follow through on the commitment made by the General Assembly in recent years to complete the project. Enclosed is a resolution previously adopted by the Currituck County Board of Commissioners setting forth the history and need of this important project.

We recognize the difficult decisions that must be made in the budgetary process. However, we firmly believe that the ultimate return brought by construction of the Mid-Currituck Bridge will far exceed the relatively minor savings achieved by transferring funds from the bridge project only to be spent at some future date for another project. We thank you for your attention to this matter.

Sincerely yours,

John D. Rorer, Chairman
Board of Commissioners

/DIMjr

Enclosure

cc: Honorable Bill Owens
Honorable Stan White
Board of Commissioners

#14-12-17

A RESOLUTION
IN SUPPORT OF INCLUDING US 158, US 168, AND THE MID-CURRITUCK BRIDGE ON THE STRATEGIC TRANSPORTATION CORRIDORS NETWORK MAP

WHEREAS, the Transportation Advisory Committee (TAC) is the duly recognized transportation planning policy board for the Albemarle Rural Planning Organization (RPO); and

WHEREAS, the North Carolina Department of Transportation has recently replaced the Strategic Highway Corridors network map adopted by the North Carolina Board of Transportation in 2004 with the Strategic Transportation Corridors map; and

WHEREAS, the Strategic Transportation corridors network map omits US 158, US 168 and the Mid-Currituck Bridge which were previously included on the Strategic Highway Corridors network map; and

WHEREAS, these corridors are vital for the economic development, mobility and safety of residents and visitors of Northeastern North Carolina; and

WHEREAS, the US 158 and US 168 corridors are the primary hurricane evacuation routes for residents and visitors of the Outer Banks and the State of Virginia has informed us, as part of the Barco Diversion Plan, they may close the border and require all North Carolina residents and visitors to enter Virginia via I-95; and

WHEREAS, the US 158 & US 168 corridors connect Northeastern North Carolina to one of only two deep water ports on the east coast – the Port of Virginia, two major airports, and Hampton Roads; and

WHEREAS, the Mid-Currituck bridge would serve as an alternate hurricane evacuation route for residents and visitors of the Outer Banks, reduce congestion, create jobs, and create tax revenue for the State from toll revenue.

NOW, THEREFORE, BE IT RESOLVED, that the Dare County Board of Commissioners hereby supports the inclusion of US 158, US 168 and the Mid-Currituck Bridge on the Strategic Transportation Corridors Map. This the 1st day of December, 2014

Chairman, Dare County Board of Commissioners

Attest:

Clerk to the Board

COUNTY OF DARE

Office of the Board of Commissioners
P.O. Box 1000, Manteo, North Carolina 27954

Warren Judge
Chairman
Richard Johnson
Vice-Chairman
Allen Burrus
Virginia Tillett
Max Dutton
Jack Shea
Robert Woodard

(252) 475-5700
Fax (252) 473-6312
Robert L. Outten
County Manager/Attorney
Gary Gross
Clerk to the Board

13-01-08

RESOLUTION
SUPPORTING GAP FUNDING FOR THE MID CURRITUCK BRIDGE

WHEREAS, for over twenty years the Dare County Board of Commissioners has recognized that a Mid-Currituck Bridge across the Currituck Sound would serve a vital need for the residents and visitors of North Carolina's Outer Banks; and

WHEREAS, a Mid-Currituck Bridge would provide efficient beach access, reduce congestion, alleviate delays, promote economic development, and enhance public safety; and

WHEREAS, during hurricanes and other emergencies, the Mid-Currituck Bridge would provide an important evacuation route as an alternative to Highway 12, which is a narrow two-lane road that is already filled to capacity during emergencies; and

WHEREAS, a Mid-Currituck Bridge would not only improve public safety, but would increase access for students and an adequate labor force to help meet the ever increasing needs of the Outer Banks; and

WHEREAS, this bridge has been in the planning stages for more than twenty years and funding sources have been identified including "Gap Funding" that would not adversely harm the state's budget in providing this much needed transportation infrastructure.

NOW, THERE BE IT RESOLVED BY THE DARE COUNTY BOARD OF COMMISSIONERS THAT: the North Carolina General Assembly move forward with "Gap Funding" for the Mid-Currituck Bridge, which has been authorized and included in previous North Carolina budgets as a matter of economic development and public safety

ADOPTED this the 22nd day of January 2013

Warren C. Judge, Chairman

ATTEST:
Gary Gross, Clerk to the Board

LAND OF BEGINNINGS

RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF DUCK, NORTH CAROLINA, SUPPORTING CONSTRUCTION OF THE MID-CURRITUCK BRIDGE AND ITS CONTINUED INCLUSION IN THE STATE TRANSPORTATION IMPROVEMENT PLAN

Resolution #17-02

WHEREAS, the Mid-Currituck Bridge project has been in the development process for over twenty-five years; and

WHEREAS, the popularity of Outer Banks of North Carolina, including Dare County and its towns, Currituck County and the Town of Duck, continues to grow, resulting in an ever increasing number of residents and visitors to the Outer Banks, particularly the northern Outer Banks; and

WHEREAS, the Outer Banks of North Carolina generates substantial revenue for the State of North Carolina, particularly through tourism, and also serves a role as an ambassador area for the State by introducing hundreds of thousands of visitors from all over the United States and the world to the many wonders of North Carolina; and

WHEREAS, this revenue and the goodwill that visitors feel towards the Outer Banks and North Carolina is tested annually through frustrations attributed directly to traffic congestion; and

WHEREAS, the purpose of the Mid-Currituck Bridge is to substantially improve traffic flow on the project area's thoroughfares, i.e. NC 12 and US 158, substantially reduce travel time for persons traveling between the Currituck County mainland, Dare County and Currituck County Outer Banks: and

WHEREAS, another purpose of the Mid-Currituck Bridge is to substantially reduce the hurricane clearance time for residents and visitors who use US 158 and NC 168 during coastal evacuation; and

WHEREAS, building the Mid-Currituck Bridge will reduce congestion and alleviate delays, thus promoting and enhancing economic development, while bolstering the tourism industry; and

WHEREAS, alternatives to the Mid-Currituck Bridge project have been studied thoroughly and have been rejected in favor of the Mid-Currituck Bridge; and

WHEREAS, in recognition of the viability and need of the Mid-Currituck Bridge, the North Carolina Department of Transportation has demonstrated a commitment to construction of the bridge by securing funding and including the project in the State Transportation Improvement Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF DUCK, NORTH CAROLINA, THIS 1st DAY OF MARCH, 2017, that it reaffirms its commitment to the Mid-Currituck Bridge project and advocates for advancement of this crucial project and its continued inclusion as a funded project in the State Transportation Improvement Plan.

Adopted this 1st Day of March, 2017

Mayor

ATTEST:

Town Clerk

Town of Southern Shores

5375 N. Virginia Dare Trail, Southern Shores, NC 27949
Phone 252-261-2394 / Fax 252-255-0876
www.southernshores-nc.gov

RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF SOUTHERN SHORES, NORTH CAROLINA, SUPPORTING CONSTRUCTION OF THE MID-CURRITUCK BRIDGE AND ITS CONTINUED INCLUSION IN THE STATE TRANSPORTATION IMPROVEMENT PLAN

Resolution #2017-03-01

WHEREAS, the Mid-Currituck Bridge project has been in the development process for over twenty-five years; and

WHEREAS, the popularity of Outer Banks of North Carolina, including Dare County and its towns, Currituck County and the Town of Southern Shores, continues to grow, resulting in an ever increasing number of residents and visitors to the Outer Banks, particularly the northern Outer Banks; and

WHEREAS, the Outer Banks of North Carolina generates substantial revenue for the State of North Carolina, particularly through tourism, and also serves a role as an ambassador area for the State by introducing hundreds of thousands of visitors from all over the United States and the world to the many wonders of North Carolina; and

WHEREAS, this revenue and the goodwill that visitors feel towards the Outer Banks and North Carolina is tested annually through frustrations attributed directly to traffic congestion; and

WHEREAS, the purpose of the Mid-Currituck Bridge is to substantially improve traffic flow on the project area's thoroughfares, i.e. NC 12 and US 158, substantially reduce travel time for persons traveling between the Currituck County mainland and the Currituck County Outer Banks, and to substantially reduce the hurricane clearance time for residents and visitors who use US 158 and NC 168 during coastal evacuation; and

WHEREAS, building the Mid-Currituck Bridge will reduce congestion and alleviate delays, thus promoting and enhancing economic development, while bolstering the tourism industry; and

WHEREAS, alternatives to the Mid-Currituck Bridge project have been studied thoroughly and have been rejected in favor of the Mid-Currituck Bridge; and

WHEREAS, in recognition of the viability and need of the Mid-Currituck Bridge, the North Carolina Department of Transportation has demonstrated a commitment to construction of the bridge by securing funding and including the project in the State Transportation Improvement Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF SOUTHERN SHORES, NORTH CAROLINA, THIS 7th DAY OF MARCH, 2017, that it reaffirms its commitment to the Mid-Currituck Bridge project and advocates for advancement of this crucial project and its continued inclusion as a funded project in the State Transportation Improvement Plan.

Adopted this 7th Day of March, 2017.

Mayor, Thomas G. Bennett

TOWN OF SOUTHERN SHORES SEAL NC

ATTEST:

Town Clerk

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

☒ **E.I.S.** ☐ **CORRIDOR** ☐ **DESIGN**

WBS ELEMENT:	34470.1.TA1	**COUNTY**	Currituck, Dare	**Alternate** ER2 **of** 2 **Alternate**	
T.I.P. NO.:	R-2576				
DESCRIPTION OF PROJECT:	ER2: Widening existing US 158 East of Wright Memorial Bridge, hurricane evacuation lane, and center turn lane on portion of NC 12.				

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	27	9	36	10
Businesses	5	1	6	0
Farms	0	0	0	0
Non-Profit	0	0	0	0

ANSWER ALL QUESTIONS

Yes	No	*Explain all "YES" answers.*
☐	x	1. Will special relocation services be necessary?
☐	x	2. Will schools or churches be affected by displacement?
x	☐	3. Will business services still be available after project?
☐	x	4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
☐	x	5. Will relocation cause a housing shortage?
		6. Source for available housing (list).
☐	x	7. Will additional housing programs be needed?
x	☐	8. Should Last Resort Housing be considered?
☐	x	9. Are there large, disabled, elderly, etc. families?
☐	x	10. Will public housing be needed for project?
x	☐	11. Is public housing available?
x		12. Is it felt there will be adequate DSS housing housing available during relocation period?
☐	x	13. Will there be a problem of housing within financial means?
x	☐	14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION? **18 to 24**

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
0	0	15	0	21

VALUE OF DWELLING

Owners		Tenants	
0-20M		$ 0-150	
20-40M		150-250	
40-70M		250-400	8
70-100M	6	400-600	1
100 UP	21	600 UP	
TOTAL	27		9

DSS DWELLING AVAILABLE

For Sale		For Rent	
0-20M		$ 0-150	
20-40M		150-250	
40-70M	164	250-400	35
70-100M	227	400-600	43
100 UP	864	600 UP	63
TOTAL	1255		141

REMARKS (Respond by Number)

3-An ample supply of business services will be available after the project.
4-Southern Shores Realty – Small 8-12 employees
Cast Stone Studios – Small 4-8 employees
Lammers Glass – Small 4-6 employees
No Name Business – Small 4-6 employees
Auto Repair Shop – Small 4-6 employees
Antiques – Small 4-6 employees
6-MLS, Local Realtors, published media, internet
8-As required by law.
11-Currituck County Department of Social Services and Section 8
12-Or built if necessary
14- See #6 above.

Right of Way Agent	Date		Relocation Coordinator	Date
	9/30/17			

FRM15-E

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

☒ **E.I.S.** ☐ **CORRIDOR** ☐ **DESIGN**

WBS ELEMENT:	34470.1.TA1	**COUNTY**	Currituck, Dare	**Alternate**	Preferred Alt	**of**	2	**Alternate**
T.I.P. NO.:	R-2576							
DESCRIPTION OF PROJECT:	Preferred Alternative: New 7.0 mile bridge and approaches Currituck Sound from US 158 to NC 12							

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	4	2	6	1
Businesses	3	0	3	0
Farms	0	0	0	0
Non-Profit	0	0	0	0

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
0	0	2	0	4

VALUE OF DWELLING

Owners		Tenants	
0-20M		$ 0-150	
20-40M		150-250	
40-70M		250-400	
70-100M		400-600	2
100 UP	4	600 UP	
TOTAL	4		2

DSS DWELLING AVAILABLE

For Sale		For Rent	
0-20M		$ 0-150	
20-40M		150-250	
40-70M	164	250-400	35
70-100M	227	400-600	43
100 UP	864	600 UP	63
TOTAL	1255		141

ANSWER ALL QUESTIONS

Yes	No	*Explain all "YES" answers.*
☐	x	1. Will special relocation services be necessary?
☐	x	2. Will schools or churches be affected by displacement?
x	☐	3. Will business services still be available after project?
x	☐	4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
☐	x	5. Will relocation cause a housing shortage?
		6. Source for available housing (list).
☐	x	7. Will additional housing programs be needed?
x	☐	8. Should Last Resort Housing be considered?
☐	x	9. Are there large, disabled, elderly, etc. families?
☐	x	10. Will public housing be needed for project?
x	☐	11. Is public housing available?
x	☐	12. Is it felt there will be adequate DSS housing housing available during relocation period?
☐	x	13. Will there be a problem of housing within financial means?
x	☐	14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION? **12-18**

REMARKS (respond by number)

3- An ample supply of business services will be available after the project
4- The Stuff Storage – Small 3-5 employees
Garage (No Name) – Small 4-6 employees
Coinjock Automotive – Small 6-8 employees
6-MLS, Local Realtors, published media, internet
8-As required by law
11-Currituck County Department of Social Services and Section 8
12-Or built if necessary
14- See #6 above

Right of Way Agent	Date		Relocation Coordinator	Date
[signature]	9/30/17			

FRM15-E

Appendix B

Response to Comments on the FEIS

B. Response to Comments on the FEIS

This appendix summarizes and provides responses to comments on the Final Environmental Impact Statement (FEIS) received from the public, state and federal environmental resource and regulatory agencies, local agencies, and non-governmental organizations (NGOs). The written correspondence received is included in Appendix C. The appendix is divided into the following sections:

B.1 Agency Comments and Responses

B.1.1 Federal

B.1.1.1 US Army Corps of Engineers – March 12, 2012

1. **Comment:** Page 2-47, Table 2-4, **Cost of the Detailed Study Alternatives**. For comparison purposes, all the bridge alternative costs need to be evaluated and calculated equally or some kind of explanation should be included in the narrative section on page 2-46 explaining the differences in calculating these costs. Additionally, ER2 costs should be updated to reflect current estimates. From what

we understand bridging costs for MCB4/C1 Option A and your Preferred Alternative are basically the same except the preferred has refinements to the MCB4/C1 Alternative as described on pages X and XI. The costs between those two alternatives in Table 2-4 are considerably different especially for the Maple Swamp Bridge which we understand would be the same structure except for the drainage treatment option that is explained in footnote 1. The "other" cost column in the Table needs to be explained in more detail in this section of the document. The other cost for the Maple Swamp bridge is 168 to 207 million dollars more for MCB4/C1 than the preferred alternative.

Response: *MCB4/C1/Option A was identified as the best bridging alternative, through interagency coordination and public involvement because of cost and impact to the human and natural environment. Table 2-4 of the FEIS shows the cost of the bridging alignments used for equivalent comparison. However, additional interagency coordination resulted in design refinements to further minimize impacts in the MCB4/C1/Option A alignment. This alignment, with the design refinements to minimize impacts, became the Preferred Alternative. The costs for the Preferred Alternative are also shown in Table 2-4 of the FEIS. Because the cost was not the sole factor in the evaluation to determine the best bridging alternative, re-estimating costs for similar design refinements to other bridge alignments would not have resulted in a change in the identification of the preferred bridging alignment.*

The difference between the estimated cost of the bridge across Currituck Sound presented in the FEIS for the Preferred Alternative and the Draft Environmental Impact Statement (DEIS) alternatives can be attributed to the following factors: 1) the reduction in bridge unit costs between 2009 and 2011 because of the economic recession; 2) the reduction in assumed inflation rates through the construction period; 3) the shortening of the bridge by the elimination of a horizontal curve; and 4) the addition of a trestle work bridge to enable bridge construction to occur in submerged aquatic vegetation (SAV) habitat. Although the first three factors resulted in cost savings, the inclusion of a work bridge added substantially to the cost, with the net effect being an overall increase in the cost of the bridge.

The difference between the estimated cost of the Maple Swamp bridge presented in the FEIS for the Preferred Alternative and the DEIS alternatives can be attributed to the following factors: 1) the reduction in bridge unit costs between 2009 and 2011 because of the economic recession; and 2) the reduction in assumed inflation rates through the construction period. The net impact of these factors is an overall decrease in the cost of the Maple Swamp bridge.

The "Other" construction costs listed in Table 2-4 of the FEIS are exclusive of the bridges across Maple Swamp and Currituck Sound, and include such items as interchange bridges, earth embankments, roadway paving, tolling (lane equipment, fiber optic cable, and administrative buildings), landscaping, retaining walls, roadway drainage systems,

roadway signing, fencing, and guardrail. The difference between the estimated cost of the "Other" items for the Preferred Alternative and the DEIS alternatives can be attributed to the following factors: 1) the four-lane widening of NC 12 was reduced from 4 miles to 2.1 miles; 2) reversing the center turn lane on US 158 between the US 158/Mid-Currituck Bridge interchange and NC 168 instead of constructing a third outbound lane; 3) the reduction in construction costs between 2009 and 2011 because of the economic recession; and 4) the reduction in assumed inflation rates through the construction period. The net impact of these factors is an overall decrease in the cost of the "Other" items.

Capital costs for the Preferred Alternative and ER were updated in 2017 to reflect new schedule assumptions, as well as revised designs that take into consideration new traffic forecasts. See Section 1.2.5.

2. **Comment:** Pages 3-40 through 3-43 and 3-56 through 3-57, Tables 3-3 through 3-10, **Jurisdictional Waters Impacts**. Some of the numbers contained in the Tables in the FEIS are confusing. Can you explain how in Table 3-9, ER2's total jurisdictional impact of 7.6 acres (which includes temporary impacts) increases to 12.6 acres whereby in Table 3-10 the Preferred Alternative's Total of 6.2 acres (minus the 25.5 acres calculated as clearing impacts) increases to 7.9 acres once the 25-foot buffer is calculated (with the understanding that an additional 1.5 acres of that 7.9 acres is for the Waterlily median acceleration lane) for both? Wouldn't the numbers change proportionally when the 25-foot slope stake was calculated for each alternative? It appears ER2 increases 5 additional acres while the Preferred Alternative increases 0.2 acres when the 25-foot buffer is added.

Response: *Wetland impacts were calculated using geographic information systems (GIS). Looking at the preliminary designs and their relation to wetlands, ER2's FEIS design uses wetlands along NC 12. The terrain tends to be flat, making the slope-stake line and the impact area contained within the permanent drainage easements along NC 12 with ER2 parallel to the both the pavement and the slope-stake line. Thus, the use of 25 feet from the slope-stake line as a measure of impact consistently increases the impact area. With the Preferred Alternative's FEIS design, much of the wetland impact was on the west side of US 158 on the mainland. The distance from the pavement to the slope-stake line expands and contracts because of the less flat natural terrain and because of the fill slope constructed to accommodate the exit ramp from the Mid-Currituck Bridge to southbound US 158. The new right-of-way line, as is customary at the preliminary design stage, does not precisely parallel the "ins and outs" of the slope-stake line. As a result, there are locations where the right-of-way line is 25 feet from the slope-stake line in the preliminary design. Thus, an impact criterion of 25 feet from the slope-stake line had less of an effect on the calculated impact area with the Preferred Alternative than with ER2.*

3. **Comment:** Page 3-55, Section 3.3.6.2**, Impacts to Jurisdictional Features**. This section explains that permanent impacts include permanently cleared areas under proposed bridge structures. However, it states that in these areas stumps would not be removed nor the area grubbed and graded. If these lands are already cleared (trees have been timbered) and no mechanized clearing and grubbing will be occurring in these areas, they would not be considered jurisdictional impacts under the Corps of Engineers regulations. However, any areas that would require clearing (mechanized) for pile installation would be considered permanent impacts. This section needs to be clarified and the corresponding impact tables updated to reflect these type impacts. Additionally, temporary impacts need to be explained in more detail as to what they entail. It specifies temporary impact calculations are those areas that are disturbed during construction activities and are associated with temporary construction easements. They appear to only be associated with constructing a third outbound hurricane evacuation lane.

   Response: *Based on information provided by the concessionaire formerly contracted to NCDOT under a predevelopment agreement as a potential public-private partner for the bridge project, there would be a need for grubbing at each of the pile bents along the length of the Maple Swamp bridge. The grubbing impact area at each bent would be 6 feet wide by the width of the bridge (47 feet). The total grubbing impact area to wetlands in Maple Swamp would be approximately 0.4 acre assuming the FEIS design. That amount added to the 7.9 acres of wetland impact with the Preferred Alternative (see Table 3-10 of the FEIS) would result in a total wetland impact of 8.3 acres. The commenter is correct that temporary construction easements are only associated with constructing a third outbound hurricane evacuation lane. As discussed in Section 4.3.6 of this reevaluation study report, based on a re-delineation of wetlands approved in 2016 and the revised design, the wetland fill impact of the Preferred Alternative is now 4.2 acres. This new impact number assumes the grubbing impact at each pile bent in Maple Swamp.*

   Superstructure and substructure inspections on the Maple Swamp bridge would be performed approximately every two years using an under-bridge inspection vehicle (i.e., snooper truck). Using this method, all access for inspections would be from the bridge deck, except in areas where the clearance under the bridge is too low to allow such equipment to function under the bridge. In such cases, inspection personnel would be delivered to the ground adjacent to the bridge still via access from the bridge deck using the under-bridge inspection vehicle. They would then perform inspections on foot without the aid of other mechanized vehicles that would disturb the area.

4. **Comment:** Page 3-60**, Compensatory Mitigation of Impacts**. Add the following language to the second paragraph of this section: To offset unavoidable impacts to aquatic resources, the amount of required mitigation must be, to the extent practicable, sufficient to replace lost aquatic functions. In the second paragraph change the preservation ratio from 5:1 to a minimum of 10:1.

Response: *This language will be included in Appendix F of this reevaluation study report."*

B.1.1.2 US Department of Agriculture, Natural Resources Conservation Service – March 1, 2012

1. **Comment:** The Natural Resources Conservation Service does not have any comments at this time.

   Response: *No response needed.*

B.1.1.3 US Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service

The National Marine Fisheries Service (NMFS) did not submit comments on the FEIS. NMFS indicated in an e-mail to FHWA that their lack of comments demonstrates that the FEIS for the Mid-Currituck Bridge Study satisfied NMFS's issues on the project related to compliance with the engineering and environmental analyses required under the National Environmental Policy Act (NEPA). NMFS further indicated that their lack of comments should not be viewed as an endorsement of the project and that FHWA and NCTA should recognize that NMFS will expect additional effort related to delineation, minimization, and mitigation of SAV impacts during final design and the permitting process.

B.1.1.4 US Environmental Protection Agency – March 12, 2012

1. **Comment:** In summary, EPA continues to have environmental concerns to the water quality to Currituck Sound and impacts to other natural resources, including aquatic species and migratory birds. The long-term degradation to the water quality of Currituck Sound from untreated stormwater remains EPA's primary environmental concern. We plan to continue to work with the transportation agencies on this unresolved issue. EPA continues to have environmental concerns for the indirect and cumulative effects of the proposed project, including increased development pressure north of Corolla, N.C. EPA does acknowledge the avoidance and minimization efforts associated with the transportation agencies Preferred Alternative, including the bridging of Maple Swamp, the type of construction method proposed that eliminates dredging, and the potential methods to treat bridge stormwater.

   EPA staff will continue to work with the transportation agencies and other resource and permitting agencies on the proposed action and opportunities for additional avoidance and minimization measures. EPA requests that review comments included in Attachment A be addressed prior to or in the Record of Decision (ROD), as appropriate. EPA requests a copy of the final mitigation plan for review and acceptance prior to the issuance of the ROD. Should you have any questions, please feel free to call Mr. Christopher Militscher of my staff at 404-5629512 or 919-856-4206.

Response: *The comments in the US Environmental Protection Agency's (USEPA's) Attachment A are addressed below. The final mitigation plan will be completed within the context of permit processes and, as such, is not available prior to issuing a ROD.*

General Comments

2. **Comment:** NCTA and FHWA identify cost and affordability as the second most important priority for selecting the Preferred Alternative (Page xiv). Pages xv and xvi identify cost ranges (high and low) for the different alternatives. EPA has provided the range of the cost differences for each alternative and percent difference from the low cost estimate as shown below:

ER2:	$107.3 million	25.80%
MCB2/A/C1:	$178.2 million	20.20%
MCB2/B/C1:	$170.1 million	21.30%
MCB2/A/C2:	$177.0 million	19.90%
MCB2/B/C2:	$171.1 million	21.30%
MCB4/A/C1:	$130.9 million	19.10%
MCB4/B/C1:	$123.4 million	20.50%
MCB4/A/C2:	$128.3 million	18.90%
MCB4/B/C2:	$120.9 million	20.30%
Preferred Alt.:	$91.7 million	18.30%

NCTA and FHWA have not identified the reasons for the variable range of costs for the different alternatives and why the 'improve existing roadways' alternative (ER2) has the greatest degree of cost uncertainty (25.8%) compared with the Preferred Alternative (18.3%) and other bridge alternatives. It is also not clear in the FEIS why there is such a greater cost for alternative MCB4/A/C1 ($685.3 to $816.2 million) than for the Preferred Alternative of MCB4/A/C1 with refinements (Pages x and xi) which is estimated to cost $502.4 to $594.1 million. The median cost difference for two similar bridge alternatives is estimated to $202.6 million. The FEIS does not provide the rationale for the $202.6 million cost difference with the discussion concerning the refinements that were made to MCB4/A/C1 other than the explaining that there will be less widening along NC 12, roundabouts instead of intersections, and that the approximately 7-mile long bridge will be approximately 250 feet shorter.

Response: *The low-end and high-end cost estimates were based on a simulation of the project costs approved by NCDOT and FHWA. During the simulation, the inherent variability of all of the unit costs and quantities were modeled to produce a range of likely results. For example, this model assumed that the quantity of pavement could vary from the functional design stage to the final design stage by 15 percent, and that the cost of pavement could vary up to 30 percent. The more uncertainty that exists in the final cost or quantity, the wider the variability is in the model. Right-of-way is especially difficult to estimate at the functional planning stage, and there is a wide degree of uncertainty*

associated with this estimate. In the case of ER2, the right-of-way along NC 12 accounted for more than 37 percent of the total project cost presented in the FEIS (right-of-way accounted for between 4 percent and 20 percent of the project costs for the other detailed study alternatives). Therefore, the primary reason for the greater percent difference for ER2 was the inherent uncertainty in the right-of-way cost estimate. The remaining detailed study alternatives all had similar percent differences between the low- and high-end estimates (between 18.9 percent and 21.3 percent). In the case of the Preferred Alternative as presented in the FEIS, the right-of-way needed for NC 12 was reduced with the reduced amount of widening compared with MCB2 and MCB4, thus reducing cost and risk. The refinements to the design for the Preferred Alternative that were presented in the FEIS also provided a higher level of confidence in the estimated quantities, thus causing the 18.3 percent difference between the low and high estimates to be slightly less than for the estimates for the other detailed study alternatives.

The difference in the estimates for MCB4/A/C1 and the Preferred Alternative is explained in the response to the US Army Corps of Engineers' (USACE's) comment 1.

3. **Comment:** Pages xvi and xvii of the FEIS includes a discussion concerning funding. There is no identification of Federal funding sources for any of the build alternatives, including the Preferred Alternative. The following statement is not fully described: *"If these funds were allocated to NCDOT, they would be subject to the equity formula, which would dilute the effectiveness of funding"*. The FEIS does not describe 'the equity formula' or its specific requirements as it relates to the proposed project.

   Response: *Since the release of the FEIS, the State of North Carolina has made substantial changes in how they allocate state highway funds. In 2013, the General Assembly, as part of the Strategic Transportation Investments (STI) Law (Session Law 2013-183 and House Bill 817) established the Strategic Mobility Formula, a new way of allocating North Carolina Department of Transportation (NCDOT)'s major revenue sources based on data-driven scoring and local input. The "equity formula" no longer is used in the allocation of state transportation funds. The STI also withdrew the annual state appropriations or "gap funding" for the Mid-Currituck Bridge Project. Using the Strategic Mobility Formula, NCDOT allocated funding to the Mid-Currituck Bridge project in the 2016 to 2025 State Transportation Improvement Program (STIP) and the 2018 to 2027 STIP. that demonstrates the state's commitment to fund and deliver this project. A preliminary Plan of Finance is presented in Section 1.2.5 of this reevaluation study report, including advancing through a Transportation Infrastructure Finance and Innovation Act (TIFIA) loan and Grant Anticipation Revenue Vehicle (GARVEE) bonds the use of Federal transportation funds allocated to the State of North Carolina.*

4. **Comment:** Regarding Table S-1 and the Comparison of Key Impacts, EPA reiterates its unaddressed comments from the DEIS concerning the relocation of "Outdoor Advertising Signs" under the different alternatives. Other 'key impacts' identified in this table are not believed by EPA to be significant, including the land use plan

compatibility. This is not an 'impact' as defined under NEPA and other statutes. Land use plans can be and are periodically changed, revised or modified.

Response: *Like the response to USEPA's comment 13 on the DEIS, USEPA's position that the number of outdoor signs taken is not a key impact is noted. However, this impact is important to some and outdoor advertising signs are a business. Also, there are notable differences between the alternatives on this impact. Thus, it was included in Table S-1 of the FEIS and the impact is updated in Section 4.1.4 of this reevaluation study report. USEPA indicates that they believe an alternative's compatibility with local land use plans is not a significant impact. However, NCDOT chooses to include it as an evaluation criterion on this project. Since this is a coastal project, consideration of land use plans rises in importance because the North Carolina Department of Environmental Quality (NCDEQ), Division of Coastal Management (DCM) issues a determination of whether a project is consistent/not in conflict with local land use plans, as per North Carolina's Coastal Area Management Act (CAMA). CAMA permits cannot be issued for development which is inconsistent/in conflict with the approved land use plan for the area in which it is proposed. In their comment letter on the FEIS, NCDEQ-DCM found the Preferred Alternative to be consistent with the county and municipal land use plans in the project area. Since the preparation of the FEIS, the Town of Southern Shores has updated their CAMA land use plan (July 2012). The new plan also supports the construction of a Mid-Currituck Bridge. No other CAMA land use plan updates have occurred in the project area.*

5. **Comment:** Table S-1 also provides for impacts to businesses. For ER2, the transportation agencies identify 40 lost parking spaces at the Home Depot, or 10%. For the Preferred Alternative, 129 parking spaces in Albacore Street commercial and retail area will be lost. The percentage of lost parking spaces in this important Outer Banks business area is not provided in the table. The FEIS does not identify the specific small businesses that will lose parking spaces in the Albacore Street commercial and retail area. Please see comments below from: http://www.outerbankschamber.com/main/economic-outlook-for-the-outer-banks-nc/

   Specifically, there are three sectors that that provide fifty [50%] percent of the jobs in the two county area [Dare and Currituck] and thereby show this orientation:

   - *Accommodation and Food Services, which encompass the hotels, motels, and restaurants (20.7 percent of the jobs in the Outer Banks to 8.9 percent statewide);*
   - *Retail Trade, from souvenir shops to grocery stores (18.3 percent on the Outer Banks to 11.7 percent in North Carolina); and,*
   - *Real Estate, Rental and Leasing, to sell the second homes and to rent the beach houses (11.7 percent in Dare and Currituck Counties to 1.3 percent statewide).*

Response: *There were several parcels in the Albacore Street commercial and retail area that would lose parking spaces with the Preferred Alternative. A total of 129 spaces (18 percent of the 725 existing parking spaces in the lots affected) were lost. Since the release of the FEIS, parking in the Monteray Shores Plaza Shopping Center parking lot has been reduced by 50 spaces, reducing the number of parking spaces in the lots affected from 775 in the FEIS to the 725. The revised design for the Preferred Alternative only includes in the Albacore Street area a left turn lane for drivers turning from Albacore Street to southbound NC 12. No parking impact occurs in the Albacore Street commercial and retail area with the revised design. The revised design for ER2, which uses and intersection instead of an interchange at US 158 and NC 12, does not take parking from Home Depot. With the revised designs that take into consideration the new traffic forecasts, neither alternative would displace parking spaces.*

Purpose and Need

6. **Comment:** The FEIS reiterates the DEIS regarding purpose and need. The base year traffic included in the analysis is 2006 (Page 1-3). This base year traffic may not be an accurate measure of current or average conditions. Furthermore, the 'congestion that occurs on almost all of NC 12 in the project [study] area', is not described. EPA notes that traffic congestion occurs during the summer months due to the presence of vacationers to the Outer Banks. The transportation agencies evaluated traffic congestion using summer weekday (2 hours per day) and the summer weekend (7 hours per day). The FEIS states on Page 1-4 that travel demand exceeds capacity of NC 12 in Southern Shores. However, Page 1-3 highlights that US 158 is also becoming increasingly congested without providing details of the travel demand. Travel demand on US 158 is later identified on Page 1-4 as being expected to be notably greater in 2035 on the summer weekday.

   Response: *The traffic forecast underlying the purpose and need and the travel benefits of the detailed study alternatives in the FEIS was originally developed in 2006 using traffic count data gathered in 2006. The new traffic forecasts were developed in 2015 using traffic count data gathered in 2015. The 2006 data and then the 2015 data was used to identify an overall trip pattern reflective of existing land use. That trip pattern was then applied to forecast future land use to generate forecast traffic.*

   Further, the traffic forecasts were developed taking many other factors into account, including historical traffic trends. The analysis of historical traffic trends included an examination of NCDOT reported average annual daily traffic (AADT) data and trends for all years available to identify an overall trend. The traffic forecast also examined multiple traffic zones and their potential future land use development. As noted in the previous paragraph, trip patterns were examined, including existing flow patterns and anticipated growth in specific zones. Trip diversion patterns also were evaluated using an iterative method taking into account increasing delays on NC 12 and how this would change trip patterns. Origin-destination matrices were based on these existing patterns

and then increased based on forecast increases in land use within each zone. The land use increases were coordinated with the local planning agencies to reflect local plans and development limits. The traffic forecast also included an evaluation of potential land use build-out for the Outer Banks sections of the project area. Specifically, the maximum build-out in the NC 12-accessible area was identified and used to forecast trip growth. Past building trends also were used to forecast future building in the non-NC 12-accessible area. In addition, toll diversion was applied to divert traffic from the proposed Mid-Currituck Bridge.

In 2016, new traffic forecasts were developed for the No-Build Alternative/ER2 (no Mid-Currituck Sound bridge) and the Preferred Alternative (with a bridge) using the same approach as in 2006. Section 2.4 of this reevaluation study report summarizes the development and traffic growth assumptions used in the new traffic forecasts and present a sample of the forecast results. A full discussion of the traffic forecast history, sources of information and data, assumptions, methodology, design factors, and the new traffic forecasts for each link in the project area's thoroughfare system (US 158, NC 12, and the Mid-Currituck Bridge) are presented in Project Level Traffic Forecast Report, TIP Project R-2576, Mid-Currituck Bridge, Currituck and Dare Counties (WSP | Parsons Brinckerhoff, 2016).

Section 3.0 of this reevaluation study report provides a detailed analysis of the existing (2006 and new 2015) and projected future (2035 and new 2040) level of service and congestion along US 158 and NC 12 in the project area with and without a Mid-Currituck Bridge for both summer weekday and summer weekend conditions.

7. **Comment:** Regarding Hurricane Evacuation and clearance times under N.C.G.S. Section 136-102.7, and the FEIS comments on Page 1-5 and Table 2-3, the Preferred Alternative does not meet the State's clearance times even with US 158 Reversing Center Turn Lane (27 hours) and US 158 Third Outbound Lane (22 hours). The US 158 Third Outbound Lane is not included in the Preferred Alternative and the clearance time would be 27 hours (50% greater than the standard). The Preferred Alternative does not meet the clearance time requirement and the FEIS does not fully address this purpose and need issue.

   http://law.onecle.com/north-carolina/136-roads-and-highways/136-102.7.html

   "Evacuation Standard: The hurricane evacuation standard to be used for any bridge or highway construction project pursuant to this Chapter shall be no more than 18 hours, as recommended by the State Emergency Management officials".

   Per Table 2-3, ER2 provides the same clearance times as the Preferred Alternative but would include the US 158 Third Outbound Lane and would achieve the 22-hour clearance time. Alternative ER2 provides a 5-hour improvement in meeting the State's standard for hurricane evacuation compared to the Preferred Alternative.

Response: *The observations of USEPA are correct, but the Preferred Alternative could have achieved a 22-hour clearance time presented in the FEIS if a third outbound lane had been included as a component. A third outbound lane was not included in the Preferred Alternative because of input from local emergency management officials who felt it was not needed, as discussed in Section 2.1.10.4 of the FEIS. The FEIS found that it was impossible for any improvement in the Mid-Currituck Bridge project area to achieve the 18-hour goal by itself because, while hurricane evacuation clearance modeling for the FEIS found that US 158 from NC 12 to NC 168 is the first bottleneck along this evacuation route, the modeling also determined that it is not the only bottleneck. Thus, while addressing this first bottleneck (the one in the project area) would reduce clearance times notably, the FEIS' hurricane clearance results found that other bottlenecks outside the project area along the US 158 evacuation route would have to be addressed by other NCDOT projects before the 18-hour goal can be achieved. New hurricane clearance time modeling was conducted for this reevaluation and is discussed in Sections 2.7, 3.1.3, and 3.2.3 of this study report. Changing the 18-hour goal to 30 hours based on a change in the National Hurricane Center's hurricane warning policy also is discussed. With the new model, the hurricane clearance time in 2040 is 32.3 hours with improvements to NC 168 from US 158 to Virginia required to reduce the clearance time below 30 hours.*

8. **Comment:** Responses to Federal agencies DEIS comments were included in Chapter 2 to the included Compact Disk (CD) with the FEIS. It is noted that all of the corrections and revisions requested by Federal agencies and supplemental information to the DEIS identified in pages 2-1 to 2-47 were included in an amended Natural Resources Technical Report (NRTR) or other sections of the FEIS.

   Response: *This is an acknowledgement that changes were made. No response is needed.*

9. **Comment:** EPA recognizes the transportation agencies efforts to avoid and minimize impacts to natural resources including the refinements to MCB4/C1/Option A. However, avoidance and minimization efforts were only explored for the Preferred Alternative and not the other Detailed Study Alternatives (DSAs) such as ER2. Impacts to human and natural resources are now being compared to the DEIS DSAs with the Preferred Alternative without including any reasonable avoidance and minimization efforts for the other DSAs. The transportation agencies may wish to consider a discussion for not including comparative opportunities for avoidance and minimization measures for the other DSAs in the Record of Decision (ROD).

   Response: *Efforts to avoid and minimize the impacts of all the detailed study alternatives were made during their development and assessment in the DEIS. MCB4/C1/Option A was identified as the best bridging alternative, through interagency coordination and public involvement, because of cost and impact to the human and natural environment. However, additional interagency coordination resulted in design refinements to further minimize impacts in the MCB4/C1/Option A alignment. This*

alignment, with the design refinements to minimize impacts, became the Preferred Alternative presented in the FEIS. Efforts to reduce impacts also are reflected in the development of the conceptual stormwater management and bridge construction plans documented in the FEIS. The results of efforts between the DEIS and FEIS to avoid and minimize the impacts of the Preferred Alternative also could be applied to MCB2/A/C1, but that would not alter the reasons why MCB4/A/C1 was selected over MCB2/A/C1 as the Preferred Alternative. However, these impact avoidance and minimization measures are not applied to alternatives using Option B and bridge corridor C2 because not selecting Option B and corridor C2 was an avoidance and minimization measure. Additional efforts to avoid and minimize the impacts of ER2 were not considered between the DEIS and FEIS because impacts were already avoided and minimized by keeping improvements for the most part within the existing right-of-way during the development of this alternative. In addition, the more limited travel benefit identified for ER2 in the FEIS was a primary factor in not selecting ER2 as the Preferred Alternative in the FEIS, as opposed to substantial impacts. Finally, NCDOT specifically asked the agency representatives (including the USEPA representative) at a Turnpike Environmental Agency Coordination (TEAC) meeting on January 20, 2011 whether they wanted additional studies or information on ER2. The answer, as documented in the meeting minutes (see pages A-58 and A-59 of the Stakeholder Involvement for Final Environmental Impact Statement Technical Report [Parsons Brinckerhoff, 2011]), was no. With respect to avoidance and minimization measures related to the existing-road improvement (ER) alternatives, the primary measure was the decision not to choose ER1 for detailed study in the DEIS. ER1 included widening NC 12 to four lanes between the Dare-Currituck County line and US 158, whereas ER2 included widening this segment of NC 12 to only three lanes. The additional four-lane widening of NC 12 with ER1 would have caused substantial displacements of homes and businesses in Dare County. As discussed in Section 2.1.2.2 of the Alternatives Screening Report (Parsons Brinckerhoff, 2009), although ER1 would offer a high level of congestion relief, two of the main reasons that it was not chosen for detailed study in the DEIS were because it would have a high number of displacements and it would cause community fragmentation. As documented in the meeting minutes for the July 8, 2008 TEAC meeting (see page A-69 of the Stakeholder Involvement for Draft Environmental Impact Statement Technical Report [Parsons Brinckerhoff, 2009]), agency representatives agreed to eliminate ER1 from further study.

The designs for both the Preferred Alternative and E2 were revised as a part of this reevaluation to take into consideration the new lower traffic forecasts. The lower traffic forecasts meant that some features in ER2 and the Preferred Alternative could be revised or eliminated, reducing impacts without affecting the potential travel benefits of these alternatives.

10. **Comment:** On page 2-26 of the responses to Federal agency comments (#9), the transportation agencies incorrectly stated the following*: "...however, the Preferred Alternative would avoid all direct impacts to coastal, brackish, and freshwater marsh"*.

Bridging existing wetlands minimizes impacts from direct fill activities. However, shading underneath bridges is also a direct impact through the eventual loss or change in wetlands vegetation. Construction activities will also potentially compact soils around the proposed bridges. Impacts from bridge shading to wetlands do not require compensatory mitigation under Section 404 of the Clean Water Act, but still potentially represent a direct impact.

Response: *The Preferred Alternative does not bridge coastal, brackish, and freshwater marsh. Thus, there are no shading impacts to these resources. In addition, there are no such resources close enough to the Preferred Alternative to be affected by construction. Therefore, all direct impacts to these resources were avoided. The Preferred Alternative does bridge wetlands and SAV. Those impacts are documented in Table 3-5 of the FEIS and in Table 4-4 of this reevaluation study report.*

11. **Comment:** On page 2-27 the transportation agencies have made a speculative assessment in response to comment #9 that is not supported by relevant studies *("It is also likely that birds may become accustomed to the elevated bridge and will continue to use some areas in the bridge vicinity"*). Page 2-28 of the responses includes a conclusion from a study on bird mortality and roadkill data from bridges and roadways (Jacobson, 2005). Estimates of mortality from this study are given as being from 10 to 380 million each year. This enormous variation in the study data is not believed to be statistically valid and a full explanation of the estimated range of mortality is not provided in the response. The 'expanded discussion' on bird mortality and vehicle collisions on bridges referenced in Section 4.1.4.2 of the revised NRTR is a duplicate discussion of the information provided on Page 2-28. EPA supports the USFWS's request for additional avoidance and minimization measures including the use bridge deck fencing to potentially reduce documented vehicle mortality of migratory birds.

    Response: *Regarding NCDOT's response to USEPA's comment 9 on the DEIS, there is anecdotal evidence for bird use in areas adjacent to Bonner Bridge over Oregon Inlet and along public roadways through the Pea Island and Lake Mattamuskeet National Wildlife Refuges, where waterfowl are frequently documented within close proximity to traffic (unpublished public observations as recorded in refuge visitor centers and in annual Christmas Bird Counts conducted by the National Audubon Society). Although most of these anecdotal data are not subject to rigorous statistical use, there is evidence that some waterfowl are not affected by traffic as long as the vehicles did not stop (Henson and Grant, 1991). Vehicles can also have an effect similar to "hunting blinds," which conceal human profiles and minimize human disturbances, compared to pedestrian traffic and people exposed in boats (Fair et al., 2010).*

    The Jacobson (2005) reference was an estimate of direct mortality from bird-car collisions throughout the nation (US), and was based on extrapolations from local studies. This

information is not intended for statistical use and represents a range of estimates from a variety of studies using different methods, settings, and seasons of data collection.

In the context of addressing bird mortality on Phase I of the Bonner Bridge Replacement Project, NCDOT conducted a bird mortality study on bridges in the Outer Banks area, including the Wright Memorial Bridge, which crosses the southern end of Currituck Sound. The results are documented in a February 4, 2013 memorandum by NCDOT's Natural Environment Section. Data gathered from this study provided background data for bridge design considerations. Data from 25 surveys of these six bridges conducted between December 2011 and December 2012, showed an average of 27.4 dead birds per mile, with gulls (five species) comprising about 88 percent of the total mortalities. From this same referenced data set, an average of 11.1 dead birds per mile was found along the 2.8-mile-long Wright Memorial Bridge. Of the 31 total dead birds found along the Wright Memorial Bridge during this period, 26 (84 percent) were gull species and two were unidentified species. For the Bonner Bridge Replacement project, NCDOT and US Fish and Wildlife Service (USFWS) agreed that because gulls were the predominate species killed on area bridges that measures to reduce potential bird morality on the new bridge over Oregon Inlet were not needed. NCDOT believes the same conclusion is appropriate for the Mid-Currituck Bridge.

Although not a regulatory requirement, features to discourage roosting/perching birds on the bridge and additional avoidance and minimization measures to potentially reduce the documented vehicle mortality of migratory birds on the bridge will be considered during final design. Commitment 4 in the Project Commitments in Appendix G of this reevaluation study report also was updated based on the response to this comment.

Fair, J.M., et al. 2010. Guidelines to the Use of Wild Birds in Research. The Ornithological Council. 1107 17th Street, N.W., Suite 250, Washington, D.C.

Henson, P. and T.A. Grant. 1991. "The Effects of Human Disturbance on Trumpeter Swan Breeding Behavior." Wildlife Society Bulletin 19:248-257.

12. **Comment:** The response on Page 2-29 regarding the removal of Aydlett Road is confusing ("*The presence of Aydlett Road was assumed in all cases since [because] its removal is unacceptable to Aydlett residents and Currituck County officials"*). Based upon the public hearings, responses from a majority of the residents in the Aydlett Road area were strongly opposed to any Mid-Currituck Bridge alternative. Transportation agencies are required to consider public input and local official concerns for traffic access and design but frequently make relocation and other transportation design decisions that are known to be 'unacceptable' to affected residents and local officials.

Response: *There was opposition to the bridge project from residents of the Aydlett community. They and Currituck County officials were particularly concerned with Option B, which among other concerns closed Aydlett Road. The response on page 2-29*

says because of this concern, floodplain modeling studies assumed Aydlett Road remained in place. In addition, the Preferred Alternative assumes Aydlett Road remains in place. The observation in the final sentence of this comment is true, but not preferred, and was not done in the case of Aydlett Road.

13. **Comment:** EPA does not concur with the assessment provided in the response on Page 2-31 concerning Indirect and Cumulative Effects, including eventual pressure to create NC 12 paved roadway access in the northern communities of Dare County to the Virginia border. Based upon past comments from a variety of sources, it is believed by EPA and some other resource agencies more than likely (reasonably foreseeable) that the Mid-Currituck Bridge once completed will encourage the further extension of a paved NC 12 through the undeveloped northern part of the island and the Currituck National Wildlife Refuge (CNWR). Please see: http://www.corollaguide.com/history

    Past documented trends in the development of the Outer Banks would indicate that shortened access from other mainland locations will create additional pressure on the transportation agencies and other decision-makers to pave NC 12 north of Corolla to access private, undeveloped beachfront lands that are not included within CNWR. Efforts to connect the development communities in Carova Beach, Swan Beach and North Swan Beach along Sandfiddler Road/North Beach Access Road through CNWR to the paved NC 12 is believed by EPA to very foreseeable effect once a new bridge across Currituck Sound is constructed. Please see: http://www.corollaguide.com/getting_here and http://www.aaroads.com/guide.php?page=obxnc

    Response: *NCDOT acknowledges the concerns expressed in the comment, but affirms its previous findings. While additional development of the non-road-accessible area will increase the constituency that might advocate for a paved extension of NC 12, experience in this part of the Outer Banks has shown that there is strong opposition to doing so from local residents, property investors, county government, wild horse advocates, conservancies, and the USFWS officials responsible for the Currituck National Wildlife Refuge. The 2015 exchange deed (as amended in 2016) in which USFWS divested some Currituck National Wildlife Refuge lands to Currituck County in exchange for other lands places multiple restrictions on the county's use of the land received including a prohibition of construction of any roads other than sand roads.*

    Section 4.2.4.2 of the Indirect and Cumulative Effects Technical Report (East Carolina University [ECU], 2011) includes a detailed discussion of the numerous government policy constraints with respect to a paved extension of NC 12 into the Carova area. In addition to those discussed in Section 4.2.4.2, NCDEQ would have to approve extension of NC 12 through the Currituck Banks Estuarine Research Reserve, which would include seeking removal of an associated deed restriction. The historical record of the intentions of the NCDOT Board of Transportation also indicates no support for an extension.

Finally, an extension of NC 12 as a paved road through the Currituck National Wildlife Refuge would be subject to the requirements of the National Wildlife Refuge System Administration Act of 1966 (Title 16 United States Code [USC] Section 668dd). As a first priority, federal law and regulation require the Refuge manager to ensure that any allowed use of the Refuge be compatible with the mission ("wildlife first") and objectives of the Refuge. The purpose of Currituck National Wildlife Refuge, as reflected in the legislation under which Congress authorized the refuge and the USFWS acquired land, is to protect and conserve migratory birds and other wildlife resources through the protection of wetlands, in accordance with the following laws:

> *...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds... 16 U.S.C. Sec. 664 (Migratory Bird Conservation Act of 1929)*
>
> *...for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species... 16 U.S.C. Sec 460k-1 (Refuge Recreation Act of 1962)*

It is unlikely a paved road would be found compatible with this purpose, particularly since in transferring Refuge lands to Currituck County, all roads except for sand roads are prohibited by deed restriction.

Therefore, an extension of NC 12 was and is found to be not reasonably foreseeable.

14. **Comment:** The response to EPA's comment #7, page 2-35 is noted. However, the financial plan for the Preferred Alternative is not referenced or disclosed in the FEIS. The statement concerning long-term maintenance for 7 miles of new bridge infrastructure from the Preferred Alternative is vague: *("The project is not anticipated to add to Division 1 maintenance expenditures during the period of the concession agreement, which is assumed in the FEIS to be 50 years").* Federal and state agencies were previously informed by NCTA and FHWA that there was an existing Public Private Partnership (PPP) agreement and that this contract detailed short and long-term financial commitments. It is unclear why the commitments for maintenance expenditures of the new bridge are assumed and that they would be for 50 years. The ROD should clarify this issue.

    Response: *Fifty years is the currently expected duration of a concessionaire agreement should one be used as a part of project financing. The responsibility of project maintenance would be that of the concessionaire for the duration of the agreement. A public-private concession agreement, which details the financial arrangement between the private sector and the State, is generally not finalized until after completion of the environmental impact studies as commitments in environmental documents become binding and may affect cost and the terms of the agreement. If the project is not a public-private partnership, either an agreement between NCDOT and NCTA would be developed regarding maintenance of the project and/or NCTA would set aside toll*

revenues to cover future maintenance costs and that would be part of the overall finance plan. A similar financial model is currently being used for Triangle Expressway in Raleigh.

15. **Comment:** The additional information concerning Division 1 traditional highway funding in the response to comment #11 is acknowledged. The anticipated cost of $300,000,000 for the Bonner Bridge Phase I project cited on Page 2-38 is not accurate. The NCDOT website cites a total cost of $236,000,000. Other STIP projects in Division 1 are not detailed with respect to cost in this response. Regarding the revised cost estimate of $502.4 to $594.1 million for the Preferred Alternative, EPA was unable to find in the FEIS the breakdown of the financing needed to make the Preferred Alternative a 'practicable' alternative compared to ER2 (e.g., Highway Trust Fund Aide, Federal and State bonds, NCDOT gap funding accumulated, Federal loans, PPP contribution, etc.). This general information regarding the practicability of the Preferred Alternative should be considered for inclusion in the ROD. It is acknowledged that there may be some difficulty providing specific financing estimates for the Preferred Alternative with the range of cost uncertainty at 18.3% or $91.7 million.

    Response: *The response to USEPA's DEIS comment 11 was prepared prior to the opening of bids on Phase I of the Bonner Bridge project and $300 million was the estimate at the time.*

    A "Financial Feasibility Assessment of the Mid-Currituck Bridge Project" related to demonstrating the practicability of the Preferred Alternative from a financing perspective was provided to the environmental resource and regulatory agencies, including USEPA, as Handout 24 at the TEAC meeting held on August 10, 2010. This handout appears in the Stakeholder Involvement for Final Environmental Impact Statement Technical Report (Parsons Brinckerhoff, 2011) beginning on page A-89. Although financing information is likely to be discussed again during the permit process and the finding of the Preferred Alternative's practicability, NCDOT believes that the discussion included in Section 2.3 was what is appropriate to include in the FEIS. A current preliminary Plan of Finance for the Preferred Alternative is presented in Section 1.2.5 of this reevaluation study report.

16. **Comment:** Regarding the response to comment #13, the transportation agencies might consider addressing substantial and significant effects criteria of the proposed action and include those impacts in summary tables. The relocation of outdoor advertising signs (e.g., or the number of utility poles to be relocated) are not generally considered by transportation agency to be 'key' impacts.

    Response: *Like our response to USEPA's comment 13 on the DEIS, USEPA's position that the number of outdoor signs taken is not a key impact is noted. However, this impact is important to some and outdoor advertising signs are a business. Thus, it was*

included in Table S-1. The specific number of utility poles relocated is not included in Table S-1 and, except for major power distribution line towers in the Preferred Alternative's US 158 interchange area, anywhere else in the FEIS. The number of affected power distribution lines as four with the FEIS design and is now two with the revised design.

17. **Comment:** Regarding the response to comment #19 dealing with the introduction of invasive plant species, the information provided is not believed to be responsive or consistent with the FHWA requirements under Executive Order 13112. EPA has previously provided additional guidance to NCDOT and FHWA concerning the use of a combination of methods to potentially control invasive plants. Foremost, the transportation agencies should minimize clearing to existing vegetated areas to the extent practicable. Contractor and NCDOT equipment arriving from off-site locations can be cleaned daily to remove foreign seed sources, one of the most common sources of invasive plants on highway projects. Disturbed areas should be re-vegetated as soon as possible with native plants. Wherever aggressive invasive plants begin to establish a colony, measures that include physical or mechanical removal, herbicide spraying and/or re-planting should be performed expeditiously. Trained and knowledgeable site personnel can monitor for invasive plants weekly or monthly and take appropriate steps as soon as invasive plants are identified. EPA acknowledges and concurs that current NCDOT BMPs and monitoring activities are not to adequate to address the issues and only becomes a potential concern identified by resource agencies after construction of the project. A detailed monitoring and action plan needs to be developed prior to the approval of the project permits.

    Response: *As discussed in Section 4.3.5 of this revaluation study report and Section 3.3.5 of the FEIS, an invasive plant species control plan will be developed during construction planning and will be included in the permit application. Preparation of an invasive species control plan during construction planning was added as Commitment 11 to the Project Commitments in Appendix C of this reevaluation study report. The invasive species control plan will be developed in accordance with Federal Highway Administration (FHWA)'s August 10, 1999 guidance on invasive species. In accordance with FHWA's guidance, the invasive species control plan will include a discussion of any preventative measures or eradication measures for invasive species that will be taken on the project. Such measures may include the inspection and cleaning of construction equipment, commitments to ensure the use of invasive-free mulches, topsoils, and seed mixes, and eradication strategies to be deployed should an invasion occur. The invasive plants that must be addressed and the measures to be implemented to minimize their harm will be based on the North Carolina Department of Agriculture and Consumer Services' list of noxious weeds (i.e., plants whose presence is detrimental to crops or other desirable plants, livestock, land, or other property, or is injurious to the public health).*

18. **Comment:** EPA acknowledges the approximate 1,600 feet of a new third outbound lane to the west of the NC 12/US 158 intersection to provide additional road capacity during hurricane evacuation. The distance from Duck, NC (where the traffic accident and malfunctioning traffic light occurred during the Hurricane Earl evacuation) is not provided. The transportation agencies have provided additional information on hurricane evacuation with respect to Hurricane Earl (August 25-September 5, 2010) and coordination with local emergency management officials. The traffic congestion on NC 12 following the evacuation order and traffic incident is documented in a letter from local emergency management officials. From EPA's cursory search, there was little to no news media concerning this evacuation problem along NC 12. Considering this example and the hours of delay for some visitors to leave Bodie Island, it would be an important project commitment that the transportation agencies continue to plan and coordinate directly with local emergency officials after a new 2-lane bridge is built. Traffic accidents on either or both the Wright Memorial Bridge and/or the new bridge during an evacuation could strand motorists on a bridge for hours or more. Along NC 12, there are numerous side roads for motorists to turn around. Being stranded in gridlock traffic on a 7-mile, 2-lane bridge during a hurricane evacuation could be overwhelming for some vacationers. Please see: http://en.wikipedia.org/wiki/Hurricane_Earl_(2010)

"The storm's center passed roughly 85 mi (140 km) east of Cape Hatteras, North Carolina on September 3. Six fatalities took place in the country due as a result of rip currents and rough seas, three in Florida, two in New Jersey and one in Massachusetts

On August 31, mandatory evacuations began on North Carolina's Ocracoke Island. "I don't remember the last time there was a mandatory evacuation order for the island," stated Commissioner Kenneth Collier of Hyde County. Mandatory evacuations were also issued for Hatteras Island on September 1, with a total of 30,000 residents and visitors affected.

President Barack Obama signed a disaster declaration for North Carolina on the evening of September 1. The action authorized the Department of Homeland Security and the Federal Emergency Management Agency to coordinate relief efforts and makes federal funds available. Officials in Dare County, North Carolina, issued mandatory evacuation orders September 2 for visitors to the coastal county, including the Outer Banks. The mandatory evacuation extended to residents in some areas, including the town of South Nags Head and Hatteras Island. Dare County schools and courts were closed September 2 and were to be closed September 3.

Although the center of Hurricane Earl passed roughly 100 mi (160 km) off the coast of North Carolina, its large size brought hurricane-force winds and a significant storm surge. Heavy rains accompanied the storm, peaking at 4.52 in (115 mm) in Cape Hatteras. The highest winds were recorded in Cape Hatteras at 67 mph (108 km/h) and gusts reached 83 mph (134 km/h); however, there were few reports of damage in relation to the winds. A storm surge of 4.7 ft (1.4 m) came ashore on Hatteras Island, inundating nearby areas. Minor flooding took

place along several roads, including North Carolina Highway 12 which was shut down on Hatteras Island. A pier at Atlantic Beach was also damaged by rough seas. Numerous homes along the coast were flooded by rising waters, reaching 3 ft (0.91 m) in places. An estimated 6,600 residences were left without power due to Hurricane Earl. Waves just offshore were measured between 25 and 36ft (7.6 and 11 m), likely resulting in beach erosion. In Manteo, a gas station lost its canopy and some homes lost roofing shingles due to high winds. Damage in Dare County totaled over $500,000 (2010 USD), with 79 houses in the county sustaining minor damage and another six receiving major damage, mainly due to storm surge. In neighboring Hyde County, strong winds caused about $2 million in crop damage. Several homes were also damaged by fallen trees in the Fairfield and Swan Quarter areas. Throughout the state, damage from Earl amounted to $3.88 million, mainly from losses sustained by national parks and agriculture. Nearly two weeks after Earl's passage, the North Carolina Department of Transportation began to pick up debris left alongside roads in the wake of the storm."

Response: *The malfunctioning traffic light was on NC 12 approximately 5 miles north of the proposed 1,600-foot extension on US 158. Should that malfunction occur again, the 1,600-foot extension would not help the problem, nor is that its purpose, which is to facilitate merging of traffic from NC 12 onto US 158 westbound. NCDOT plays an active role in hurricane evacuation planning and would continue to do so with a Mid-Currituck Bridge, which would be a part of the State's road system. Thus, a specific commitment related to this one project to play an active role in hurricane evacuation planning is not needed. With respect to the commenter's concern that being stranded in gridlocked traffic on a 7-mile-long bridge during a hurricane evacuation could be overwhelming for some vacationers, the shoulders on the Mid-Currituck Bridge would be sufficiently wide to allow traffic to bypass a stranded vehicle. Drivers can turn around on NC 12, but from the perspective of hurricane evacuation that opportunity is irrelevant because those evacuating from Southern Shores and points north must travel south on NC 12 in order to evacuate. The only northbound evacuation opportunity requires driving on the beach.*

Stormwater Impacts

19. **Comment:** It is acknowledged that dredging will no longer be required under the Preferred Alternative and short-term impacts to water quality from this construction activity will be greatly reduced. Responses to comments #15 are provided and further described in Sections 3.3.1.3 of the FEIS and the revised NRTR (Section 3.2.1) and Essential Fish Habitat Report (Section 5.2.4). Other measures to minimize water quality impacts are further described in Section 3.3.7.2 of the FEIS.

    The response to EPA's comment #18 is noted regarding collecting and treating bridge stormwater runoff. The transportation agencies have not cited the specific cost basis for determining that the collection and treatment of stormwater from the proposed bridge over Currituck Sound is not 'practicable'. EPA understands that an

alternative stormwater management plan is identified in Section 2.1.7.2 of the FEIS. EPA does not agree that this plan has been developed in coordination with NCDWQ, but is potentially being developed by NCDWQ with required input from other regulatory and resource agencies. EPA is a participating member of the Inter-agency Leadership Team's (ILT) Flexible Stormwater Mitigation Team where Mid-Currituck Bridge is being identified as a potential pilot project.

Response: *The basis for concluding that the collection and treatment of stormwater from a bridge over Currituck Sound is not practicable is presented in Section 2.1.7.3 of the FEIS. NCDOT has been and will continue developing the stormwater management plan in coordination with, and ultimately for the approval of, NCDEQ-Division of Water Resources (DWR), formerly the Division of Water Quality (DWQ). Other resource and regulatory agencies also had input into what was presented in the FEIS and will continue to have input as the stormwater management plan is finalized. The Interagency Leadership Team's (ILT's) Flexible Stormwater Mitigation Team was dissolved.*

20. **Comment:** EPA does agree that some of the provisions contained in Sections 2.1.7.2 and 2.1.7.3 are potentially reasonable methods of addressing stormwater. EPA remains concerned that sweeping and vacuuming of the bridges will not be fully implemented by the concession contractor and that the proposed wet detention basins will not be properly monitored and cleaned. The uncaptured area of the Preferred Alternative over Currituck Sound would be 24 acres. The uncaptured area of Option A over Maple Swamp would be 10 acres. Based upon past field observations with other coastal projects, the types of maintenance activities proposed are given very low priority by the transportation agencies maintenance departments. Vacuuming equipment systems can become expensive to properly maintain and EPA is concerned that contractors will eventually just sweep bridge and roadway pollutants directly into the Sound through the proposed scuppers (miles of bridge drainage holes). EPA would request that specific permit conditions in the Section 401 Water Quality Certification be added by NCDWQ and the applicant to further discourage illegal discharges. Furthermore, wet detention basins become estuary sources of E. coli and other bacteria and do not remove or filter these biological pollutants to receiving waters. Hydraulic trespass from other developments into roadside ditches that lead to wet detention basins becomes an additional untreated source of harmful biological pollutants. Regarding the general water quality monitoring and research program described on Page 2-32 of the FEIS, the NCDWQ would appear to be better qualified and an existing State resource to conduct this monitoring program. Similar to the Ecosystem Enhancement Program (EEP), the monitoring program might be developed as a collaborative effort between NCTA, NCDWQ and other stakeholder interests (e.g., N.C. Coastal Federation).

Response: *Any concessionaire's contract will specify that they comply with the water quality requirements finalized with the resource agencies during the permit process.*

NCDOT is assuming that the stormwater management plan and other water quality requirements will be permit conditions.

In coordination with NCDEQ-DWR representatives it was decided that the US Geological Survey is best suited to conduct required water quality monitoring. NCDOT has contracted with the US Geological Survey to conduct water quality studies in Currituck Sound (in-water sampling to establish baseline conditions). This procurement was made because NCDEQ-DWR requires the establishment of baseline water quality conditions in Currituck Sound prior to Mid-Currituck Bridge construction. This baseline information will be used in the future to determine the impacts of bridge construction and bridge deck stormwater runoff on the water quality in Currituck Sound, as well as any additional mitigation needs. Also, to establish baseline conditions, NCDOT's Biological Surveys Group is conducting benthic macroinvertebrate surveys along the Preferred Alternative's alignment in Currituck Sound. The decision to use NCDOT's survey team also was done in coordination with NCDEQ-DWR representatives.

Avoidance and Minimization Efforts

21. **Comment:** EPA recognizes that Option A to the Preferred Alternative includes a 2,640-foot bridge across Maple Swamp, a reduction in SAV impacts and a top-down construction method as three of the primary avoidance and minimization measures.

    Response: *The Preferred Alternative includes a bridge across Maple Swamp and a reduction of SAV impacts; however, top-down construction is not planned, nor is it discussed as an option in the FEIS.*

22. **Comment:** The FEIS in Section 3.3.6 identifies direct fill impacts to jurisdictional wetlands to be 7.9 acres from the Preferred Alternative after avoidance and minimization measures. The FEIS did not identify avoidance and minimization measures to jurisdictional wetlands for ER2. Jurisdictional impacts from the DSAs are further detailed in Tables 3-9 and 3-10 of the FEIS. Total wetland impacts are given as 31.6 acres to jurisdictional wetlands. Shading impacts to wetlands is not shown in these tables and future tables should include this estimate of shading impact under the proposed Maple Swamp bridge. Permanent fill impacts to wetlands also increased by 1.5 acres for the Preferred Alternative (from the DEIS) due to the placement a median acceleration lane on US 158 (footnote #2).

    Response: *Efforts to minimize and avoid wetland impacts were associated with all the alternatives throughout the evaluation process. The Preferred Alternative is referenced because of the further refinements that occurred between the DEIS and FEIS after the selection of the Preferred Alternative. Avoidance and minimization efforts associated are addressed in Section 3.3.6.4 of the FEIS. Shading of wetlands is a product of bridging, which is a method to avoid placing fill in wetlands. Shading impacts, including those*

under the Maple Swamp bridge, are shown by wetland and biotic community type in Tables 3-5 and 3-6 of the FEIS. Wetland impacts for the Preferred Alternative and ER2 were updated in Section 4.3.6 of this reevaluation study report to reflect new wetland delineations and the revised designs.

23. **Comment:** Regarding the potential purchase of 6 landlocked tracts of Maple Swamp on page 3-59 of the FEIS, EPA will provide additional comments on the final mitigation plan. While EPA generally supports this initiative to preserve high quality wetlands for conservation measures, there is no detail concerning who would manage this proposed conservation area. Regarding the use of the NCDOT's Ballance Farm Mitigation Site, EPA would generally agree with using available credits from this site for the unavoidable compensatory mitigation needs for the proposed project pending EPA's review and acceptance of a final mitigation plan from the transportation agencies.

    Response: *The organization responsible for the management of the proposed conservation area will be determined during or shortly after the purchase of right-of-way.*

24. **Comment:** Shading of SAV habitat in Currituck Sound from the Preferred Alternative is estimated at 4.8 acres and mitigation proposals are discussed in Section 3.3.7.2 of the FEIS. Impacts to Essential Fish Habitat are included in Tables 3-12 and 3-13. Additional impacts to SAV habitat and potential SAV habitat are identified. EPA generally concurs with the general mitigation options identified on page 3-66 of the FEIS provided that the National Marine Fisheries Service (NMFS) acceptance of the options identified is provided prior to the issuance of a ROD. EPA's general preference is for in-kind restoration for direct impacts to SAVs as described in the first bullet on page 3-66. The other three options identified (in-lieu-of mitigation strategies) have not shown documented successes in Currituck Sound.

    Response: *USEPA's preference is noted and will be considered during the permit process. The National Marine Fisheries Service (NMFS) did not submit comments on the FEIS. NMFS indicated orally to the Federal Highway Administration (FHWA) that their lack of comments demonstrates that the FEIS for the Mid-Currituck Bridge Study satisfied NMFS's issues on the project related to compliance with the engineering and environmental analyses required under NEPA. Also, FHWA and NCDOT recognize that NMFS will expect additional effort related to delineation, minimization, and mitigation of SAV impacts during final design and the permitting process. The SAV shading impact is updated in this reevaluation study report in Section 4.3.7 to reflect the findings of new SAV surveys conducted along the Preferred Alternative in 2015, 2016, 2017, and 2018.*

B.1.2 State

B.1.2.1 North Carolina Department of Cultural Resources (now Department of Natural and Cultural Resources), State Historic Preservation Office – February 17, 2012

1. **Comment:** As a result of this review the following is submitted: No Comment.

   Response: *No response needed.*

B.1.2.2 North Carolina Department of Environment and Natural Resources (now Department of Environmental Quality), Division of Coastal Management – March 5, 2012

1. **Comment:** DCM is identified as a Participating Agency in the Section 6002 Coordination Plan for the Mid-Currituck Bridge Project STIP Project R-2576. As such, DCM has participated in periodic Turnpike Environmental Agency Coordination (TEAC) meetings from early 2007 to early 2011. It appears the information contained within the FEIS is consistent with the information that has been provided to DCM, and upon which we have commented, through the TEAC meetings and National Environmental Policy Act (NEPA) process.

   Response: *Confirmation by the commenter on their participation in the planning process and the findings of the FEIS; no response needed.*

2. **Comment:** A formal DCM review of the project to determine consistency with the state's Coastal Management Program will not occur until a Coastal Area Management Act (CAMA) major permit application is received. At that time, the CAMA major permit application will be circulated to the network of state agencies that comprise North Carolina's Coastal Management Program. The statutes, rules and policies of each of these agencies must be considered during the review of the CAMA major permit application. This process will also include a consistency review by the DCM District Planner of the relevant CAMA land use plans.

   Response: *NCDOT understands that this process will need to occur.*

3. **Comment:** The consideration and incorporation by the N.C. Turnpike Authority (NCTA) of the comments received during the NEPA process and during the TEAC meetings into the final project design should help to expedite the CAMA major permit application review process. However, due to the complexity and magnitude of the project, NCTA is urged to submit the CAMA major permit application for this project to DCM a minimum of six months prior to the anticipated construction let date.

   Response: *NCDOT acknowledges the agency's recommendation.*

4. **Comment:** During the CAMA major permit application review process, DCM may have additional comments after examining the more detailed environmental information that will be provided with the permit application.

   DCM may also place conditions on any CAMA permit that is issued to further avoid, minimize and/or mitigate environmental impacts. The comments provided in this letter shall not preclude DCM from requesting additional information throughout the CAMA major permit application review process, and following normal permit processing procedures. Furthermore, nothing in this letter shall be interpreted as providing an opinion on the ultimate outcome of any CAMA permit decision.

   Response: *NCDOT understands that additional comments and conditions may be received from NCDEQ-DCM during and as an outcome of the permit process.*

5. **Comment:** Subsequent to the DEIS, NCTA incorporated substantial measures into the project design of the NCTA preferred alternative to avoid and minimize impacts to coastal resources. Therefore, at this time, DCM has not identified any Issues of Concern as defined by the Section 6002 Coordination Plan for the Mid-Currituck Bridge Project STIP Project R-2576.

   Response: *NCDOT acknowledges NCDEQ-DCM's finding.*

6. **Comment:** DCM recommends that all the Specific Project Commitments for the Preferred Alternative that are found throughout the FEIS be consolidated and included on the "Green Sheets" of the Record of Decision, such as the following:

   - Page 2-32. "NCTA would ensure the stability of the sound would not be affected by erosion as a result of stormwater discharge from scuppers during, at minimum, an annual inspection." and "If the energy of the water exiting the scuppers is determined to be a problem, dissipation would be provided either at the pipe outlet or on the ground." and "A water quality monitoring program would be conducted as a part of bridge operations."

   - Page 3-54. Page 3-60 and Page 3-67. Specific construction techniques to minimize impacts to aquatic habitats during the Mid-Currituck Bridge construction.

   - Page 3-57. No temporary impacts to wetlands or open waters.

   - Page 3-39. ".... the Preferred Alternative would bridge Maple Swamp."

   - Page 2-31 and Page 3-67. "Source control would be provided by frequent deck cleaning ...."

Response: *References to FEIS Sections 3.3.6.4 and 3.3.7.2 were added to Commitment 3 in Appendix G of this reevaluation study report to make clear that the specific construction techniques referenced above on pages 3-60 and 3-67 also are included in this commitment. As described in the following paragraph, the remaining items listed above in this comment were either already reflected in the commitment list included in the FEIS, describe impacts, or describe a component of the Preferred Alternative, and because of these factors have not been added to the revised commitment list presented in Appendix G of this reevaluation study report.*

The text referenced above on page 2-32 is from FEIS Section 2.1.7.2 and is part of a preliminary stormwater management plan for the Preferred Alternative addressed by Commitment 2. Commitment 3 includes the bridge construction techniques referenced above on page 3-54 (FEIS Section 3.3.4.4). The text referenced above on page 3-57 is not a commitment, but rather is a statement that, based on the preliminary design of the Preferred Alternative as assessed in the FEIS, no temporary impacts were found to wetlands or open waters. The text referenced above on page 3-39 also is not a commitment, but rather a reference to one of the components of the Preferred Alternative (i.e., a bridge over Maple Swamp). The text referenced above on pages 2-31 and 3-67 also is part of the stormwater management plan for the Preferred Alternative addressed by Commitment 2.

7. **Comment:** Please provide an update about the following two planning efforts undertaken by other entities, and how were they taken into consideration during the Mid-Currituck Bridge Study: (1) the State of Virginia Barco Diversion Plan; (2) and the USACE Currituck Sound Restoration Study.

   Response: *The Barco Diversion Plan was a plan to prevent North Carolina's Dare and Currituck county evacuees from entering the Hampton Roads evacuation road network for major hurricane situations where evacuation traffic congestion is severe throughout the region. The plan was restructured in 2011 (Dewberry and Atkins, August 2011) so that traffic points will be established to turn traffic south toward US 64, as well directing traffic onto US 158 at Barco. According to Currituck County's Director of Emergency Management (in an April 9, 2012 e-mail), this is considered to be a "worst-case scenario" option.*

   Currently, the Barco Diversion Plan is still in place; however, the plan was expanded as it was determined the associated hurricane evacuation issue affected more than Currituck County's Barco intersection. It is now called the NC/VA Border Traffic Control Plan (NC-VA BTCP). This plan provides a framework within which agencies of the two states and the affected localities can coordinate actions to deal with the evacuation from NC and through areas of both states when threatened by hurricanes. Additionally, it can be expected that a large-scale evacuation of southeastern Virginia would have consequences for a simultaneous evacuation in North Carolina, possibly impeding the North Carolina evacuation. This plan discusses coordination of actions based on the planning done to

minimize those consequences. As found in the Commonwealth of Virginia Emergency Operations Plan (COVEOP), the NC-VA BTCP outlines procedures for monitoring northbound and westbound traffic in northeastern North Carolina and southeastern Virginia, as well as providing procedures for initiating actions to adjust northbound evacuation traffic to minimize its effect on the westbound evacuation of Virginia's metropolitan Hampton Roads area.

The NC-VA BTCP was not a factor in hurricane clearance modeling, as completed for the FEIS, because addressing the NC-VA BTCP plan's need through road improvements would involve widening US 158 to four lanes west of NC 168. Such a project is outside of the Mid-Currituck Bridge project area and was not funded for implementation in the STIP at the time. This project is now proposed in the Currituck County Long-Range Transportation Plan (NCDOT, May 2012). Widening US 158 (R-2574) from east of NC324 in Belcross to NC 168 is funded in the 2018 to 2027 STIP. Right-of-way acquisition is funded beginning in 2023 and construction is funded beginning in 2025. Completion of this project is assumed in hurricane clearance time modeling prepared for this reevaluation for the No-Build Alternative, ER2, and the Preferred Alternative.

The USACE filed a notice of intent in the Federal Register in 2011 to prepare a Draft Environmental Impact Statement (DEIS) for the Currituck Sound Ecosystem Restoration Feasibility Study. The study was a cost-shared effort to be conducted in partnership with the North Carolina Division of Water Resources (NCDWR), to recommend Federal actions for ecosystem restoration in Currituck Sound. Pamela Castens, former USACE project manager for the Currituck Sound Feasibility Study indicated the study has been inactive because of a lack of funding from the State of North Carolina as the non-Federal sponsor. Without non-Federal funding to match Federal dollars for the cost-shared study, the study cannot move forward and there are currently no plans for the study to move forward (Pamela Castens, USACE project manager, personal communication, October 24, 2017).

8. **Comment:** Page xviii and Page 3-58. The NCTA preferred alternative will impact the Public Trust Area, Estuarine Waters, Coastal Shoreline and CAMA Wetlands Areas of Environmental Concern (AEC's) at the Currituck Sound. Therefore, a CAMA major permit will be required for the entire project.

Response: *NCDOT understands that a CAMA major permit will be required for impacts to CAMA Areas of Environmental Concern (AEC); however, the Preferred Alternative would not affect CAMA wetlands. As shown in Table 3-11 of the FEIS, the only impact to CAMA AECs with the Preferred Alternative would be from bridge piles on the bottom of Currituck Sound (0.1 acre). This is unchanged with the revised design for the Preferred Alternative. With ER2, the total impact to CAMA AECs was indicated as 0.9 acre in the FEIS. This also has not changed with the revised ER2 design.*

9. **Comment:** Page xxix and Page 2-22. "NCTA will coordinate with the US Coast Guard to determine appropriate horizontal and vertical navigation clearances for the Preferred Alternative." During the TEAC meetings, NCTA proposed a vertical navigational clearance for the mid-Currituck Sound Bridge of 16 feet with a vertical clearance of 35 feet at the navigation span. Please include documentation of the currently proposed vertical navigational clearance for the Mid-Currituck Sound Bridge. As DCM informed NCTA previously, please be reminded that the N.C. Administrative Code [l5A NCAC 07H.0208(a)(2)(H)] requires that development shall not impede navigation or create undue interference with access to, or use of, public trust areas or estuarine waters. NCTA should continue to coordinate with DCM to ensure that navigational usage of the Currituck Sound is not adversely impacted.

   Response: *No change has occurred in the navigation span plans since the release of the FEIS, which were based in part on informal coordination with the US Coast Guard. As is their normal procedure, the US Coast Guard will not send out their formal notification to boaters for comment or make a final decision on navigation requirements until after NCDOT submits their application for a Bridge Permit, which cannot happen until after the release of a ROD.*

10. **Comment:** Page 2-11. The Mid-Currituck Bridge typical section depicts ten-foot paved shoulders on both sides of the bridge. Did the NCTA consider reducing impervious surface, shading impacts and cost by constructing a ten-foot paved shoulder on one side of the bridge only?

    Response: *Shoulders are needed on both sides of the bridge. For example, if someone were to have a flat tire on the bridge in the direction of travel with no shoulder, the driver would have to cross on-coming traffic to reach the safety of the shoulder.*

11. **Comment:** Page xiv, Page 2-20 and Page 2-22. "ER2 and MCB2 include an interchange at the intersection of US 158 and NC 12." The US 158/NC 12 interchange is included in the current NCDOT TIP as TIP No. R-4457. According to a scoping request recently received by DCM through the State Clearinghouse, TIP No. R-4457 is included in the 2012-2018 NCTIP and is scheduled for right of way acquisition in fiscal year 2016 and construction in fiscal year 2018. NCTA should distinguish what part of the cost and impact figures of ER2 and MCB2 is due to the US 158/NC 12 interchange.

    Response: *The cost and impact estimates included in the FEIS for the detailed study alternatives were not broken down in this manner. It is not possible to create such breakdowns because the interchange design was integrated with improvements to NC 12 north of the interchange and US 158 west of the interchange. In addition, NCDOT does not see how such a breakout would be useful to Mid-Currituck Bridge project decision-making. Impacts associated with the interchange are addressed in the context of the*

assessment of MCB2 and ER2 in Chapter 3 of the FEIS. Note that R-4457 was not implemented and is not included in the 2018 to 2027 STIP.

12. **Comment:** Page 2-30 and Page 3-37. Please provide more information about any outfalls to Currituck Sound that would be associated with the NCTA preferred alternative, including size, number and location. The following statements within the FEIS were unclear: "With the Preferred Alternative, there would be no outfalls from NC 12 to Currituck Sound or the Atlantic Ocean." "The preliminary designs for NC 12 with the detailed study alternatives, including the preferred alternative, generally use infiltration strategies for the majority of the project, along with a limited number of outfalls to Currituck Sound." "Along US 158, ditches would be used to transport water to existing outfalls."

    Response: *With the Preferred Alternative, none of the drainage along NC 12 will drain to outfalls to Currituck Sound or to the Atlantic Ocean. The limited number of outfalls noted in the FEIS were associated with widening NC 12 in Dare County under ER2 and MCB2. The section of NC 12 where outfalls were proposed would not be improved with the revised ER2 design and thus no outfalls would be built.*

13. **Comment:** Page 2-32. "NCTA would ensure the stability of the sound would not be affected by erosion as a result of stormwater discharge from scuppers during, at minimum, an annual inspection." What mitigative measures would NCTA take if it was determined that erosion to the Currituck Sound bottom was occurring from scuppers?

    Response: *As stated in the FEIS (page 2-32), FHWA research (Design of Bridge Deck Drainage, HEC 21, May 1993) determined that stormwater from bridge scuppers that are 25 feet or greater above the ground has no erosive force. In addition, the NCDOT Hydraulics Unit looked at 70 sites in 2010 for the impact of deck drain discharge on overbanks. The study showed that typical scour holes were 2 inches deep and about 3 feet in diameter. Based on the results of these field observations, if the discharge is dropping on open water and the water is more than 2 inches deep, there should not be any impacts to bottom sediments. Therefore, although the distance from the bottom of the bridge scuppers to the water in Currituck Sound will be slightly less than the 25 feet discussed in the FHWA research for most of the bridge (at approximately 22 feet), it is not anticipated that there will be any impacts to the sound bottom. According to the NCDOT Hydraulics Unit, dissipating the discharge further could be achieved if needed, but it is not likely to be warranted based on field observations. Additionally, the wave action of the sound as a result of the wind associated with storms will have more impact on bottom disturbance of Currituck Sound than the water exiting from the bridge scuppers.*

14. **Comment:** Page 2-32. "If the energy of the water exiting the scuppers is determined to be a problem, dissipation would be provided either at the pipe outlet or on the

ground." Previously on the same page, the document implies that bridge scuppers that are less than 25 feet above the ground have erosive force. Therefore, could it be inferred that scuppers 7 to 18 feet above the ground of Maple Swamp will have erosive force? If so, then NCTA should plan for this and update cost and impact figures accordingly.

Response: *As stated in the FEIS (page 2-32), FHWA research (Design of Bridge Deck Drainage, HEC 21, May 1993) determined that stormwater from bridge scuppers that are 25 feet or greater above the ground has no erosive force. However, the scuppers at the ends of the Maple Swamp bridge that would be located 7 to 18 feet above the ground could cause erosion. As stated in the FEIS, if the energy of the water exiting these scuppers is determined to be a problem, energy dissipation would be provided either at the pipe outlet or on the ground. Such energy dissipation could be achieved, if needed, with a device at the scupper outlet to spray water like rain, or through the use of energy dissipation pads. However, if selected for use, the area of a dissipation pad would be a permanent wetland impact that would require mitigation. The exact measures used for energy dissipation, if needed, will be selected during final design.*

15. **Comment:** Page 2-47. What is included in the "other" category, and why is the estimated construction cost for the Preferred Alternative in the "other" category so much less than the other alternatives except for ER2?

    Response: *The response to this question is covered within the response to USACE's comment 1.*

16. **Comment:** Page 2-47. "Mitigation costs for the Preferred Alternative are higher than for the other alternatives because advanced mitigation planning has occurred for the Preferred Alternative." Please explain what advanced mitigation planning has occurred for the Preferred Alternative.

    Response: *Mitigation costs referred to in this comment relate primarily to SAV. After selection of the Preferred Alternative in January 2011, NDOT met with environmental resource and regulatory agencies to discuss SAV impacts and options for mitigation. On April 6, 2011, NCDOT met with representatives of USACE, NMFS, NCDEQ-Division of Marine Fisheries (DMF), NCDEQ-DCM, NCDEQ-DWR, and the North Carolina Wildlife Resources Commission (NCWRC) to discuss how SAV would be defined, which SAV would be subject to a fisheries moratorium, and a methodology for determining SAV impacts. As part of this discussion, NDOT presented several options for mitigating SAV impacts. These options were used to prepare a more refined cost estimate for mitigation with the Preferred Alternative.*

17. **Comment:** Page 2-5l. "Remaining construction from small, low draft barges for approximately 20,000 feet or 3.8 miles." NCTA is urged to exercise caution when using barges in the shallow waters of Currituck Sound. Kicking with boat

propellers, dragging barges or sinking barges could be considered excavation in accordance with 15A NCAC 07J.0102(3) which defines an excavation project as "any moving, digging, or exposing of bottom materials, marshland substrate or root or rhizome matter in the estuarine waters, tidelands, marshlands and state-owned lakes, regardless of the equipment or method used."

Response: *Barges were only proposed in the FEIS for use in areas where the sound is six feet deep or greater and there were no plans to kick barges with boat propellers, drag barges, or sink barges. Work bridges are planned for use in areas less than six feet deep.*

18. **Comment:** Page 2-51 and Page 3-60. More detail is needed about the Maple Swamp Bridge Construction. For example, have the TEAC agencies agreed with the use of wooden crane mats? What is the proposed pile installation technique?

Response: *Additional detail on the construction of the Maple Swamp bridge will be provided during the permit process. The use of wooden mats is an example of a potential construction technique. Another would be the use of a temporary work trestle. The use of wooden mats did not come up in agency discussions between the DEIS and FEIS. Pile installation likely would be by the direct driven method.*

19. **Comment:** Page 2-52. ".... the bridge corridor through Maple Swamp also may be used for access to the Narrow Shore Road area." How would this occur, and when would it be implemented?

Response: *As a part of the detailed development of strategies for materials movement and construction staging, it has been concluded that the idea of using the corridor across Maple Swamp for access to the Narrow Shore Road area would only work for Option B, which would involve the creation of a roadway fill in the swamp and is not a part of the Preferred Alternative.*

20. **Comment:** Page 2-55 and Page 3-15 to 3-17. "The Preferred Alternative, as well as MCB2 and MCB4, are consistent with area land use plans in that they include a Mid-Currituck Bridge." Please see the attached comments by the DCM District Planner dated March 5, 2012 regarding the project's consistency with CAMA land use plans for more information.

Response: *NCDOT acknowledges NCDEQ-DCM's CAMA Consistency Determination findings as transmitted in the March 5, 2012 letter from NCDEQ (then NC Department of Environment and Natural Resources [NCDENR])-DCM's District Planner. As stated in the letter (see page C-15 in Appendix C of this reevaluation study report), NCDEQ-DCM found that the Preferred Alternative is consistent/not in conflict with the current land use plans for Currituck County, Town of Kitty Hawk, Town of Southern Shores, and Town of Duck. The CAMA plan compatibility findings in Section 3.1.6 of the FEIS are updated in Section 4.1.6 of this reevaluation study report to reflect NCDEQ-DCM's CAMA Consistency Determination findings. Since the release of the*

FEIS, the Town of Southern Shores as updated their land use plan and the Preferred Alternative remains compatible as discussed in Section 4.1.6.1 of this reevaluation study report.

21. **Comment:** Page 3-35. "Turbidity curtains would be in place to contain particles suspended during pile-driving in SAV habitat (including existing beds) as defined by NCMFC ... and when necessary in potential SAV habitat areas of the sound 6 feet deep or less that have a suitable substrate." NCTA should discuss further with the TEAC agencies when turbidity curtains would be used in potential SAV habitat areas of the sound 6 feet deep or less, and whether the use of turbidity curtains would be required in additional areas of the Sound.

    Response: *During the permit process, NCDOT will discuss further with the environmental resource and regulatory agencies when turbidity curtains will be used in potential SAV habitat areas of the sound 6 feet deep or less that have suitable substrate, and whether the use of turbidity curtains would be required in additional areas of the Currituck Sound.*

22. **Comment:** Page 3-35. What sedimentation and erosion control measures are proposed for the bridge over Maple Swamp?

    Response: *Standard NCDOT best management practices (BMPs) will be used in the construction of the Maple Swamp bridge relative to erosion and sediment control. For example, BMPs such as silt check-dams, silt fences, silt basins, prompt establishment of appropriate grass species, and proper grading of slopes would be employed to keep impacts resulting from erosion and sedimentation to a minimum.*

23. **Comment:** Page 3-42 and Page 3-57. For the Preferred Alternative, do the clearing impacts of 25.5 acres include any of the same areas as the shading impacts of 10.1 acres or fill impacts of 6.1 acres? Why are the piling impacts 0.0 acres?

    Response: The shading impacts overlap the clearing impacts. In other words, 15.4 acres would be cleared and not shaded. The pile impact is less than 0.05 acre, which when rounded to the nearest tenth of an acre is 0.0 acre.

24. **Comment:** Page 3-43. Page 3-57. Page 3-61 and Page 3-62. For the Preferred Alternative, why are the piling impacts over aquatic bottom only 0.1 acres and why are the piling impacts over existing SAV beds 0.0 acres?

    Response: *The piling impacts are small because the total area of piles is small. For example, it takes nearly 7,000 30-inch square piles to affect an acre. The Mid-Currituck Bridge was assumed to include approximately 1,000 such piles. The pile impact over SAV is less than 0.05 acre, which when rounded to the nearest tenth of an acre is 0.0 acre. This remains the case with the 2015, 2016, 2017, and 2018 SAV survey results as discussed in Section 4.3.7 of this reevaluation study report.*

25. **Comment:** Page 3-43 and Page 3-57. "... This addition increased the wetland fill impacts associated with the Preferred Alternative by approximately 1.5 acres .... The median acceleration lane also would be needed with the MCB2/A and MCB4/A, but was not included in the preliminary designs for these alternatives ...." Please provide updated information for all alternatives.

    Response: *The need for the median acceleration lane is associated with the Option A of the FEIS interchange design and thus the median acceleration lane and its 1.5-acre impact occurred with all the alternatives that used Option A (a bridge across Maple Swamp). The FEIS interchange design associated with Option B (fill across Maple Swamp and moving the toll plaza into Aydlett) did not require the median acceleration lane because the northbound ramp from the bridge would meet US 158 farther south of the Waterlily Road interchange than with Option A. Therefore, the additional 1.5 acres of impact associated with the median acceleration lane did not occur with alternatives using Option B. The opportunity to avoid this impact occurred because with Option B, the toll plaza would be in Aydlett and not in the middle of the US 158 interchange. The revised design of the Preferred Alternative's US 158 interchange based on the new traffic forecasts eliminated the need for the median acceleration lane at Waterlily Road and this impact.*

26. **Comment:** Page 3-55 and 3-57. " .... Therefore, these areas would remain wetlands and the impact would not be considered a permanent fill impact requiring mitigation under Section 404." Did the TEAC agencies agree that cleared areas would not require mitigation?

    Response: *The TEAC agencies have not indicated that mitigation will be required for cleared areas. Mechanized clearing of wetlands is a regulated activity within Section 404 jurisdictional areas and thus areas cleared are quantified in the FEIS and supporting documents; however, regulatory agencies have traditionally required mitigation for fill-related activities.*

27. **Comment:** Page 3-57. Please further identify the wetland impacts according to wetland type and quality. This will be important for determining compensatory mitigation requirements.

    Response: *Wetland types affected by the Preferred Alternative are identified in Tables 7 to 10 of the Natural Resources Technical Report (NRTR) (CZR Incorporated, 2011). More detailed information on the classification (including quality) and characteristics of jurisdictional areas in the project area are found in Tables 5 and 13 of the same report. Discussion of potential mitigation and credit ratios occurs in the Conceptual Mitigation Plan (Currituck Development Group, 2011) presented in Appendix E of the NRTR. In 2016 new jurisdictional delineations were approved by USACE in the area affected by the Preferred Alternative's FEIS design. The approved wetland delineation package includes detailed information on the classification and characteristics of jurisdictional areas. This*

information will be used in determining compensatory mitigation requirements. Additional jurisdictional surveys for the revised designs of ER2 and the Preferred Alternative were conducted in 2017. North Carolina Wetlands Assessment Method [NC WAM]) quality classifications also were identified for the delineated wetlands. An accounting of affected wetlands would be further discussed and reviewed during the permitting process.

28. **Comment:** Page 3-60. Compensatory Mitigation of Impacts. The Project Coordination Plan, item 11.2.1, states that "the potential for on-site mitigation will be discussed in more detail for the Preferred Alternative in the FEIS." Please provide more detail about on-site mitigation.

    Response: *NCDOT proposed using the Ballance Farm Wetlands Mitigation site rather than creating new on-site mitigation, as noted on page 3-61 of the FEIS. At this time, there are no non-riparian credits available at the Ballance Farm site and the wetland impacts of the Preferred Alternative are to non-riparian wetlands. There are, however, other NCDEQ Division of Mitigation Services (NCDEQ-DMS) sites in the area that have non-riparian credits available.*

29. **Comment:** Page 3-61. "NCTA currently proposes the Ballance Farm Wetlands Mitigation Site ...." Prior to the issuance of a CAMA permit, DCM will need confirmation that the EEP has accepted responsibility to provide appropriate off-site mitigation and that the TEAC agencies have agreed to the mitigation plan.

    Response: *NCDEQ-DCM will receive this confirmation during the permit process.*

30. **Comment:** Page 3-66. DCM recommends that NCTA begin discussions with TEAC agencies and other appropriate entities to develop a detailed SAV mitigation plan. Prior to the issuance of a CAMA permit, DCM will need specific plans for any on-site mitigation and confirmation that the TEAC agencies have agreed to the mitigation plan.

    Response: *NCDOT agrees.*

31. **Comment:** Consistency Determination: The Preferred Alternative (a refinement of the MCB4/C1 study alternative and Option A) is consistent/not in conflict with the following Land Use Plans, as applicable:

    - Currituck County 2006 LUP certified by the Coastal Resources Commission (CRG) on May 18, 2007 as amended on September 25, 2008 and June 24, 2009 (Attachment A);

    - Town of Kitty Hawk 2004 LUP certified by the CRC on June 17, 2005 (Attachment B);

- Town of Southern Shores 1997 LUP certified by the CRC on September 25,1998 (Attachment C), and;

- Town of Duck 2004 LUP certified by the CRC on April 8, 2005 (Attachment D)

Specific to Study Alternatives ER2, MCB2, and MCB4:

- All study alternatives are consistent/not in conflict with the Currituck County 2006 LUP, the Town of Kitty Hawk 2004 LUP, and the Town of Southern Shores 1997 LUP.

- Study alternative MCB4 is consistent/not in conflict with the Town of Duck 2004 LUP.

- Study alternatives ER2 and MCB2 are not consistent with the Town of Duck 2004 LUP. (See "Basis for Determination", Attachment D)

Bridge corridor options "C1" and "C2" are only applicable to Currituck County.

- C1 and C2 are consistent with/not in conflict with the Currituck County 2006 LUP.

Mainland bridge approach alternatives "Option A" and "Option B" are only applicable to Currituck County.

- Option A is consistent with/not in conflict with the Currituck County 2006 LUP.

- Option B is not consistent with the Currituck County 2006 LUP. (See "Basis for Determination", Attachment A)

Response: *NCDOT acknowledges NCDEQ-DCM's CAMA Consistency Determination findings as transmitted in the March 5, 2012 letter from NCDEQ-DCM's District Planner. The CAMA plan compatibility findings in Section 3.1.6 of the FEIS are updated in Section 4.1.6 of this reevaluation study report to reflect NCDEQ-DCM's CAMA Consistency Determination findings. The "Basis for Determination" attachments referenced in the comment above are included in the comment letter found in Appendix C.*

B.1.2.3 North Carolina Department of Environment and Natural Resources (now Department of Environmental Quality), Division of Marine Fisheries – February 23, 2012

1. **Comment:** The following comments by the North Carolina Division of Marine Fisheries (NCDMF) on the subject project are offered pursuant to G.S. 113-131. The applicant is proposing to construct a 7 to 7.5 mile toll bridge to connect mainland Currituck County (Maple Swamp) with Currituck County Outer Banks. There are 5

alternatives designed for the subject project including a no-build alternative and alternatives that vary the number of lanes approaching the bridge. Eastern Currituck Sound is densely covered with submerged aquatic vegetation (SAV). Depending on the alternative chosen the bridge will shade or fill between 0.1 acres (no bridge alternative) to 13.3 acres (MCB4/C2and MCB2/C2) of SAV habitat and between 7.9 (preferred alternative) and 42.5 (MCB2/C2/B alternative) acres of wetlands.

The subject project has 2 proposed design alternatives that include construction of the Mid-Currituck Bridge (MCB2 and MCB4), and a third alternative that does not include the bridge (ER2). MCB2 will add a third "evacuation only" lane on US 158 between NC 168 and the Mid-Currituck Bridge or use an existing center turn lane as a third outbound evacuation lane, US 158 would be widened to a 6-lane street between the Wright Memorial Bridge and Cypress Knee Trial. Between Cypress Knee Trail and the Home Depot driveway, US 158 would be expanded to 8-lanes. NC 12 would be widened to 3-lanes between US 158 and a point just north of Hunt Club Drive. MCB4 would add an "evacuation only" third outbound lane between NC 168 and the bridge, a third outbound "evacuation only" lane would be added between the Wright Memorial Bridge and NC 12, and NC 12 would be widened to 4-lanes from Seashell Lane to NC 12. ER2 would add a third "evacuation only" lane on US 158 between NC 168 and the Wright Memorial Bridge, US 158 would be widened to a 6-lane street between the Wright Memorial Bridge and Cypress Knee Trail, and US 158 would be widened to 8 lanes between Cypress Knee Trail and the Home Depot driveway. NC 12 would be widened to 3-lanes between US 158 and a point just north of Hunt Club Drive and to 4 lanes from just north of Hunt Club Drive to Albacore Street. All alternative designs have an interchange designed at the current intersection of US 158, NC 12, and the Aycock Brown Welcome Center entrance. The NCTA's recommended alternative is MCB4. Of the alternatives listed the least environmentally damaging alternative is ER2 as it will not shade important essential fish habitat. Because avoidance of habitat impacts to the greatest extent possible is preferred, DMF prefers ER2. ER2 will avoid all adverse impacts to SAV, a critical habitat for all resident and migrating fishes and invertebrates.

Response: *The bulk of this comment summarizes the findings of the FEIS. NCDOT acknowledges the agency's preference of ER2 over the Preferred Alternative.*

2. **Comment:** With all of the proposed Mid-Currituck Bridge construction designs there are 2 alternatives for the approach to the Mid-Currituck Bridge. The first alternative would be to construct a bridge to connect HWY 158 and the Mid-Currituck Bridge while leaving Aydlett Road. The second alternative would be to remove the existing Aydlett Road and fill and construct a new road with crossings and culverts. Although this alternative would keep the fill status quo, the fill essentially creates a dam and impairs water movement in Maple Swamp dividing the swamp in half. When constructing roads in wetlands, bridge construction is the

NCDMF's preferred alternative, to minimize impacts to wetlands, hydrologic flow, and fish access. The NCTA preferred alternative is constructing a bridge through Maple Swamp while leaving Aydlett Road.

Response: *This comment correctly describes the two Maple Swamp crossing alternatives. No response is needed.*

3. **Comment:** There are 2 alternatives (C1 and C2) proposed for where the Mid Currituck Bridge would make landfall on the Outer Banks, C1 will make landfall south of Corolla and C2 will make landfall further South at Albacore Street. The C1 alternative presents less shading of SAV compared to the C2 alternative by avoidance and minimization of important SAV habitat. The shading of SAV will cause significant adverse impacts in the subject project area. SAV is important habitat that is utilized by fishes and invertebrates for foraging and protection from predators (Street et al. 2005). Although the subject project's Essential Fish Habitat Technical Report (pg 34) states that the pilings will create a habitat shift from SAV to hard bottom "reef" habitat, the current benthic and fish community are those that are suited for SAV. The NCDMF recommends C1 to minimize SAV and marsh impacts and the NCTA's preferred alternative is C1. The NCTA has proposed the use of turbidity curtains around the pilings in SAV habitat to minimize the impacts. In addition to the turbidity curtains the NCTA has stated they will follow a February 15 through September 30 in water work moratorium to minimize the impacts to SAV and the resident and migratory fishes that use this critical habitat.

   Although the construction methods for the Mid Currituck Bridge have not been selected and will be discussed once the alternative has been selected, several construction methods are possible including a temporary construction trestle (bridge), overhead gantry crane, and a launching truss. At this time the NCTA has agreed to no dredging in any part of Currituck Sound, no in water work in SAV habitat from February 15 to September 30, use of open temporary construction trestles to minimize shading, and the use of turbidity contains during pile installation and removal in the SAV and SAV habitat.

   The NCTA is proposing to use weekly (or other regulatory agency approved) deck cleanings during the summer in place of meeting the coastal stormwater rules. In addition to the deck cleanings the NCTA has proposed capturing the first 1.5" of rainfall over the SAV at the Eastern side of the bridge. This treatment will be treated in wet detention basins. In Maple Swamp the first 1.5" of stormwater will be captured for 500' on both ends of the Maple Swamp bridge and treated in basins. The remaining length of the bridge will be cleaned by deck cleaning and discharged through scuppers 7 to 18' above Maple Swamp. If scouring occurs the NCTA would correct the problem using a pipe outlet. The NCTA states that a water quality monitoring program will be conducted to ensure that the storm water treatment measures are working as proposed. This monitoring program design has not been

supplied at this time. This information should be reviewed by the regulatory and resource agencies.

The NCTA is proposing mitigation for the SAV impacts from the preferred alternative. The SAV mitigation options proposed by the NCTA include 2:1 in-kind SAV mitigation (if feasible), efforts to improve conditions for SAV propagation and survival within Currituck Sound, support for SAV research, or participation in the US Army Corps of Engineers' Currituck Sound Ecosystem Restoration project. After the applicant has shown all efforts to avoid and minimize impacts to SAV, mitigation options can be further explored. The NCDMF's preferred method of SAV mitigation is in-kind SAV mitigation to ensure SAV functionality is not lost.

Response: *Much of the material in this comment summarizes material in the FEIS. One correction is noted. The statement: "Although the construction methods for the Mid-Currituck Bridge have not been selected and will be discussed once the alternative has been selected several construction methods are possible including a temporary construction trestle (bridge), overhead gantry crane, and a launching truss" summarizes material presented in the DEIS. Section 2.4.2 of the FEIS indicates that the bridge across Currituck Sound will be constructed using a combination of work trestles and barges. As indicated in the commenter's summary from the DEIS, this construction method for the bridge was chosen after the Preferred Alternative was identified in association with environmental resource and regulatory agency coordination. The construction methodology in the FEIS is a preliminary approach that would be refined as project construction planning advances after the release of a ROD.*

The water quality monitoring program was designed in association with regulatory agencies. NCDOT has contracted with the US Geological Survey to conduct water quality studies in Currituck Sound (in-water sampling to establish baseline conditions). This procurement was made because NCDEQ-DWR requires establishment of baseline water quality conditions in Currituck Sound prior to Mid-Currituck Bridge construction. This information will be used in the future to determine the impacts of bridge construction and bridge deck stormwater runoff on water quality in Currituck Sound, as well as any additional mitigation needs. Also, to establish baseline conditions, NCDOT's Biological Surveys Group is conducting benthic macroinvertebrate surveys along the Preferred Alternative's alignment in Currituck Sound. The decision to use NCDOT's survey team also was done in coordination with NCDEQ-DWR representatives.

NCDOT acknowledges that NCDEQ-DMF's preferred method of SAV mitigation is in-kind SAV mitigation.

4. **Comment:** The NCTA is proposing mitigation for the wetland impacts from the preferred alternative. After wetland impacts have been avoided and minimized the NCDMF's preferred method of wetland mitigation is in-kind at a rate following the

USEPA/USACE guidelines of restoration 2:1; enhancement at 2:1; preservation at 5:1 and creation at 3:1. The NCTA has proposed the use of the Balance Farm Mitigation site (5 miles southeast of Moyock).

Response: *NCDEQ-DMF's wetland mitigation ratio preferences are acknowledged and will be taken into consideration in developing final mitigation plans.*

B.1.2.4 North Carolina Department of Environment and Natural Resources (now Department of Environmental Quality), Division of Water Quality (now Division of Water Resources)–February 28, 2012

1. **Comment:** This project is being planned as part of the Section 6002 Process. As a participating team member, NCDWQ will continue to work with the team.

   Response: *NCDOT looks forward to continuing to work with NCDEQ-DWR.*

2. **Comment:** With respect to pollutants in bridge stormwater, it is stated at the bottom of page 2-32 that "... however, greater than 90 percent (possibly as high as 97.5 percent) would have already been removed (i.e. pre-treated) through frequent deck cleaning via sweeping and vacuuming." Based on discussions with the NCTA regarding this activity, it would seem that the bridge would have to be swept/vacuumed immediately prior to nearly every precipitation event to achieve the 90 percent reduction in pollutant loading from stormwater. Such cleaning activity seems aggressive and unrealistic.

   Response: *NCDOT would develop an operations plan to define a regular schedule for the sweeping of the bridge. The frequency of the sweeping activity would be defined with the environmental resource and regulatory agencies during permitting to be sure that the accumulation of pollutants is kept below the required threshold.*

3. **Comment:** After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCDOT is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules (l5A NCAC 2H.0506[h]), mitigation will be required for impacts to wetlands greater than 1 acre or greater than 150 linear feet to any single perennial or intermittent stream. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as wetland mitigation.

   Response: *NCDOT agrees with these observations.*

4. **Comment:** The NCTA is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional

wetlands, and streams, need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.

Response: *The items noted will be included in the impact calculations contained in the Section 401 Water Quality Certification Application.*

B.1.2.5 North Carolina Department of Environment and Natural Resources (now Department of Environmental Quality), Washington Regional Office – No Date Indicated

1. **Comment:** After review of this project, it has been determined that the DENR permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law.

   – Sedimentation and erosion control must be addressed in accordance with NCDOT's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable stormwater conveyances and outlets.

   – 401 Water Quality Certification

   Response: *Sedimentation and erosion control will be addressed in accordance with NCDOT's approved program. A Section 401 Water Quality Certification will be sought in the context of the project Section 404 of the Clean Water Act permit application.*

B.1.2.6 North Carolina Department of Environment and Natural Resources (now Department of Environmental Quality), Wildlife Resources Commission – February 27, 2012

1. **Comment:** Maple Swamp Crossing: The NCTA preferred alternative commits to bridging the majority of Maple Swamp. To further assure this structure will provide effective wildlife passage a minimum vertical clearance of 10 feet should be provided.

   Response*: The preliminary engineering used to assess impacts in the FEIS shows 10 feet of vertical clearance for approximately 3,560 feet of the 6,178-foot-long bridge (58 percent). The Preferred Alternative's revised design shows 10 feet of vertical clearance for approximately 6,353 feet of the 7,841-foot-long bridge (81 percent).*

2. **Comment:** Mitigation for impacts to Submerged Aquatic Vegetation (SAV): Generally in-kind mitigation for SAV impacts has been the preferred method to replace lost SAV functions. However, coordination of appropriate site selection, methodology, and success criteria are essential and often challenging; therefore as soon as it is feasible we recommend NCTA organize a meeting with appropriate agency representatives to begin discussions on this issue.

Response: *NCDOT agrees.*

3. **Comment:** WRC supports the implementation of avoidance and minimization measures included in the document, specifically:

   – No dredging in any part of Currituck Sound

   – No jetting of piles

   – Use of turbidity curtains for pile installation in SAV habitat

   – An in water work moratorium of February 15 to September 30 in SAV habitat as defined by NCDMF

   – Use of an open deck work trestle over SAV habitat

   Response: *Your support of these measures is acknowledged.*

B.1.3 Local

B.1.3.1 Town of Duck – March 7, 2012

1. **Comment:** I am writing on behalf of the Council, residents, property owners, businesses of, and the visitors to, the Town of Duck to support the Final Environmental Impact Statement of the Mid-Currituck Bridge Study and its determination of the preferred alternative for the project as MCB4/C1 with Option A along with its associated refinements.

   The Council has long supported the MCB4/C1 alternative and strongly believes that it offers the best opportunity to alleviate summer traffic on NC l2 while also providing a crucial evacuation point for the Currituck Outer Banks in the event of a hurricane or other natural disasters. The Council also believes that it offers the most balanced approach to solving the traffic issue in terms of cost and the environment.

   Speaking for the Council and the other stakeholders in Duck, I want to thank the Turnpike Authority for its tenacious work on this project. We look forward to the completion of the Mid-Currituck Bridge.

   Response: *The Town of Duck's position on the Mid-Currituck Bridge project is acknowledged. It was reaffirmed in a resolution of the Duck Town Council passed on March 1, 2017. See Appendix A of this reevaluation study report.*

B.1.3.2 Town of Southern Shores – March 6, 2012

1. **Comment:** The Southern Shores Town Council enthusiastically supports the Final EIS determination of Corridor MCB4/C1 (the northern corridor) with Option A (a second bridge across Maple Swamp) as the preferred alternative for construction of the Mid-Currituck Bridge. This preferred alternative takes into account cost and

design considerations, travel benefits, community and natural resource impacts, comments and suggestions from environmental regulatory and resource agencies, and public input. The Mid-Currituck Bridge will improve mobility and road capacity within the project study area by providing an alternative route to and from the Currituck County Outer Banks. This increased mobility and road capacity will positively affect safety issues for travelers to and from the northern Outer Banks, especially in times of natural disasters.

The Southern Shores Town Council commends the North Carolina Turnpike Authority for the thorough evaluation of all possible alternatives for access from mainland Currituck County to the northern Currituck Outer Banks.

Response: *The Town of Southern Shores Town Council's position on the Mid-Currituck Bridge project is acknowledged. It was reaffirmed in a resolution of the Southern Shores Town Council passed on March 7, 2017. See Appendix A of this reevaluation study report.*

B.2 Citizen and Non-Governmental Organization Comments and Responses

B.2.1 Build the Bridge—Preserve Our Roads – February 27, 2012

1. **Comment:** The Board of Directors of Build the Bridge, Preserve Our Roads, Inc. enthusiastically supports the Final EIS determination of Corridor MCB4/C1 (the northern corridor) with Option A (a second bridge across Maple Swamp) as the preferred alternative for construction of the Mid-Currituck Bridge. This preferred alternative takes into account cost and design considerations, travel benefits, community and natural resource impacts, comments and suggestions from environmental regulatory and resource agencies, and public input. The Mid-Currituck Bridge will improve mobility and road capacity within the project study area by providing an alternative route to and from the Currituck County Outer Banks. This increased mobility and road capacity will positively affect safety issues for travelers to and from the northern Outer Banks, especially in times of natural disasters. The Board of Directors of Build the Bridge, Preserve Our Roads, Inc. commends the North Carolina Turnpike Authority for the thorough evaluation of all possible alternatives for access from mainland Currituck County to the northern Currituck Outer Banks.

   Response: *Build the Bridge—Preserve Our Roads' position is noted.*

B.2.2 No Mid-Currituck Bridge—Preserve the Wonder (www.NoMCB.com) – March 12, 2012

Note: This citizen organization's submittal in response to the FEIS included a variety of material taken from newspapers, meeting records, etc. The reader is referred to

Appendix C to see this material. Presented below are the organization's comments that were included in their submittal, along with NCTA's responses.

1. **Comment:** I would like to point out that our GROUP, NO MID-CURRITUCK BRIDGE a.k.a. www.NoMCB.com was NOT included with the group comments in the Stake Holder Involvement Vol. 2 Public Comments section. During the DEIS hearings held in Corolla, as well as at the Cooperative Extension Building in Barco, I introduced myself as the head of our group. This omission of being included in the groups section is a deliberate attempt to conceal groups in OPPOSITION to the proposed Mid-Currituck Bridge. The 2 groups listed happen to be advocates for the bridge. My e-mail correspondence regarding this omission to John Page is below. Mr. Page states that I indeed did, on 3 occasions, introduce myself as representing our group. Mr. Page tries to brush these oversights off as just that, oversights. I would be willing to accept this explanation if the oversight occurred once but not 3 times. Mr. Page goes on to say that the comments from the 2 groups included in the "groups section" are not viewed with any more importance then individual comments. If that is the case, then why have a groups section at all. Whether these are considered with the same weight as individual comments, does not negate the perceived impression that the comments in the groups section are indeed separate and carry their own weight as the comments represent the views of many. Therefore I do not accept Mr. Pages "oversight" argument for not including ALL groups, including ours, that strongly oppose the building of a Mid-Currituck Bridge in that section of the F.E.I.S. [The e-mail exchange between Mr. Page and Ms. Symonds is included in NO MID-CURRITUCK BRIDGE's comments on the FEIS in Appendix C.]

   Response: *The testimony of Ms. Symonds on behalf of NO MID-CURRITUCK BRIDGE, a.k.a. www.NoMCB.com, at the Barco public hearing is included in the Barco transcript beginning on page E-118 of the Stakeholder Involvement for Final Environmental Impact Statement Technical Report (Parsons Brinckerhoff, 2011). Public hearing comments are listed by the person that testified and not by the organization they might represent. Ms. Symonds' testimony at the Corolla public hearing begins on page E-74.*

   Ms. Symonds also provided two much longer written comment submittals unique from her hearing testimony. They begin on page D-379 and page D-389 of the Stakeholder Involvement for Final Environmental Impact Statement Technical Report (Parsons Brinckerhoff, 2011). They are in Appendix D under Ms. Symonds' name as opposed to under the organization www.NoMCB.com. When the study team was organizing the letters in Appendix D, they assumed Ms. Symonds' comments represented those of an individual, although Ms. Symonds' submittal starting on page D-389 does indicate that she was representing www.NoMCB.com. The two organizations whose letters were placed in Appendix C had a signature line indicating the comments were on behalf of an

organization as opposed to an individual. Ms. Symonds was sent an e-mail apologizing for not placing these written comments with the other organizations.

Nevertheless, the purpose of Appendices D and E was solely to provide everyone who is interested an exact copy of the comments received. There was no intent or expectation that people would consider the comments from the two organizations in the organization section to be more important than those of any single individual in the section called "Comments from Individuals." NCDOT did not consider organization comments as more important than individual comments when addressing concerns expressed, but rather attempted to give all comments serious attention.

2. **Comment:** A mere hours before the F.E.I.S. was released, I asked our District 3 County Commissioner whose District includes the area of the proposed bridge, what was going on with the bridge. As you can see his response was he hadn't heard anything. Again, this was hours before the release of the F.E.I.S. [An e-mail from Butch Petrey is included in NO MID-CURRITUCK BRIDGE's comments on the FEIS in Appendix C.]

   Response: *Public officials were notified of the release of the FEIS at the same time as the public and the regulatory agencies, as is customarily done. The Chair of the County Commissioners and the County Manager were provided copies of the FEIS.*

3. **Comment:** The following e-mails regard the posting of Turnpike Board Meeting Minutes and presentations in a timely fashion. As you can see I had to request that this information be posted on the T.A.'s web site numerous times. It is the responsibility of the T.A. to have meeting minutes and associated documents available to ensure a transparent process. Please note that the included e-mails are <u>not all</u> of the requests for information that I have asked for but a sampling. [Five e-mails are included in NO MID-CURRITUCK BRIDGE's comments on the FEIS in Appendix C.]

   Response: *The NCTA Board of Directors meets every other month. NCTA's goal is to post meeting minutes to the web site soon after they are approved by the Board, which occurs during the meeting following the previous meeting. Thus, there is generally a two-month lag from when a meeting is held to when the minutes are approved. Upon request, NCTA will provide draft meeting minutes once they are available. Regardless, the concerns expressed are noted and have been passed on to those at NCTA responsible for posting these minutes and presentations.*

4. **Comment:** Despite the hefty price tag, the project is still alive, thanks to the controversial votes of Reps. Owens, Tim Spear, D-Washington, and three other House Democrats who gave Republicans enough votes to override Democratic Gov. Bev Perdue's budget veto in June in exchange for support of keeping the bridge and other projects in the budget.

Response: *The organization's observations on the decision-making process at the General Assembly through June 2011 are noted.*

5. **Comment:** Meanwhile, we implore the Turnpike Authority and local officials to make sure all future meetings about the bridge allow for public input or at least a public presence. Though some meetings may not be legally required to be made public, with a project this size and affecting so many local residents, it is the right thing to do. [This comment is in reference to an article in the September 28, Daily Advance that is included in NO MID-CURRITUCK BRIDGE's comments on a meeting held by NCTA to discuss ideas on how the bridge was designed to which the general public was not invited.]

   Response: *The purpose of the August 15, 2011, meeting held in Grandy was to solicit ideas from community representatives that could be used by the NCDOT design team to prepare aesthetic concepts for the Mid-Currituck Bridge project. The information gathered during the meeting regarding local history, culture, and architecture, were intended to be used by NCDOT in part to prepare Aesthetic Design Guidelines for providing an attractive look for the project. The guidelines are anticipated to address items such as landscaping, architecture, colors, and materials that might be used for the US 158 interchange and toll plaza area, the bridges across Maple Swamp and Currituck Sound, the roundabout at NC 12, and other project elements. The ultimate aesthetic treatment will depend on several factors, including cost, constructability, maintenance, and public input. After release of a ROD, as a toll bridge project advances through final design and construction, it is NCDOT's intent to have future meetings with the public that will include discussions related to project aesthetics.*

6. **Comment:** The new tolls [on the Chesapeake Expressway] range from $3 to $5. I find that extremely hypocritical considering the extremely high toll rates for this bridge project. The Currituck Tourism instructed vacationers on how to bypass that toll. I wonder if they will enlighten vacationers of the $28 toll on Summer Saturdays when the majority of the vacationers arrive. So if the $5.00 toll on the Chesapeake Expressway is too expensive, how does Currituck and Dare Counties justify the enormous toll of $28 to use the Mid-Currituck Bridge? [NO MID-CURRITUCK BRIDGE's comments in Appendix C include a January 2, 2011 article from the Virginian-Pilot on Chesapeake Expressway toll increases.]

   Response: *The toll rate of $28 was proposed for summer weekend afternoon peak eastbound traffic only, when traffic demand reaches the peak and traffic congestion is the worst for the entire year. The toll rate is evaluated according to the travelers' preferences and the benefits they receive that include not only time savings, but also distance savings, fuel savings, and an easy and safe driving experience. In addition, see the response to the similar public comment 7 in Section B.3.5 regarding the proposed $28 toll. A new investment grade traffic and revenue study is being prepared as of the date of this reevaluation and will revisit potential toll rates.*

The Chesapeake Expressway facility and its issues with diversion (using other roads to bypass tolls) are different than would be anticipated with a Mid-Currituck Bridge. One key difference in anticipated toll diversions is the relative ease and similar distance associated with diverting from the Chesapeake Expressway. Traffic can easily take the exit before the toll plaza, use local roads, and then reenter the facility after the toll plaza. In essence, the driver can opt to take a 5 minute or less delay in order to bypass the toll. In addition, for a large percentage of Virginia Beach traffic, it can actually be faster to travel west into Chesapeake on local roads and access the Chesapeake Expressway south of the toll plaza.

With the Mid-Currituck Bridge, the alternative free route would be a much longer trip. Even under periods with no congestion, the alternate route can take upwards of 40 minutes (and much longer during peak periods). There would be no way to use part of the tolled Mid-Currituck Bridge route and then exit only to re-enter after the toll plaza and avoid paying the toll. It is recognized that some drivers may opt to avoid the toll regardless of the delay that could be avoided.

This difference in travel times, however, is also a key reason the Mid-Currituck Bridge is proposing varying toll rates during different periods (unlike the Chesapeake Expressway). During periods with an uncongested 40 minute time savings, lower tolls may encourage some drivers that might avoid the tolled Mid-Currituck Bridge to use the bridge. During periods of high congestion, higher toll rates could be charged because there would be greater time savings. In addition, the distance savings for people traveling to Corolla via a Mid-Currituck Bridge could be up to approximately 34 miles. Independent of travel time savings and all other costs (e.g., vehicle wear and tear and maintenance cost savings), the 34 miles distance savings should save 1.5 gallons or more of gas, or approximately $3.38 assuming $2.25 per gallon).

Another difference is that the Chesapeake Expressway facility serves a high volume of Monday to Friday commuter travel. This traffic is more likely to try to identify alternate routes than typical tourist traffic. The commuter traffic is also relied upon as a high percentage of overall revenue for the toll facility. The anticipated higher summer weekend tolls for the Mid-Currituck Bridge are reflective of the higher preponderance of tourist traffic during the peak summer periods, as well as the reliance of the bridge on this traffic as a significant percentage of anticipated revenue.

7. **Comment:** The Turnpike Authority has problems following legislative statutes. [NO MID-CURRITUCK BRIDGE's comments in Appendix C include letters of apology from NCTA to President Pro Tem Berger and Speaker Tillis for not notifying the Joint Legislative Commission on Government Operations of the letting of the Monroe Connector/Bypass Turnpike Project.]

   Response: *The organization's opinion on NCDOT's efforts to meet its obligations to the General Assembly is noted.*

8. **Comment:** NO MID-CURRITUCK BRIDGE presents in their comments several newspaper articles and other material (see Appendix C) referencing six studies:

   - A study commissioned by the organization "Build the Bridge-Preserve Our Roads."
   - A Wilbur Smith Associates study on traffic and tolls for a Mid-Currituck Bridge. Several articles provided included in the comments critique the firms past work in doing such studies.
   - A study by East Carolina University that would use a $2 million federal grant [earmark] authorized in 2005.
   - A hurricane evacuation study by Post, Buckley, Schuh & Jernigan, Inc. approved by the North Carolina Board of Transportation in 2003.
   - Additional funds provided by the North Carolina Board of Transportation in 2006 for preliminary engineering.
   - A North Carolina State University Institute for Transportation Research and Education "Outer Banks Transportation Study" from 2006. This study included the statement "Pressure for additional development in Corolla and especially Carova will increase dramatically with improved access to these two areas."

   Following are NO MID-CURRITUCK BRIDGE's related comments:

   The last sentence above [Pressure for additional development in Corolla and especially Carova will increase dramatically with improved access to these two areas.] is in direct contrast to the effect of development due to the bridge presented in both the DEIS and FEIS. Why have these studies been ignored? It seems if you throw something at the wall long enough eventually it might stick.

   Response: *The study by the organization "Build the Bridge-Preserve Our Roads" was conducted in 2003 and 2004. It was not commissioned by NCTA nor did it have any involvement in the study. It was an economic study to determine the cost to NCDOT of obtaining the necessary right-of-way if the decision were to be made to widen US 158 from Barco to Point Harbor and NC 12 from Southern Shores through Duck to the Currituck County line. The study also reports on the tax loss to local towns and counties if the roads are widened. The report assumed that at a minimum without a Mid-Currituck Bridge, NCDOT would widen NC 12 to five lanes, widen US 158 to six lanes from the US 158/NC 12 intersection in Southern Shores to Barco, and add two lanes to the Wright Memorial Bridge and to the Coinjock Intracoastal Waterway bridge. NCTA concluded in its 2009 Mid-Currituck Bridge Project alternatives screening report that widening of US 158 in Currituck County and the Wright Memorial Bridge would not be needed until some point after 2035 and such improvements were not assessed in the*

alternatives screening. This conclusion was reaffirmed by the 2040 traffic forecasts prepared in 2016, which are lower than the 2035 traffic forecasts used in the 2009 alternatives screening. The alternatives screening did look at a four-lane NC 12 alternative (ER1). However, it was found by NCTA and the environmental resource and regulatory agencies not to be reasonable for reasons that included 195 displacements of homes and businesses along NC 12. ER1 is discussed on pages 26 and 31 of the Alternatives Screening Report (Parsons Brinckerhoff, 2009).

The Wilbur Smith study was used in considering the revenue that might be raised from tolls during the comparison of alternatives portion of the Mid-Currituck Bridge project. Its findings were superseded by the Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts (Currituck Development Group, July 2011) report. The findings of the 2011 report will be superseded by a new investment grade traffic and revenue forecast underway as of the date of this reevaluation.

The ECU earmark was line item 4460 in Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (federal highway funding legislation) for "a study to be performed by East Carolina University to find the feasibility of constructing a mid-Currituck Sound bridge." The amount contracted to ECU was $1,718,000 for a diverse scope of work. The primary activity was to prepare the project's indirect and cumulative effects analysis presented in the DEIS and FEIS. In addition, several technical studies were undertaken by ECU to analyze the feasibility of the project. These included analysis of queuing behaviors at tolls booths, analysis of bridge deck runoff models, and analysis of pedestrian and bicycle lanes on long bridges. Another element of ECU's scope of work with NCTA was research into National Environmental Policy Act (NEPA) policies as they apply to highway development. All the project-specific research was used in Mid-Currituck Bridge project development. ECU has not been involved in the project since the release of the FEIS in 2012.

The hurricane evacuation study authorized in 2003 was to develop a model for forecasting hurricane clearance times along the coast of North Carolina. That model was used by the same firm that developed it to forecast clearance times from the Mid-Currituck Bridge project area presented in the FEIS. The 2006 fund approval for the NCDOT Board of Transportation was for additional funds for preparing the DEIS and FEIS and associated reports for the Mid-Currituck Bridge project. The same firm again updated the clearance time model and used it to forecast clearance times in 2016 and 2040 as a part of this reevaluation.

The February 2006 final report of the Outer Banks Transportation Study does not include the sentence referenced in the comment above, or any of the quoted comments related to the "Mid-County Bridge" included in the organization's original comments (see Appendix C). The rest of the excerpt included in the organization's comments (called Traffic Solutions) is a summary of ideas offered at several public meetings held during the Outer Banks Transportation Study, but does not represent conclusions offered

by the task force conducting the study. Thus, it is presumed that the section on the "Mid-County Bridge" in the organization's comments was in an earlier draft of the study, or perhaps meeting minutes. In addition, the sentence referenced in the comment above on development pressure may represent the opinion of some public meeting participants, but it is not a conclusion reached by the Outer Banks Transportation Study.

Regarding a Mid-Currituck Bridge, the 2006 final report says in its Executive Summary under the topic of "Traffic Solutions":

> *"Although this study's focus was on shorter-term 'implementable' improvements, in the longer-term one of the most frequent comments at the community meeting in Southern Shores was in regard to the need to build the proposed Mid-Currituck Bridge. The study team recognized the high level of interest in building this bridge, the fact that the Transportation Task Force endorsed it, and its potential for alleviating the serious traffic congestion that occurs on weekends in the area of the Wright Memorial Bridge, the US 158/NC 12 intersection, and northward into Duck and Corolla. However, it was not made part of this study for two primary reasons:*
>
> – *The proposed bridge is the central focus of the much larger multi-year federal Environmental Impact Assessment that is being conducted and that is not scheduled for completion until at least 2008 (the Mid-Currituck Sound Transportation Study). It did not make sense to try to duplicate this very extensive (and expensive) undertaking.*
>
> – *The budget, scope, and timeframe for this study were inadequate to address such a complex issue."*

The recommendations made in the 2006 Outer Banks Transportation Study final report that are within the Mid-Currituck Bridge project area include: a super-street for US 158 from the Wright Memorial Bridge to US 64 in Nags Head, an interchange at the US 158/NC 12 intersection, and a super-street in the Duck commercial area. The US 158 super-street (in the project area) and the US 158/NC 12 interchange were included in the detailed study alternatives assessed in the FEIS. The Duck super-street proposed in the 2006 final report essentially replaced the center turn lane on NC 12 through the commercial area with a median, thereby eliminating all left turns. However, the proposed concept included accommodations for drivers to make U-turns at the north and south ends of the Duck commercial area so that those wanting to turn left onto NC 12 from side streets could make a right turn and then a U-turn in place of a left turn. This concept was considered for NC 12 in Duck in the Mid-Currituck Bridge project's alternatives screening, but it was not pursued because the Duck area serves as a destination with high levels of turning traffic at multiple driveways. The replacement of the middle turn lane with a median and U-turns at the north and south ends of the Duck commercial area was found to be impractical based on an overview of roadway operations. It was found that the number of left turners that would be forced to travel

north or south and U-turn would exceed the capacity of the U-turn intersections north and south of the commercial area to process U-turning and through traffic under existing and certainly future traffic volumes. Queues would begin to build up and make the traffic situation worse.

9. **Comment:** The $778 million cost of the project in the T.I.F.I.A. L.O.I. is $200 million more than the cost of the Preferred Alternative in the FEIS. Please explain the huge difference.

   Response: *The $778 million estimate in the TIFIA Letter of Interest (LOI) prepared in December 2011 included $664.7 million in project costs (including construction, right-of-way, utilities, etc.) plus $113.4 million in project financing costs. The financing costs include reserve funds and closing costs, which are similar to the financing costs experienced when closing a mortgage loan, and expenses related to issuing bonds such as legal fees, financial advisor fees and bond rating agency fees. The financing costs, not included in the FEIS, are one of many eligible expenses allowed under the TIFIA program. The remaining difference in the project cost can be attributed to deflation that had been experienced in highway construction industry costs from 2009 through much of 2011. In general, highway construction cost estimates at the time the FEIS cost estimates were prepared in December 2011 were about 20 percent below the peak experienced in 2008 to 2009. The impacts of deflation were reflected in the FEIS estimate, but the TIFIA cost estimate prepared in July 2011 did not reflect these adjustments. The current cost estimate for the Preferred Alternative is presented in Section 1.2.4 of this revaluation and reflects estimated current construction industry costs and the revised design*

10. **Comment:** Evidence that the political backing in the State is waning for such an expensive and environmentally damaging project. [NO MID-CURRITUCK BRIDGE's comments in Appendix C include in reference to this comment a February 2012 Fiscal Brief on Transportation regarding the shifting of funding to target maintenance needs and prioritizing construction funding. Highlighted was this text: "Debt service and related financing costs for the Garden Parkway were delayed by one year and reduced by $17.5 million in FY 2012-13. Due to project delays, the Transportation Subcommittee also reallocated unencumbered prior year funding for the Garden Parkway and Mid-Currituck Bridge projects, totaling $50 million. The Garden Parkway and Mid-Currituck Bridge projects are toll projects managed by the North Carolina Turnpike Authority. Prior year funding for the Mid-Currituck Bridge was transferred to the General Fund to purchase replacement school buses for local school systems, and funding for the Garden Parkway project was reallocated to urban loops." Also included in reference to this comment (see Appendix C) was a slide titled "Transportation Debt Affordability" that was part of a presentation by the State Treasurer's Office to the House Appropriations Subcommittee on Transportation on March 8, 2012, as well as two news clips from

May 25, 2011 on the potential ending of two NCTA projects, including the Mid-Currituck Bridge project.]

Response: *In 2013, the General Assembly, as part of the Strategic Transportation Investments (STI) Law (Session Law 2013-183 and House Bill 817) withdrew the annual state appropriations or "gap funding" for the Mid-Currituck Bridge Project. The STI also established the Strategic Mobility Formula, a new way of allocating NCDOT's major revenue sources based on data-driven scoring and local input. The Mid-Currituck Bridge Project was scored using the new criteria. Thus, the project was allocated project funding in the 2016 to 2025 STIP and in the 2018 to 2027 STIP that demonstrates the state's current commitment to fund and deliver this project.*

11. **Comment:** Mistakes in the DEIS are brushed off as typographical and rounding errors.

    Response: *The commenter is referring to text introducing Table S-1 in the FEIS that says: "Changes in this table since the DEIS reflect changes made in response to comments, as well correction of some compiling, rounding, and typographical errors found in the process of preparing this FEIS. The latter changes did not affect the conclusions of the impact evaluation and they were not a factor in the selection of the Preferred Alternative." In addition, the footnotes for Table 3-5, Table 3-6, Table 3-9, Table 3-10, and Table 3-12 in the FEIS, which present natural resource data, say: "Some impact acreages have been revised since the DEIS. Changes corrected compiling, rounding, and typographical errors. The changes did not affect the conclusions of the biotic communities impact evaluation and were not a factor in the selection of the Preferred Alternative.*

12. **Comment:** What need would the project meet, and what is the project's purpose? [The purpose and need statements from the FEIS are listed.] How will NC 12 traffic improve during the week after the masses arrive? Traffic will now back-up from the Mid-Currituck Bridge north due to the bottleneck of a single lane traveling east.

    Response: *The 2035 Traffic Alternatives Report (Parsons Brinckerhoff, 2009) analyzed the change in congestion levels in 2035 with a Mid-Currituck Bridge, as well as with other build alternatives. The findings for the detailed study alternatives, including the Preferred Alternative, are summarized in Table 2-3 of the FEIS. FEIS Table 2-3 in the FEIS was updated for the No-Build Alternative, ER2, and the Preferred Alternative in Table 3-4 of this reevaluation study report using the new traffic forecasts developed in 2016 and the 2016 Highway Capacity Model. These findings are updated in Section 3.1 in the 2040 Traffic Alternatives Report (WSP USA, 2017).*

    The US 158/Mid-Currituck Bridge interchange is designed so that traffic would not back-up from the toll plazas onto US 158 or the bridge on summer weekends with the peak traffic volumes expected in 2040. The improvements to NC 12 with the Preferred

Alternative (FEIS and revised designs) also are designed so that traffic seeking to cross the bridge would not back-up on NC 12. The findings also indicate that the two-lane bridge with the Preferred Alternative would have adequate capacity to handle predicted 2040 traffic volumes.

13. **Comment:** Given that 80 percent of the revenue will come in during the summer season, high toll rates (upwards $28 per crossing), that public-private partnerships have high failure rates (per a presentation by Jason Jolley), and state funding is not guaranteed, what happens if project goes bankrupt?

    Response: *With a public-private partnership the concessionaire makes an equity investment in the project that would be lost if the project were to go bankrupt. The State would assume the management of the bridge facility if a concessionaire were to go bankrupt. The 2016 to 2025 STIP and the 2018 to 2027 STIP allocate a stream of state transportation funds for the state-funding portion of the project. NCDOT can change state transportation fund priorities prior to bond sales against future state transportation funds. Reallocating the state contribution to this project after bonds are issued with a decision to default on the bonds would have significant adverse impacts on the State's credit rating and its future borrowing costs. Thus, it is unlikely to happen.*

14. **Comment:** What happens to properties taken by eminent domain if the project does not get built due to financing?

    Response: *If the project does not get built because of financing, properties purchased would be sold.*

15. **Comment:** There is a need for an interchange at US 158 and NC 12. Why is there no funding for this project but NCDOT has the money to repave 24 miles of US 158 from Barco to the Wright Memorial Bridge which is not necessary at this time? The pavement is still in good condition and is only 10 years old.

    Response: *The repaving of US 158 was part of an existing repaving budget. According to NCDOT, the portion of US 158 between Barco and the Wright Memorial Bridge referenced had safety and superelevation issues that needed to be corrected via resurfacing.*

    At the time the FEIS was prepared, the STIP included a project (R-4457) defined as converting the existing at-grade intersection of US 158 and NC 12 at Southern Shores to an interchange. The interchange was included as a part of Mid-Currituck Bridge Project alternatives ER2 and MCB2. R-4457 was defined in the 2016-2025 STIP as an intersection improvement and was funded for right-of-way acquisition in federal fiscal year (FFY) 2024. Construction was not funded. The April 2015 Dare County Comprehensive Transportation Plan notes that any improvement to the US 158/NC 12 intersection that involves a grade separation is not preferred locally. R-4457 is not listed in the 2018 to 2027 STIP.

16. **Comment:** This will be the longest bridge in North Carolina history.

    Response: *The Virginia Dare Memorial Bridge on US 64 over the Croatan Sound is the longest existing bridge in North Carolina at 5.2 miles. The Mid-Currituck Bridge with the Preferred Alternative (FEIS or revised design) would be almost as long, but the second longest at approximately 4.7 miles.*

17. **Comment:** Shortcut road widening will take 10 years, affects hurricane evacuation – bottleneck.

    Response: *It is not clear what the organization means, so no response can be provided.*

18. **Comment:** Why are we using a Spanish firm primarily on this project?

    Response: *The planned concessionaire was selected in a competitive process. The Spanish firm put together the best team and proposal. The three other groups that submitted proposals were led by a German firm, a Swedish firm, and a US firm. Although the concessionaire team was being led by a Spanish firm, it is their US-based subsidiary that was to be responsible for managing the project, and the concessionaire team included several US firms. The agreement with the concessionaire expired at the end of 2014. At this time, NCDOT has not decided whether to seek another concessionaire or operate the bridge itself.*

19. **Comment:** Beginning on page xiv of the FEIS is a section on the major differences between the alternatives that are considered important to selecting an alternative for implementation. Regarding a bridge offering substantial time savings, NO MID-CURRITUCK BRIDGE made the following comment: Not during the weekday summer months. Little traffic after Labor Day. Regarding the reduction of hurricane clearance times, NO MID-CURRITUCK BRIDGE made the following comment: How about sending people on NC 12 north of US 158 south for hurricane evacuation?

    Response: *With the original traffic forecasts used in the FEIS, it was found that the Mid-Currituck Bridge would offer travel time savings on summer weekdays, as indicated in Table 24 of the 2035 Traffic Alternatives Report (Parsons Brinckerhoff, 2009). The peak period travel time using existing thoroughfares and not the bridge between the Mid-Currituck Bridge terminus on the mainland and Albacore Street was found to drop from 121.9 minutes to 98.7 minutes (23.2-minute decrease) because some traffic would be diverted to the Mid-Currituck Bridge. This benefit remains using the new 2016 traffic forecasts, 136 minutes to 72 minutes (64-minute decrease). See Section 3.2.2 of this reevaluation study report.*

See the response to this organization's comment 40 below regarding sending evacuees to the south towards US 64.

20. **Comment:** Regarding the statement in the FEIS: "The interchange proposed as R-4457 is not a part of the No-Build Alternative because the interchange is included as a component of detailed study alternatives ER2 and MCB2. The interchange is included in ER2 and MCB2 because an interchange is needed to reach a desirable level of service (LOS) on the summer weekday in 2035", NO MID-CURRITUCK BRIDGE asked if the interchange project is funded.

    Response: *Project No. R-4457 was defined in the 2016-2025 STIP as an intersection improvement and was funded for right-of-way acquisition in FFY 2024. Construction was not funded. The April 2015 Dare County Comprehensive Transportation Plan notes that any improvement to the US 158/NC 12 intersection that involves a grade separation is not preferred locally. R-4457 is not listed in the 2018 to 2027 STIP.*

21. **Comment:** Regarding the cost comparison listed on page xv and xvi of the FEIS (also included in Appendix C), NO MID-CURRITUCK BRIDGE made the following comments: How is this [the Preferred Alternative] different than MCB4/A/C1 aren't they the same with slight modifications? How is this cost so much lower? Particularly with the mitigation required. According to Jennifer Harris of the N.C.T.A. bridging Maple Swamp cost $90 million. TIFIA loan applications stated $778 million and fixed tolls? Section 2.3 page 2-46 states "Mainland approach road Option B would cost approximately $84 to $92 million less than Option A. Since the Preferred Alternative must bridge the swamp (Option A) this should have been reflected in the costs of the Preferred Alternative. ER2 would be the least expensive alternative.

    Response: *The Preferred Alternative presented in the FEIS is similar to MCB4/A/C1 except for the refinements made to help avoid and minimize impacts as described on pages x and xi of the FEIS. Many of the refinements made to the Preferred Alternative in the FEIS resulted in cost-savings, including: 1) the four-lane widening of NC 12 was reduced from 4 miles to 2.1 miles ($35 million savings reflected in the FEIS cost estimate); 2) a curve on the bridge across Currituck Sound was removed, which shortened its length by 250 feet ($12 million savings); 3) reversing the center turn lane on US 158 between the US 158/Mid-Currituck Bridge interchange and NC 168 instead of constructing a third outbound lane ($15 million savings); and 4) the next level of design prepared for the Preferred Alternative between the DEIS and FEIS allowed the contingency fund (covers project unknowns) to be reduced ($36 million savings). In addition, for the same reasons stated in the response to this organization's comment 9 above, the inflation rates used for the DEIS estimates prepared in 2009 predated the deflationary trends that were experienced in the construction industry from 2009 through much of 2011. Up-front material costs and inflation rates were adjusted for the Preferred Alternative to reflect then-current trends, which enabled the construction*

estimate to be reduced by $50 million. The current cost estimate for the Preferred Alternative presented in Section 1.2.4 of this revaluation reflects estimated current construction industry costs and the revised design.

The cost of the bridge across Maple Swamp is included in the Preferred Alternative's cost estimates. Although ER2 is the least expensive alternative, cost is not the only factor in the selection of a Preferred Alternative. Section 2.6 of the FEIS presented the reasons why the Preferred Alternative was selected, including a discussion of the benefits and impacts of the Preferred Alternative that differentiated it in comparison to the other detailed study alternatives. The reasons for selecting the Preferred Alternative are updated in Section 1.3 based on the findings of this reevaluation.

22. **Comment:** Regarding the cost discussion on page xvi of the FEIS (excerpt also included in Appendix C), NO MID-CURRITUCK BRIDGE made the following comments: The legislation can be changed as it was to create the project, and allow for the gap funding, or remove it, as this happened in 2011-2012 legislative session. Funding and the ability to continue study on the Mid-Currituck Bridge was very close to being removed ---save for the GOP needing 5 Democrats to vote with the GOP for a veto of Governor Perdue's budget.

    Response: *The plan was based on what was authorized at the time. Since the release of the FEIS, the State of North Carolina has made substantial changes in how it allocates state highway funds. In 2013, the General Assembly, as part of the Strategic Transportation Investments (STI) Law (Session Law 2013-183 and House Bill 817) established the Strategic Mobility Formula, a new way of allocating NCDOT's major revenue sources based on data-driven scoring and local input. The "equity formula" no longer is used in the allocation of state transportation funds. The STI also withdrew the annual state appropriations or "gap funding" for the Mid-Currituck Bridge Project. Based on the Strategic Mobility Formula, NCDOT allocated funding to the Mid-Currituck Bridge project in the 2016 to 2025 STIP and the 2018 to 2027 STIP that demonstrates the state's commitment to fund and deliver this project.*

23. **Comment:** The first draft EIS done in January 1998 was rescinded as hurricane evacuation was a major obstacle in reaching an agreement on the stated purpose and need in the DEIS. This current FEIS reaffirms that conclusion. The emergency management personnel at the meeting [with NCTA on August 19, 2010] have agreed that the hurricane evacuation clearance times will NOT be substantially reduced with the bridge. Therefore the bridge fails to meet its stated purpose and need for the project. [NO MID-CURRITUCK BRIDGE's comments in Appendix C include the minutes of that meeting.] [NO MID-CURRITUCK BRIDGE's comments in Appendix C also include at this point an article from the June 23, 2008 Virginian Pilot titled: "Currituck and Dare County officials are worried about a forced hurricane evacuation route from five-lane U.S. 158 to two-lane 158 in Barco."]

Response: *According to the June 23, 2008 newspaper article referenced by the commenter, Currituck and Dare county officials were "worried about a forced hurricane evacuation route from five-lane U.S. 158 to two-lane 158 in Barco." The article discusses the "Barco diversionary plan," a strategy being developed at the time for how to handle hurricane evacuations northbound if the Commonwealth of Virginia were to close its border to evacuees using NC 168. This is an issue not related to the Mid-Currituck Bridge Project and what it can accomplish in terms of reducing clearance times.*

The point emergency management officials were making at the August 19, 2010 meeting referenced by the commenter was that the Mid-Currituck Bridge alone would not reduce hurricane evacuation clearance times, which was already addressed in the development of detailed study alternatives, as documented in the October 2009 Alternatives Screening Report (Parsons Brinckerhoff, 2009). This also is acknowledged in the FEIS. As discussed in Section 2.1.10 of the FEIS, US 158 between the Wright Memorial Bridge and NC 168 is the controlling road link for hurricane evacuation (the link on the evacuation route whose capacity controls the overall clearance time), so the only way to reduce clearance times in the project area was to add additional evacuation capacity on this section of US 158. This finding was reaffirmed in the new hurricane clearance time modeling that is a part of this reevaluation (Section 3.2.3). What the Mid-Currituck Bridge alone would do is reduce the length of this controlling link. Conversations held with emergency management officials at the August 19, 2010 meeting indicated that the 27-mile lane reversal on US 158 that would be required with ER2 is not a realistic option, whereas the shorter 5 miles of lane reversal on US 158 (between the Mid-Currituck Bridge and NC 168) with the Preferred Alternative could be accomplished and is a reasonable strategy for reducing clearance times. The August 19, 2010 meeting is discussed in Section 2.1.10.4 of the FEIS. As is discussed in Section 2.1.2.5 of the FEIS, the Preferred Alternative includes reversing the center turn lane on US 158 between the Mid-Currituck Bridge and NC 168 to reduce hurricane evacuation clearance times. Reversing the center turn lane on US 158 between the Mid-Currituck Bridge and NC 168 continues to be a part of the Preferred Alternative with the revised design.

As indicated in Table 2-3 of the FEIS, substantial reductions in hurricane evacuation clearance times (from 36 hours with the No-Build Alternative down to 27 hours) would be achieved by building the Mid-Currituck Bridge in combination with reversing a lane on US 158 between the Mid-Currituck Bridge and NC 168. The new clearance time benefits for the various alternatives are discussed in Section 3.2.3. As noted in Section 1.2 of the FEIS, "an improvement is considered substantial as opposed to minor if the improvement is great enough to be largely noticeable to typical users of the transportation system and if the improvement offers some benefit across much of the network, as opposed to offering only a few localized benefits. Alternatives that provide only minor or no improvement, as opposed to substantial improvement, would not meet the above needs."

24. **Comment:** As Senate Pro-Tempore for many years, Marc Basnight used his political influence to garner state funding for this project. In 2010 the House version of the budget removed the "gap" funding for the bridge. When the bill came to the Senate, Marc Basnight had the "gap" funding put back in place and then increased the funding from $15 million/year to $28 million/year for 50 years. The increase was due to the fact that this project was not likely to receive a federal T.I.F.I.A. loan, NOT because it is a viable project. [NO MID-CURRITUCK BRIDGE's comments in Appendix C include an excerpt from a July 9, 2009 Daily Advance article that indicated that the Mid-Currituck Bridge is one of Senator Basnight's top priorities.]

    Response: *Your organization's opinion on the viability of the project is noted. See the description of the current approach to state funding in the response to your organization's comment 24.*

25. **Comment:** G.S. 136-89.183A stipulates that the Mid-Currituck Bridge shall preserve the water quality of Currituck Sound and mitigate the environmental impact of the bridge on the Currituck County mainland and the Outer Banks. The stipulation in legislation does NOT say "to the extent that is practicable" as is often stated in the FEIS. [NO MID-CURRITUCK BRIDGE's comments in Appendix C include the cited law.]

    Response: *The Preferred Alternative would be built and operated in an environmentally sensitive manner. Project impacts would not change the current use or water quality classification of waters within the project area, which are designated as "SC" by NCDEQ-DWR. This saltwater classification represents the minimum quality standards applicable to all salt waters. According to NCDEQ-DWR, suitable activities for waters classified SC include aquatic life propagation and survival, fishing, wildlife and secondary recreation. Regulatory agencies will not issue permits and certifications that result in a degradation of water resources. As such, NCDOT is developing and is committing to a stormwater management plan in coordination with federal and state resource agencies (described in Section 2.1.7 of the FEIS as of 2012). As discussed in Section 1.3 of the Stakeholder Involvement for Final Environmental Impact Statement Technical Report (Parsons Brinckerhoff, 2011), this resource agency coordination included meetings between NCDOT and NCDEQ-DWR on October 1, 2010 and March 21, 2011 to discuss what could be reasonable and permittable approaches to stormwater management for a Mid-Currituck Bridge Project. NCTA will comply with the NCDOT's National Pollutant Discharge Elimination System (NPDES) permit (NCS000250) and requirements of the post-construction stormwater program. Representatives from USACE, NMFS, and NCDEQ-DMF also attended the March 21, 2011 meeting. The minutes from these meetings are included in Appendix C of the Stakeholder Involvement for Final Environmental Impact Statement Technical Report (Parsons Brinckerhoff, 2011). Prior to the March 21, 2011 meeting, NCTA provided the agencies with a briefing paper that summarized some of the previous options discussed for stormwater management, addressed agency concerns with these options, and*

presented a refined and more detailed stormwater management strategy for the proposed project. The briefing paper is included in Appendix B of the Summary of Agency Coordination Efforts to Resolve Potential Issues of Concern (NCTA, 2011) report, and Section 2.2 of this report also discusses stormwater management in the context of potential issues of concern raised by the agencies. Future meetings will be held after the release of a ROD as a part of the process of obtaining regulatory permits and certifications for the Selected Alternative.

The preliminary design of the Preferred Alternative also includes additional features to avoid degrading water quality in the project area, including a bridge over Maple Swamp, reduced four-lane widening on NC 12, and, to address flooding and treat highway runoff along the widened sections of NC 12, provision of infiltration strips and ditches that would transport water to dry infiltration basins.

26. **Comment:** This [the traffic and revenue forecasts on page 6 of the July 2011 final report] does not jive with the Turnpike Authority's [January 13, 2011] presentation regarding P3 and the Mid-Currituck Bridge. This presentation states that 80% of the expected toll revenue will come during the summer season, not 52% as indicated above [in the July 2011 report]. [NO MID-CURRITUCK BRIDGE's comments in Appendix C include Table ES5 from the referenced report showing the proportion of Mid-Currituck Bridge revenue by user type and two slides from the referenced presentation.]

    Response: *NCTA's January 2011 presentation was made based on information it had at the time. The percentage of expected toll revenue to be received during the peak summer season was revised at 53 percent in the Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts (Currituck Development Group, July 2011), as shown in Figure 28 on page 90 of the report. This number will be revised again in a new traffic and revenue forecast report underway at the time of the publication of this reevaluation.*

27. **Comment:** This slide below is what many feel perfectly describes this proposed project. [NO MID-CURRITUCK BRIDGE's comments include a slide (see Appendix C) from a UNC Kenan-Flagler Business School presentation that includes the following: "Machiavelli's Formula: underestimate costs + overestimated revenues + undervalued environmental impacts + overvalued development effects = project approval! Inverted Darwinism. Survival of the un-fittest."]

    Response: *Your observation is noted. However, the point of the slide in the larger context of the presentation, which as of April 1, 2012 was posted on-line at www.ncleg.net /DocumentSites/Committees/HSCPPP/Meeting%201%20-%2012.12.11/12.12.11%20-%20Jason%20Jolley%20Presentation.pdf, is good decisions cannot be made with poor data. The larger presentation talks about what public-private partnerships are, their benefits, how they work, risks and risk management, reasons they*

can fail, and three successful public-private partnerships. NCDOT has endeavored to properly estimate costs, revenues, environmental impacts, and development effects.

28. **Comment:** How will back-ups on the bridge be handled? Will there be signage to divert traffic? Will the toll prices show on signage on US 158 before motorists exit for the bridge?

    Response: *With the Preferred Alternative, the US 158/Mid-Currituck Bridge interchange is designed so that traffic would not back-up from the toll plazas onto US 158 or the bridge on summer weekends with the peak traffic volumes expected in 2035 with the original design and traffic forecast and expected in 2040 with the revised design new traffic forecasts prepared in 2016. The improvements to NC 12 with the Preferred Alternative also are designed so that traffic seeking to cross the bridge would not back-up on NC 12 with the peak traffic volumes expected in 2035 under the original design and forecasts and in 2040 under the revised design and new forecasts. However, as with any road, if an accident or some other incident occurs that blocks the travel lanes, back-ups would occur. Operational details regarding the handling of incidents or back-ups would be defined in a later stage. In addition, decisions on signage will be made during final design.*

29. **Comment:** Mr. Joyner did not mention at his presentation on the Legislative Study Commission on P3's meeting in January 2011 that there is strong local opposition to the bridge. We have a large billboard at the corner of 158 and Aydlett Road that says: Because IT IS Remote…..IT IS Worth the Drive! The local opposition on both sides of the water are very proud of our 10 x 30 foot billboard. [NO MID-CURRITUCK BRIDGE's comments in Appendix C include the legislative study commission on P3's January 2011 meeting minutes and a photograph of the billboard.]

    Response: *The organization's opinion is noted.*

30. **Comment:** The FEIS on page xvii says: "Following the receipt of comments on this FEIS and the finalization of the selection of a Preferred Alternative, additional archaeological surveys would be conducted on both land and water to identify the presence or absence of additional resources. Also, an assessment would be conducted of the NRHP eligibility of archaeological sites within the APE of the Preferred Alternative if they would be jeopardized by impacts from project construction." Why were additional archaeology studies not completed prior to the issuance of the FEIS as the archaeological findings could affect the Preferred Alternative?

    Response: *During the preparation of the DEIS, archaeological studies concluded that there was a potential for unidentified archaeological resources in the project area. This conclusion applied to all of the detailed study alternatives and would likely apply, for*

example, to the entire community of Aydlett. This conclusion indicated the need to conduct additional surveys. The potential for finding archaeological resources was not relevant to the decision on the Preferred Alternative because the artifacts that might be found in the project area would retain their value if removed from their location and archived. The important thing was that any resources not be lost during construction. Thus, there was no need to survey all of the detailed study alternatives prior to identification of a Preferred Alternative. The additional terrestrial and underwater archaeological surveys were conducted for the Preferred Alternative in September and October of 2011, and a draft report of the findings was provided to the State Historic Preservation Office (HPO) and the Office of State Archaeology (OSA) for concurrence in April 2012, which was after the release of the FEIS. The findings indicated that no significant terrestrial or underwater archaeological resources were found. The types of items found on land included, for example, a piece of glass, a piece of stoneware, and the remains of trash dumps. Items found in the sound included dock remnants along the western shoreline of the sound and items associated with crab pots. HPO and OSA concurred with the survey findings for terrestrial archaeological sites. However, they requested that diving be done in Currituck Sound to affirm the underwater findings, which were based on remote sensing. Based on the results of the September 2012 diving survey, there are no historically significant underwater cultural resources within the Area of Potential Effects (APE) of the Preferred Alternative. The HPO and OSA concurred with the September 2012 diving survey findings in December 2012.

These findings are unchanged since 2012 because there is no reason to believe historic and archaeological resource findings from cultural resource surveys in 2007, 2008, and 2009, as well as additional archaeological studies conducted for the Preferred Alternative in 2011 and 2012, have changed. This conclusion was affirmed by the HPO in July 20, 2015 and April 7, 2017 letters. The 2011 and 2012 archaeological studies covered an area that encompasses the footprint of both the original and revised Preferred Alternative designs. The area of effects to potential archaeological resources of ER2 was not surveyed in 2011 and would need to be if ER2 is the Selected Alternative in a ROD.

31. **Comment:** The FEIS says on page xviii: "Of the detailed study alternatives considered, the Preferred Alternative would have the least fill in wetlands based on the area within the slope-stake line (edge of earthwork) plus an additional 25-foot buffer (7.9 acres). **Of the alternatives with a Mid-Currituck Bridge, it would involve the least clearing of wetlands at 25.5 acres and the least shading of open water 6 feet deep or less at 8.7 acres. The Preferred Alternative would place no fill in streams.**" How does the impact of the Preferred Alternative compare with the ER2 Alternative? Isn't ER2 one of the detailed study alternatives? The NCTA is only comparing bridge alternatives to each other.

Response: *The detailed study alternatives include ER2 and the nine bridge alternatives listed in Tables 3-9 and 3-10 of the FEIS. ER2 was found to involve more fill in wetlands based on the area within the slope-stake line plus a 25-foot buffer than the Preferred*

Alternative. ER2 was found to affect 8.6 acres without a third outbound lane for hurricane evacuation, which the Preferred Alternative also does not have. (See Tables 3-9 and 3-10 of the FEIS.) In terms of wetlands clearing and shading, the sentence placed in bold is comparing only among the bridge alternatives. Clearing and shading impacts only occur under a bridge, as such ER2 would have no clearing impacts and 0.5 acre of shading impact under a widened US 158 crossing of Jean Guite Creek. Shading and clearing of wetlands would occur with the Preferred Alternative with the bridge over Maple Swamp (10.1 acres shading and 25.5 acres clearing in the FEIS). (See Table 3-6 of the FEIS.) As noted in the introduction to the section "What state and federal regulatory requirements must be met by the Preferred Alternative," the purpose of this section was to note how the Preferred Alternative relates to the requirements of various environmental laws that must be met to implement the project. Its focus was not on comparing alternatives, which is done in other sections of the FEIS summary. Wetland and other USACE jurisdictional resource impacts for the revised ER2 and Preferred Alternative designs and assuming the 2016 and 2017 wetland delineations are presented in Section 4.3.6 of this reevaluation study report.

32. **Comment:** The FEIS says on page xviii: "The North Carolina Coastal Resources Commission….issues CAMA permits for development in Areas of Environmental Concern (AEC). Four types of AEC occur within the project area: coastal wetlands, estuarine waters, coastal shorelines, and public trust waters. The shorelines and waters of Currituck Sound, as well as the wetland freshwater marsh communities found within the project area, are all considered AEC under CAMA. This also includes Jean Guite Creek, which is a Primary Nursery Areas (PNA)." To build an unnecessary bridge affecting 4 Areas of Environmental Concern is astounding. How many AEC's are affected with the ER2 or No-Build Alternatives?

    Response: *The FEIS indicated that ER2 would affect 0.8 acre of CAMA AEC (without a third outbound hurricane evacuation lane). The AEC affected with ER2 consists of coastal wetlands (0.74 acre of wetland freshwater marsh) and a small amount of estuarine/public trust waters (0.06 acres of Currituck Sound). The FEIS indicated that Preferred Alternative would affect 0.1 acre of AEC because of bridge piles in Currituck Sound, which is an estuarine/public trust water. (See Table S-1, Table 3-11, and Section 3.3.7.1 of the FEIS.) The No-Build Alternative would not affect AEC. The text referenced says that four types of AEC occur in the project area. It does not say all four are affected. CAMA AEC impacts for the revised ER2 and Preferred Alternative designs and assuming the 2016 and 2017 wetland delineations are presented in Section 4.3.7 of this reevaluation study report.*

33. **Comment:** The FEIS says on page xxi: "Changes in this table since the DEIS reflect changes made in response to comments, as well correction of some compiling, rounding, and typographical errors found in the process of preparing this FEIS. The latter changes did not affect the conclusions of the impact evaluation and they were not a factor in the selection of the Preferred Alternative." So to be clear, the Table S-1

in the DEIS was incorrect due to sloppy work including: typographical errors, rounding and compilation of data.

Response: *The purpose of a DEIS is to allow for comments from agencies and the public, as well as to update, refine and/or correct the DEIS document based on those comments. Given the complexity of the analysis and the diversity of issues, minor errors can occur in the documentation. The errors were corrected in the FEIS and previous conclusions were reaffirmed after the corrections were made. "Rounding error" is not a mistake but a choice. It is common, for example, that when a total project impact is broken down into say 20 biotic communities, that the breakdown when added is 0.1 or even 0.01 acre off from the total impact number. The only way to make them the same is to take the breakdown numbers to the third or fourth decimal place, which if presented in a report depicts an unrealistic level of accuracy. In this case, the choice is often made to show the actual total impact even though the breakdowns do not add up precisely to the total. A note about rounding error indicates to the reader that this was done intentionally and is not a mistake.*

34. **Comment:** The FEIS says on page xxvi: "Existing roads would be affected by sea level rise including in the Waterlily Road area of the US 158 interchange. A Mid-Currituck Bridge would be a useful asset in reducing the impact of sea level rise on the project area's road system. Under all sea level rise scenarios considered, the entire barrier island would be inundated at the Dare/Currituck County line, **creating a breach in the island and making a Mid-Currituck Bridge the only way off the Currituck County Outer Banks**." Again, sloppy work. If you look at a map, the Currituck Outer Banks is NOT an island; it is a barrier peninsula. It is well known locally that the False Cape and Back Bay parks are opened for passage through to Sandbridge, VA in times of emergency. Therefore, if a breach occurred at the county line, the proposed bridge would NOT be the only way off. In fact the Currituck Mainland south of the ICW IS an island, so the evacuees from the Currituck Outer Banks are evacuating onto an island. [NO MID-CURRITUCK BRIDGE's comments in Appendix C include a map to illustrate the point made in the comment.]

Response: *The word "island" is changed to "peninsula" in Appendix F of this reevaluation study report. Further, the text has been altered to say that the only way out of the Currituck Outer Banks in this situation would be north via driving on the beach into Virginia. NCDOT views this consideration as a potential benefit of a Mid-Currituck Bridge, but it is not listed in Section 2.6 of the FEIS as a reason for building the bridge. It is presumed that if at some point in the future NC 12 at the Dare/Currituck County line is threatened by sea level rise, the problem would be addressed at that time. For example, if there was no Mid-Currituck Bridge, a breach created by sea level rise could be bridged at the breach.*

35. **Comment:** The FEIS says on page xxvii: "Forecast development would be the predominant contributor to cumulative impacts, irrespective of whether a detailed

study alternative is built. The improved accessibility to Currituck County Outer Banks with the bridge would cause the order of future development to change such that development occurs first in Currituck County and later in Dare County. MCB2, MCB4, and the Preferred Alternative do not increase the demand for development but do accommodate the forecast demand for new development of 86 percent build-out in 2035. In contrast, the No-Build Alternative would result in congestion that could act to constrain practical development on the Outer Banks to 70 percent of maximum build-out. In addition, in terms of indirect impacts, the presence of the bridge could result in business development in proximity to the bridge's interchange with US 158 and associated use of farmland and visual change. This development, however, is desired by Currituck County. With MCB2, MCB4, and the Preferred Alternative, day visitor potential demand would increase, which could have some affect in the NC 12 area but likely would have more impact in the unregulated beach-driving area." As of December 2011, Corolla is 80 percent built out, without the convenience of a bridge (Source Currituck Planning Board). The limiting factor for full build out of the 4x4 area is due to the lack of a paved road through the area, which will never happen.

Response: *The comment related to the limiting factor for the "4x4" area is noted. The conclusion of the indirect and cumulative impacts analysis, indeed, found that the lack of a paved road north of NC 12 was the dominant factor limiting development.*

36. **Comment:** An article from the September 22, 2011 Daily Advance on the results of a panel studying limits on beach driving is included in NO MID-CURRITUCK BRIDGE's comments in Appendix C. It describes the risks associated with growing beach traffic. NO MID-CURRITUCK BRIDGE's related comments are: Aydlett, Corolla, Coinjock, and the North Beach area do not desire this development. Currituck County does not have any incorporated towns to express dissent against the bridge. Earlier in the FEIS, it was assumed that the bridge would not contribute to development. Page xvii states that "The Preferred Alternative would not create a significant risk beyond risks associated with development on the Outer Banks and the mainland that exist today." Page xxvii, Table S-1, Comparison of Key Impacts, states "Forecast development would be the predominant contributor to cumulative impacts, irrespective of whether a detailed study alternative is implemented."

Response: *The organization's observations on Currituck County government are noted. The second quote in the comment and the text that follows it affirms that the bridge would not contribute to Outer Banks development beyond what is currently expected and planned. That text also describes the induced development expected on the mainland, the potential constraint that the No-Build Alternative and ER2 could place on development, and the potential for increases in day visitors. The first quote in the comment indicates that the Preferred Alternative would not increase the risk of flood damage to development during storms by raising the flood elevation (see page 3-94 of the FEIS under "Significant Risk"). This quote is not related to indirect and cumulative impacts.*

37. **Comment:** Why is a Design Noise Study not included in this FEIS if it was known prior to printing that this information needed to be up-dated.

    Response: *The Design Noise Study is done based on the project's final design drawings. Final design generally is not started until after the issuance of the ROD. The noise impact assessment presented in the FEIS is updated in this reevaluation study report in Section 4.4.1.*

38. **Comment:** Regarding the "need to substantially improve traffic flow on the project area's thoroughfares (US 158 and NC 12)," the traffic congestion experienced on US 158 on the Currituck mainland is due to an insufficient intersection at NC 12/US 158 in Dare County, two-lane traffic with insufficient right-of-way in the Town of Duck (60 feet) that creates a bottleneck, and not enough travel lanes on NC 12.

    Response: *Comment noted. There are two ways to address this problem. The first is to improve existing roads. The second is the Mid-Currituck Bridge project, which would divert traffic from US 158 (to the south of the bridge interchange), the NC 12/ US 158 intersection, and NC 12 north of that intersection.*

39. **Comment:** Regarding the "need to reduce substantially hurricane evacuation times from the Outer Banks for residents and visitors who use US 158 and NC 168 as an evacuation route," more people on the northern Outer Banks due to access negates any benefit the additional crossing would provide particularly as evacuees merge with traffic heading north on US 158 on the Currituck mainland, only then to be sent to another bottleneck, (US 158 west through Elizabeth City).

    Response: *NCDOT's hurricane evacuation clearance model used for the FEIS accounts for expected and planned development on the Outer Banks through 2035. The updated hurricane clearance modeling discussed in Section 2.7 of this reevaluation study report accounts for expected and planned development on the Outer Banks through 2040. Both modeling efforts found that the worst bottleneck for evacuations off of the Outer Banks of North Carolina is US 158 between the NC 12 intersection and Barco (intersection of US 158 and NC 168). Because it is the worst bottleneck, something done in this area would reduce clearance times, as indicated in Table 2-3 of the FEIS and Table 3.4 of this reevaluation study report. Additional improvements to the remainder of the evacuation route outside of the project area, such as to US 158 west to Elizabeth City and US 17, also would further reduce clearance times.*

    A Mid-Currituck Bridge would reduce the length of the bottleneck created by the capacity constraint on US 158 from 27 to 5 miles by diverting some traffic from the Wright Memorial Bridge to the Mid-Currituck Bridge. As indicated in the comment, the capacity problem would remain when northbound traffic on US 158 and the Mid-Currituck Bridge meet, but according to officials responsible for hurricane evacuation, the shorter distance of capacity problems on US 158 would be easier to deal with and

reversing lanes (assumed as a part of the Preferred Alternative) would be manageable for 5 miles.

40. **Comment:** The FEIS says on page 1-5 that "hurricane evacuation times for residents and visitors who use US 158 and NC 168 as a hurricane evacuation route far exceed the state-designated standard of 18 hours." The state needs to re-evaluate the hurricane evacuation strategy and send more people south to US 64 west. This is often pointed out by news crews covering approaching hurricanes. They note people are not using the uncongested route to US 64 west, and instead are using US 158 north to travel through Elizabeth City adding further congestion during evacuations.

    Response: *The reason that so many people choose to use US 158 is because so many arrive on the Outer Banks via US 158. The summer weekend travel volumes on US 158 in the original traffic studies were 50,600 vehicles per day in 2006 just south of Barco. In the new traffic studies results summer weekend travel volumes on US 158 just south of Barco are 43,600 in 2015. The same volumes on US 64 in 2006 were 6,500 vehicles per day from just east of Columbia to the western shore of the Alligator River. While diversion of some evacuees to US 64 could be done, it would be counter to people's natural tendency to head directly for home. The hurricane clearance time model used in the FEIS clearance time assessment and the clearance time assessment described in this reevaluation study report takes into consideration the behavior of evacuees in past evacuations, including the routes they choose to take.*

41. **Comment:** The DEIS says on page 2-5: "ER2 was developed to achieve maximum transportation benefits using the existing roadways, while minimizing impacts to communities along those roads." ER2 presents the least impacts while achieving maximum travel benefits. Therefore it is the only alternative that should be considered for the LEDPA.

    Response: *Both ER and the Preferred Alternative can be considered for the LEDPA as a part of the USACE permit process. The FEIS found that ER2 achieves "maximum transportation benefits using the existing roadways." However, the Preferred Alternative was found to achieve greater transportation benefits than ER2, as indicated in Table 2-3 of the FEIS. The Preferred Alternative in the FEIS was chosen by taking into account the key findings associated with travel benefits; community, cultural, natural resource, other physical characteristic impacts; and financing and design considerations, as well as public involvement comments. Section 2.6 of the FEIS presented the reasons why the Preferred Alternative was selected. Those reasons are revisited in Section 1.3 of this reevaluation study report.*

42. **Comment:** Increasing the road carrying capacity of NC 12, which is the primary north/south route, should be the only logical choice to alleviate traffic experienced

on the northern Outer Banks during the summer weekday. The bridge will do nothing to address the weekday traffic.

Response: *With the new forecasts and congestion analysis NC 12 capacity assumptions, congestion severity is about the same on the summer weekday for the No-Build Alternative (assuming constrained development) and the Preferred Alternative (planned and expected development would not be constrained). Adding capacity to NC 12 (ER2's center turn lane), however, reduces the constraint on development associated with the No-Build Alternative. With additional development in Currituck County, more visitors travel on NC 12 through Southern Shores on the summer weekday, making summer weekday congestion worse and not better. This finding is illustrated in Figures 3-2, 3-3, and 3-5.*

43. **Comment:** Regarding Figure 2-5 on page 2-8 of the FEIS, NC 12 widening to 3 lanes would be suitable for 3 lanes through Duck which only has a 60 foot ROW. Duck says they don't want to lose their neighborhood feel due to 3 lanes. Aydlett, which will have substantial impacts due to the proposed bridge, would also like to keep its' neighborhood feel. Why is Duck being catered to?

    Response: *The community impacts of the detailed study alternatives are assessed for all of the communities affected, including Aydlett, Southern Shores, Kitty Hawk, the communities on the Currituck County Outer Banks, and Duck. These impacts are discussed as part of the community impacts section in the FEIS (Section 3.1).*

44. **Comment:** The FEIS says on page 2-17: "MCB4, which includes only limited improvements to NC 12, also would not eliminate congestion on NC 12 on the summer weekday." Why are we spending $700 million for a bridge that you admit will not alleviate the most traffic? Though none of the options will alleviate all of the summer time congestion, ER2 is the least environmentally damaging and least expensive of the alternatives, save the No-Build Alternative. Give me one instance of a popular vacation destination that does NOT experience congestion. Your excuse for not addressing other options than the bridge, are based on the FALSE idea that there is no funding for these necessary projects. The state created funding for the bridge, the state can remove funding for the bridge as it did for years 2009-2010 and 2010-2011 and reprogrammed that money to replace needed school buses. Other projects within the STIP which need to be addressed in the bridge project area include widening of US 158 east of the Wright Memorial Bridge and construction of an interchange at US 158 and NC 12. With limited transportation funding to address the state's needs, we need to use that money for the most practical solutions. If these other projects will need to be addressed with or without the bridge, then why not fund those projects, and save the State of North Carolina $28 million/year?

    Response: *The FEIS on page 2-17 also says that "With ER2, three lanes on NC 12 would not eliminate congestion on the summer weekday." The Preferred Alternative*

would reduce the length and severity of congestions on NC 12 and would do so by a greater amount than ER2, as illustrated in Figures 3-1 to 3.3, which show the new congestion analysis results.

The 2009 to 2011 state-designated gap funding for the Mid-Currituck Bridge referred to by the commenter was diverted at that time because it was not used for the project in those years. As described in the response to this organization's comment 10, since the release of the FEIS, the State of North Carolina has made substantial changes in how it allocates state highway funds. In 2013, the General Assembly, as part of the Strategic Transportation Investments (STI) Law (Session Law 2013-183 and House Bill 817) established the Strategic Mobility Formula, a new way of allocating NCDOT's major revenue sources based on data-driven scoring and local input. The STI also withdrew the annual state appropriations or "gap funding" for the Mid-Currituck Bridge Project. Using the Strategic Mobility Formula, NCDOT allocated funding to the Mid-Currituck Bridge project based on the new formula in the 2016 to 2025 STIP and the 2018 to 2027 STIP. Under current transportation funding law, these funds could be reallocated to ER2. The funds allocated in the preliminary Plan of Finance for Preferred Alternative in Section 1.2.5 that are not supported by toll revenues would not be adequate to construct ER2.

45. **Comment:** The FEIS says on page 2-17: "Traffic improvements are seldom designed to eliminate completely the worst hours of congestion. Thus, except for the second exception noted above, the detailed study alternatives, including the Preferred Alternative, were not designed to handle all summer weekend congestion in 2035, which will occur only 26 days a year on the 13 summer weekends." So this massive project which will place undue burden on a very sensitive environmental area (Maple Swamp which is a naturally significant heritage area), the Currituck Sound and the northern OBX will NOT alleviate the 26 days of traffic experienced on the Currituck Mainland and the OBX during the times the vacationers arrive/depart. Again, why is the state spending $28 million/year for 50+ years ($1.361 BILLION DOLLARS +) to subsidize a project that will not address the main issue of traffic on the summer weekends?

Response: *The Preferred Alternative would reduce the length and severity of congestions on NC 12 and would do so by a greater amount than ER2, as illustrated in Figures 3-1 to 3-3, which show the new congestion analysis results, the only way to eliminate congestion on NC 12 would be to widen it to four lanes, which would cause major displacements of homes and businesses in Dare County, as discussed in Section 2.1.2.2 of the Alternatives Screening Report (Parsons Brinckerhoff, 2009).*

46. **Comment:** The FEIS says on page 2-36: "The only way to reduce hurricane evacuation clearance times in the project area is to add additional evacuation capacity on US 158." Has using the US 158 Bypass south to US 64 west been examined to ease the congestion experienced on US 158 north to Elizabeth City?

Was this possibility factored into your deduction that added capacity is necessary on US 158 north? If not, then not all possibilities have been fully examined to reduce this congestion during evacuation events.

Response: *Yes, the use of US 64 was factored into the hurricane evacuation clearance time modeling (FEIS and the new clearance time modeling in this reevaluation), which takes into consideration evacuation patterns from previous evacuations. Also, see the response to this organization's comment 40 above, which also asks about the use of US 64.*

47. **Comment:** The FEIS says on page 2-37: "ER2 includes 27 miles of new pavement for a third outbound hurricane evacuation lane or use of the center turn lane (including the Knapp Bridge and Wright Memorial Bridge)." The operative word is OR. Additional lanes are not required under the ER2 alternative as the existing center lane can be used to facilitate evacuation from WMB north. If this reversing of the center turn lane is feasible if a bridge were in place, then it should be equally feasible without the bridge.

    Response: *Using reversible lanes with ER2 would create the largest traffic management challenges compared with the other detailed study alternatives since the reversible lane would need to be set up for 27 miles, which is 22 miles longer than with the Preferred Alternative. As indicated in Section 2.1.10.2 of the FEIS, emergency management officials have concluded that reversing the center turn lane for 27 miles is not a realistic option because it would be more than could be handled in terms of equipment set-up and take-down, as well as in terms of controlling traffic turning to and from intersecting roads such that it would not disrupt traffic flow.*

48. **Comment:** Why does the Preferred Alternative, which is a modification of MCB4, have different values in Table 2-2 on page 2-37 of the FEIS for the addition of a third outbound lane? That makes no sense. By reversing the center turn lane, you would achieve the same benefit, which, by the way, is only necessary once every 9 years or so, on average. The money saved by not building the bridge and not adding a third outbound lane for hurricane evacuation is enormous. According to the table under reversing lane operations, the highway parole person-hours for the ER2 alternative and the preferred alternative is relatively negligible in comparison to costs associated with the bridge.

    Response: *The Preferred Alternative does not include a third outbound lane. Additionally, as noted in the response to this organization's comment 47, reversing the center turn lane on US 158 for 27 miles is not a realistic option from the perspective of emergency management officials.*

49. **Comment:** The FEIS says on page 2-40: "Thus, reversing lanes for 27 miles is not a realistic option, leaving for ER2 only adding a third outbound lane as a reasonable

strategy for reducing hurricane evacuation times by increasing road capacity along US 158." Again US 158 South in Dare County is under-utilized for hurricane evacuation. If this route was used to handle the evacuation of the Northern Outer Banks then there would be no need for a third outbound lane on US 158 North on the Currituck Mainland.

Response: *See the responses to this organization's comments 40 and 47.*

50. **Comment:** The FEIS says in Section 2.1.12 "NCTA also would work to establish interoperability agreements with other toll authorities in the United States to enable the sharing of tolling accounts and transactions. These agreements would allow other toll authority's transponders to be used for toll payments on a Mid-Currituck Bridge. Toll road users also may have the option of buying project-specific transponders with a specified number of prepaid tolls." The November 14, 2011 NCTA meeting minutes about privacy issues and interoperability state: "JR Fenske discussed toll technology and interoperability. Ms. Fenske discussed the different types of tolling technology. JR stated that there are 20 toll roads across the US that are using or pursuing all electronic tolling. She discussed the evolution of tolling and payment options. She stated that current toll programs do not allow for full national interoperability due to technology as well business rules and legislation." Considering that the majority of the travelers to the OBX are out-of-state vacationers, the difficulty and cost of interstate collections will weigh heavily on this type of tolling. Also, the majority of the users will not buy a transponder for 1 visit per year at most.

Response: *Recognizing that out-of-state vacationers would be a significant group of Mid-Currituck Bridge users, NCTA has and will continue to take steps to make toll payment convenient.*

First, the Mid-Currituck Bridge would be 100 percent compatible with North Carolina's Quick Pass (www.myncquickpass.com) program. That means that the same NC Quick Pass transponder and toll account that is used at any current or future NCTA facility, such as the Triangle Expressway, could be used to pay the toll at the Mid-Currituck Bridge.

Second, NC Quick Pass is the most interoperable toll collection program in the country. NCTA is one of E-ZPass Group's nearly 40 toll agency members in 16 states, with over 32 million transponders currently in circulation – all of which could be utilized on the Mid Currituck Bridge. Similarly, SunPass (Florida) and Peach Pass (Georgia) customers would be able to cross the Mid-Currituck Bridge and have their existing toll account billed. In addition, while efforts to select a single technology (protocol) for national interoperability are ongoing, NCTA's current toll system technology is compatible with all three candidate protocols.

Finally, for those users that do not have a compatible transponder, tolls also could be paid at designated lanes of the Mid-Currituck Bridge toll plazas with cash or any major credit card. In addition, a satellite NC Quick Pass Customer Service Center would be located at the Mid-Currituck Bridge toll plaza administration building to allow users to purchase NC Quick Pass transponders or enroll in a Mid-Currituck Bridge frequent user discount program.

51. **Comment:** If there are cash/credit lanes, was that considered in the travel time considerations of traveling the bridge? [NO MID-CURRITUCK BRIDGE's comments on the FEIS in Appendix C include a slide from Grady Rankin on NCTA All Electronic Tolling.]

    Response: *The travel time on the bridge was calculated based on forecast speed and distance and the result was rounded-up to the 11 minutes presented in Table 2-3 of the FEIS and Table 3-4 of this reevaluation study report. Based on experience on other toll facilities, a manual toll lane collecting a high toll can process 200 vehicles per hour or one vehicle every 18 seconds. The exclusive electronic toll collection (ETC) lane incorporated into a toll plaza can process 900 vehicles per hour or one every 4 seconds. The number of lanes for the toll plaza shown in the revised design for the Preferred Alternative was chosen to achieve these processing times. It includes three lanes in each direction, including one electronic tolling lane and two combination electronic tolling/manual lanes.*

52. **Comment:** The FEIS says on page 2-46: "NCTA has identified two funding sources available for the Preferred Alternative. The two funding sources are state appropriations from highway user taxes and toll revenues. Using these two funding sources, three financing techniques would be used in combination if the Preferred Alternative is selected for implementation." The text goes on to describe state appropriation bonds. State appropriation bond funds are not guaranteed. These funds were removed completely in a version of the 2011-2012 Budget. The appropriations for 2009-2011 were reprogrammed to purchase replacement school buses. The legislation in G.S. 136-172 (b2) states "Notwithstanding the foregoing, it is the intention of the General Assembly that the enactment of this provision and the issuance of bonds or notes by the Authority in reliance thereon shall not in any manner constitute a pledge of the faith and credit and taxing power of the State, and nothing contained herein shall prohibit the General Assembly from amending the appropriations made in this subsection at any time to decrease or eliminate the amount annually appropriated to the Authority."

    Response: *NC General Statute (GS) § 136-176 (b2) describes appropriations to NCTA from the Highway Trust Fund and contains the referenced quote, so it is true that the General Assembly had the authority to modify the amount or sources of gap funding for the project at any time and in fact did so in 2013, when the gap funding was withdrawn. If the State issued GARVEE bonds for the project against future state*

transportation fund revenues as noted in Section 1.2.5 of this reevaluation study report, the General Assembly also could choose to use those future revenues for other actions besides paying the bond interest and principal, just as a consumer can choose to stop making payments on a car loan or a mortgage. However, non-payment of the bonds would have significant adverse impacts on the State's credit rating and its future borrowing costs. Thus, it is not likely that this would occur. The 2009 to 2011 state-designated gap funding for the Mid-Currituck Bridge referred to by the commenter was diverted because it was not used for the project in those years.

53. **Comment:** In a March 23, 2010 presentation David Joyner said that without TIFIA financing, no North Carolina [toll] project is financeable; the state has already committed $99 million in annual appropriation to [its] first four projects; without TIFIA, these commitments increase 46 percent to $144 million per year; and the state is unable and unwilling to increase these annual appropriations. [NO MID-CURRITUCK BRIDGE's comments on the FEIS in Appendix C present the four presentation slides that say this, present dollar amounts associated with four NCTA projects, including the Mid-Currituck Bridge, and present difficulties associated with the demand for limited TIFIA funds.]

    The presentation slides indicate a $13.8 million dollar per year increase to annual appropriation without TIFIA. That is the amount that then Senate Pro Tempore, Marc Basnight, increased the annual appropriation for the bridge project from $15 million per year to the $28 million per year. Marc Basnight had the political clout to manipulate Legislative Statues and to increase the states commitment for the project in his district. Without Marc Basnight this project would have never been given life support. The NCTA has repeatedly failed to obtain TIFIA financing and is not expected to receive these limited funds. Also of note, the projected revenue of $21 million per year at the outset, is vastly overstated. This assumption mandates that all vehicles traveling north on NC 12 from US 158 would pay the astronomical toll of $28. How many vehicles traveling north on NC 12 continue on past the Currituck/ Dare County line?

    Response: *As of 2012, TIFIA had approximately $110 million available annually to provide credit subsidy support to projects. Although dependent on the individual risk profile of each loan, collectively, this budget authority could support approximately $1.1 billion in annual lending capacity. In 2012, 26 TIFIA letters of interest were received with a total cost of $13 billion. Requests in 2010 were more than $12 billion and in 2011 were more than $14 billion. In light of the increased demand, the MAP-21 Federal-aid highway programs reauthorization signed into law July 2012 expanded TIFIA, bringing the program's funding up to $750 million in 2013 and $1 billion in 2014. NCTA is likely to apply for TIFIA funding again for this and other projects.*

    Regarding the $28 toll, see the response to public comment 7 in Section B.3.5. With the Mid-Currituck Bridge, it is expected that almost all of the drivers arriving and departing

on summer weekends with destinations south of the Wright Memorial Bridge would use the existing road system and not the Mid-Currituck Bridge.

54. **Comment:** Page 2-49 of the FEIS asserts that ER2 would need to be built using traditional highway financing methods, state law would need to be modified to make gap funding available for ER2, and traditional funds are subject to the equity formula and are limited in Division 1 because of the Bonner Bridge by project. [The full paragraph that includes the assertions is included in NO MID-CURRITUCK BRIDGE's comments on the FEIS in Appendix C.] The funding for the proposed bridge is tenuous at best. The State reprogrammed gap funds for years 2009-2011 to the tune of $30 million to purchase replacement school buses. Twice the NCTA has sent Letters of Interest for TIFIA financing and failed to be considered. We do not expect that TIFIA financing will be offered on this latest attempt either. Continuation of State gap funding is questionable as the state is now focusing on much needed bridge and road maintenance and replacement of severely deficient bridges i.e. the Bonner Bridge as noted in the FEIS. The most urgent needs should be the focus of limited state funding, not projects as this, which will primarily be used on summer changeover days, 26 days per year. Also of note, the major political backing for this project is now gone or will be, as of the upcoming election. Marc Basnight, the major backer of this project, has retired, Representative Bill Owens, Tim Spear and Governor Bev Perdue are not seeking re-election. The change in political climate as well as transportation priorities has shifted and does not view this project as viable.

    Response: *The gap funding for the Mid-Currituck Bridge was withdrawn by the General Assembly in 2013. State funding for a Mid-Currituck Bridge is now included in the 2016 to 2025 STIP and in the 2018 to 2027 STIP. This indicates a Mid-Currituck Bridge is a priority. It is possible to reallocate the Mid-Currituck Bridge STIP funds to ER2. However, the funds allocated in the preliminary Plan of Finance for Preferred Alternative in Section 1.2.5 of this reevaluation study report that are not supported by toll revenues would not be adequate to construct ER2.*

55. **Comment:** The FEIS says on page 2-54: "The Preferred Alternative, as well as MCB4, would provide substantial congestion reduction and travel time benefits while minimizing the widening of NC 12, and also would not require widening of US 158 from the Wright Memorial Bridge to NC 12, or an interchange at the US 158/NC 12 intersection." "Should additional improvements to NC 12 and US 158 and a US 158/NC 12 interchange (e.g., the components of MCB2 not included in the Preferred Alternative and MCB4) be pursued in the future, they could be built without additional impact over that defined for MCB2. With the Mid-Currituck Bridge included in the Preferred Alternative and MCB4, a future interchange at NC 12 and US 158 would not carry as much traffic (traffic would divert to the Mid-Currituck Bridge), and the interchange configuration would result in fewer community and access impacts than without a Mid-Currituck Bridge (ER2)." These

projects are in the STIP and will be needed within the next 10 years as stated earlier in the FEIS. The HIGH toll (2X higher than the Chesapeake Bay Bridge Tunnel) primarily used summer weekends (26 days per year), does not support building the bridge. The other components are in the STIP and sorely need to be addressed. To assume that all traffic turning north on NC 12 from US 158 would use the Mid-Currituck Bridge is unrealistic and would be an absolute best case scenario, and still very unlikely with the high toll rates. The following includes excerpts from the DISCLAIMER at the end of the Traffic & Revenue Forecasts Final (July 2011).

> In formulating the forecasts Arup has reasonably relied upon the accuracy and completeness of information provided by North Carolina Turnpike Authority and other local and states agencies. Arup has also relied upon the reasonable assurances of some independent parties and are not aware of any facts that would make such information misleading. In preparing its assessment, Arup has relied on data collected and analyzed by third parties for which Arup does not assume responsibility.
>
> **These estimates and projections may not be indicative of actual or future values, and are therefore subject to substantial uncertainty. Future developments cannot be predicted with certainty, and may affect the traffic and revenue forecasts expressed within this report**, such that Arup does not specifically guarantee or warrant any estimate or projection within this report. While Arup believes that the projections or other forward looking statements contained within the report are based on reasonable assumptions as of the date in the report, **such forward looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted**. Therefore, following the date of this report Arup will take no responsibility or assume any obligation to advise of changes that may affect its assumptions contained within the report, as they pertain to; socio-economic and demographic forecasts, proposed residential or commercial land use development projects and/or potential improvements to the regional transport network.

Response: *It is agreed that the other projects in the STIP reflect transportation needs that should be addressed. Improvements to US 158 between the Wright Memorial Bridge and US 64 at Nags Head are listed in the 2018 to 2027 STIP.*

It was not assumed in the traffic forecasts (either the original 2035 or new 2040) that all traffic turning north on NC 12 from US 158 today would use the Mid-Currituck Bridge. Regarding the $28 toll, see the response to public comment 7 in Section B.3.5. The quoted disclaimer, or something similar, is a standard disclaimer that is included in traffic and revenue studies. Given the amount of time that has passed since the preparation of the Arup report, a new investment grade toll and revenue study is being prepared.

56. **Comment:** Additionally drivers are avoiding tolls on the Chesapeake Expressway, as indicated in the article "Battlefield traffic heavier as drivers skirt new tolls" from the June 24, 2011 Virginian-Pilot [included in NO MID-CURRITUCK BRIDGE's comments on the FEIS in Appendix C]. Of note, that toll is less than 25% of the $28 toll that will be waiting for them on a summer Saturday.

    Response: *See the response to this organization's similar comment 6.*

57. **Comment:** The FEIS says on page 2-55: "The Preferred Alternative seeks to avoid and minimize impacts to jurisdictional waters, **as practicable**. Wetland fill impacts, calculated as including the area within 25 feet of the slope-stake line, are estimated to be 7.9 acres. This impact would be higher for all of the other detailed study alternatives, including ER2 at 8.6 acres." "The construction approach described for the Preferred Alternative in Section 2.4.2 seeks to minimize construction related impacts to Currituck Sound, **as practicable**." The General Statue that created the bridge project states: "§ 136-89.183A. Accelerated Pilot Toll Bridge Project. (d) Environmental Protection. – The Authority shall ensure that the Mid-Currituck Bridge is implemented in a manner that accomplishes all of the following: (1) Ensures the preservation of water quality in Currituck Sound. (2) Mitigates the environmental impact of the bridge on the Currituck County mainland and the Outer Banks. (3) Reduces traffic congestion and vehicle miles traveled, and preserves the character of the existing road system, in Dare County and Currituck County."

    Wetland fill impacts between the Preferred Alternative and ER2 are negligible. The statute does NOT state "to the extent practicable". The water quality in the sound MUST be maintained. The same goes for the environmental impacts of the bridge on the mainland and Currituck Outer Banks.

    Response: *From the perspective of the state law referenced:*

    – *In the FEIS, NCDOT committed to developing and implementing a stormwater management plan (a preliminary plan is described in Section 2.1.7 of the FEIS). Project impacts will not change the current use or water quality classification of waters within the project area, which are designated as "SC" by NCDEQ-DWR. This saltwater classification represents the minimum quality standards applicable to all salt waters. According to NCDEQ-DWR, suitable activities for waters classified SC include aquatic life propagation and survival, fishing, wildlife and secondary recreation. Regulatory agencies will not issue permits and certifications that result in a degradation of water resources.*

    – *The project will comply with the NCDOT's National Pollutant Discharge Elimination System (NPDES) permit (NCS000250) and requirements of the post-construction stormwater program. The selection of the location and design components of the Preferred Alternative were focused on protecting the natural*

environment, including bridging Maple Swamp and using the C1 bridge terminus on the Outer Banks, as well as the design refinements listed in Section 2.1.2.5 of the FEIS. The FEIS documents the planned mitigation measures for the Preferred Alternative, including specific project commitments presented in the "Project Commitments" section of the FEIS and updated in Appendix G of this reevaluation study report.

– *The Preferred Alternative identified would reduce vehicle-miles traveled, as well as preserve the character of the existing road system. The only changes to the road system under the revised design are a change in the location of northbound lanes on US 158 to accommodate the bridge interchange, widening NC 12 on the Outer Banks in the bridge termini area, and a left turn lane from Albacore Street to southbound NC 12z*

58. **Comment:** The FEIS says on page 3-8: "None of the detailed study alternatives, including the Preferred Alternative, include improvements in the Duck commercial area." Why has Duck gotten preferential treatment with regards to detailed study alternatives? Duck is the biggest bottleneck and cause of congestion experienced on NC 12 due to its 60 foot ROW, 25 mph speed limit and single lane traffic in both directions. Since Duck allowed irresponsible development patterns and narrow right-of-way it should be incumbent upon Duck to bear the brunt of the changes necessary to allow for the smooth flow of traffic into and out of the area as NC 12 is the route vacationers travel once they have arrived as they sightsee up and down the Outer Banks.

Response: *The FEIS design for ER2 includes widening NC 12 to three lanes from Southern Shores to Albacore Street in Currituck County. The revised design for ER2 includes widening NC 12 to three lanes from Southern Shores to the Duck commercial area. NC 12 is already three lanes in the commercial area. Thus, no widening is needed in the commercial area. The NC 12 right-of-way width in Duck is 60 feet. Property owners had every right to develop their land on either side of that right-of-way. A right-of-way width of 60 feet is appropriate for a two-lane road and when it was established there would have been no expectation that intense development in Currituck County would one day occur. Thus, there would have been no justification at the time for a wider right-of-way.*

59. **Comment:** The FEIS says on page 3-9: Residents of Aydlett have expressed concern about the potential impacts on their way of life related to the presence of a toll plaza in Aydlett and the revised local road system with Option B. Concerns expressed included the potential for drivers to change their minds about using the bridge just before the toll plaza and use roads in the Aydlett community to return to US 158, particularly during periods of high traffic congestion such as a crash on the approach road or the bridge. In this case, these drivers would add traffic to the Aydlett street system and introduce strangers with no business in this rural residential

community." "**Finally, citizens also felt that Option B contradicted previous promises that there would be no access between the bridge project and Aydlett. Similar comments were received at the public hearing and during the public comment period for the DEIS.**"

Aydlett residents did not FEEL that Option B contradicted previous promises, IT GOES DIRECTLY AGAINST THE CURRITUCK COUNTY LAND USE PLAN as stated in our comments for the DEIS. SO IT IS NOT JUST A MATTER OF OPINION. The land use plan says: "POLICY TR13: A new MID-COUNTY BRIDGE between the mainland and Corolla shall be supported to provide critical traffic relief to US 158, to improve emergency access to and evacuation from the Currituck Outer Banks, to promote economic development, and to provide better access to public and private services not readily available on the Outer Banks. **To protect the character of communities near the bridge (e.g. Aydlett, Churches Island, Poplar Branch), the road leading to the bridge shall have no access points before its intersection with US 158.**

Response: *Land use plan incompatibility was one factor in the decision not to include Option B in the Preferred Alternative and why Option B was not revisited in Appendix G of this reevaluation study report. The FEIS says the following in Section 3.1.6 when discussing each detailed study alternative's consistency with land use plans: "MCB2 and MCB4 with design Option B would be inconsistent with Currituck County Transportation Policy TR13, as the location of the toll plaza in Aydlett at the western end of the bridge would enable direct vehicular access between the bridge road across Maple Swamp and Aydlett." This quote also is contained in this organization's comment 62.*

60. **Comment:** The FEIS says on page 3-9: "Currituck Sound serves as a natural barrier between mainland Currituck County and the Outer Banks. With MCB2, MCB4, and the Preferred Alternative, the Mid-Currituck Bridge would remove this barrier and create, instead, a connection between the mainland and Outer Banks. This would result in improving accessibility between the Currituck County mainland and the Outer Banks. It would facilitate travel for service workers, county employees, emergency services, and school children that need to travel between the Currituck County mainland and the Outer Banks." Regarding this statement, Corolla has won their fight for a charter school which negates the need to bus school children to the mainland. The bridge would be too expensive for service workers due to low wages offered for seasonal work and the toll is much higher than the cost of fuel to drive around. Also, Corolla has Fire/EMS services and a satellite police station. There is also the Nightengale Helicopter that the county has helped pay for, to airlift critical patients to nearby hospitals. The physical connection between the Currituck mainland and its Outer Banks is not a satisfactory reason for building this bridge.

Response: *This organization's position related to this benefit is noted. In reference to emergency access, the Community Impact Assessment Technical Report (Parsons Brinckerhoff, 2011) states that the Mid-Currituck Bridge would provide a second and faster route for back-up emergency services between the Currituck County mainland and the Currituck County Outer Banks. This would enable back-up police, fire, and other emergency responders quicker access to the Currituck County Outer Banks by reducing travel distance and time between the mainland and the Outer Banks. It also would allow a shorter response time from the Outer Banks to hospitals and other facilities on the mainland. In reference to service workers, the Community Impact Assessment Technical Report (Parsons Brinckerhoff, 2011) says that such persons and low-income vacationers would more than likely continue to use the Wright Memorial Bridge. In reference to Corolla being awarded a charter school, the Water's Edge Village School in Corolla has been operating for five years, last year for kindergarten through seventh grade, with eighth grade added for the 2017-2018 school year. It is approved for 36 students. In 2015, the school enrolled 19 students. The school is considering whether to grow past eighth grade. If the school does not expand beyond eighth grade, the bridge would give parents living on the Currituck County Outer Banks the opportunity to put their high school aged children in public schools on the Currituck County mainland and the opportunity to place their children of any age in larger schools if that is their preference. At the same time, the shorter travel time and associated cost savings for motorists using the Mid-Currituck Bridge can still be viewed as a benefit. Even if service workers continue using the Wright Memorial Bridge they would benefit from less congestion and improved travel times because the Mid-Currituck Bridge would divert some traffic. For more information, refer to Sections 6.6.2 and 6.9.2 of the Community Impact Assessment Technical Report (Parsons Brinckerhoff, 2011).*

61. **Comment:** The FEIS says on page 3-16: "MCB2, MCB4, and the Preferred Alternative would be **inconsistent** with the Currituck County Land Use Plan, as the western bridge approach traverses a designated "Conservation Area," Maple Swamp. It is impossible to build a Mid-Currituck Bridge without passing through Maple Swamp." It is a ridiculous statement to say that it is impossible to build the bridge without passing through Maple Swamp.

    Response: *NCDEQ-DCM has determined that the Preferred Alternative is compatible with local land use plans per the requirements of North Carolina's CAMA. (See NCDEQ-DCM's comments on the FEIS in Appendix C, which include the reasons why it reached this conclusion.)*

    Maple Swamp extends north to the Intracoastal Waterway and south to Poplar Branch, just south of NC 136. Section 3.2.2 of the Alternatives Screening Report (Parsons Brinckerhoff, 2009) described why alternatives north of the Intracoastal Waterway and south of Poplar Branch were not considered reasonable for detailed evaluation.

62. **Comment:** The FEIS says on page 3-16: "MCB2 and MCB4 with design Option B would be inconsistent with Currituck County Transportation Policy TR13, as the location of the toll plaza in Aydlett at the western end of the bridge would enable direct vehicular access between the bridge road across Maple Swamp and Aydlett." "The US 158/Mid-Currituck Bridge interchange with MCB2, MCB4, and the Preferred Alternative would be placed in Currituck County within an existing "Limited Service Area." The Currituck County land use plan identifies Limited Service as primarily residential development at low densities and conservation." The Bridge in any format, including the Preferred Alternative goes AGAINST Currituck County Land Use Plan for the area around the bridge terminus and Maple Swamp according to the statements above.

    Response: *Option B is not a part of the Preferred Alternative. NCDEQ-DCM has determined that the Preferred Alternative is compatible with local land use plans per the requirements of North Carolina's CAMA. (See NCDEQ-DCM's comments on the FEIS in Appendix C, which include the reasons why it reached this conclusion.) In addition, the Currituck County land use plan allows commercial uses with a tourist orientation in Limited Service Areas, which would likely be the case with possible commercial development induced by the project at the US 158/Mid-Currituck Bridge interchange.*

63. **Comment:** The FEIS on page 3-22 says: "Crime rates are not anticipated to increase with any of the detailed study alternatives, including MCB2, MCB4, and the Preferred Alternative, which would provide a direct connection between the mainland and the Currituck County Outer Banks." Greater accessibility, many vacant homes on the Outer Banks during the winter, and an alternate route for escape increase crime in the area during the winter months. The table offered in the FEIS under section 3.1.11, compares crime rates per 100,000 people. If crime rates are compared for the county from 2000 to 2007, there were 2007: 577 crimes as compared to 2000: 461 crimes. This direct comparison shows an increase of 25% in 7 years. Source: North Carolina State Bureau of Investigation.

    Response: *The FEIS table in question, Table 3-2, does not show data for 2000; however, it does indicate that the crime rate per 100,000 population in Currituck and Dare counties was lower in 2007 than in 2002, 1997, or 1993. This occurred over a period when resort development and seasonal population increased.*

64. **Comment:** The FEIS says in Section 3.1.12: "The greatest impact on farmland would be associated with the US 158/Mid-Currituck Bridge interchange with MCB2, MCB4, and the Preferred Alternative. ER2 would affect less than 2 acres of prime farmland soils and less than 2 acres of state and locally important farmland soils. MCB2/A, MCB4/A, and the Preferred Alternative each would affect approximately 37 acres of prime farmland soils and 72 acres of state and locally important farmland soils, primarily in the US 158/Mid-Currituck Bridge interchange area on the mainland." The bridge alternatives substantially affect prime farmland soils and locally

important farmland soils. ER2 would affect < 2 acres as opposed to 72 acres. If no third outbound lane for ER2, would any state and locally important farmland be affected?

Response: *The farmland impact of ER2 is associated with the third outbound lane (the same with either the FEIS or revised design). Without the third outbound lane, ER2 would have no impact on prime and state and locally important farmland soils.*

65. **Comment:** The FEIS says on page 3-27: "The potential exists for archaeological resources to be affected by the detailed study alternatives, including the Preferred Alternative. Additional studies would be conducted after selection of an alternative for implementation. The potential for additional, as yet unidentified, cultural resources sites in the project area is indicated by the presence of known sites within the APE and the extensive and continued use of the area from prehistoric times. Therefore, following the receipt of comments on this FEIS and finalizing the selection of a Preferred Alternative, additional archaeological surveys would be conducted on both land and water to identify the presence or absence of additional resources. Also, an assessment would be conducted of the NRHP eligibility of sites within the APE of the Selected Alternative if they would be jeopardized by impacts from project construction." It makes absolutely NO sense to conduct these studies after the alternative is selected for implementation, as significant finds could alter that alternative, or stop the bridge project altogether.

    Response: *See the response to the organization's earlier comment on the planned timing of archaeological surveys (comment 30).*

66. **Comment:** The FEIS says in Section 3.3.1: "The most notable temporary impact to water quality would be increased turbidity levels produced during construction of the Mid-Currituck Bridge with MCB2, MCB4, and the Preferred Alternative. Permanent impacts to water quality are primarily associated with increased levels of bridge and highway runoff. NCTA would comply with NC Session Law 2008-211 (An Act to Provide for Improvements in the Management of Stormwater in the Coastal Counties in Order to Protect Water Quality) to the maximum extent practicable for the additional impervious surface area created by this project." Again, the Statute that governs this bridge project with regard to the environment states: The Authority shall ensure that the Mid-Currituck Bridge is implemented in a manner that accomplishes all of the following: (1) Ensures the preservation of water quality in Currituck Sound. (2) Mitigates the environmental impact of the bridge on the Currituck County mainland and the Outer Banks. This law does NOT state "to the extent practicable" as often stated throughout the FEIS.

    Response: *The Preferred Alternative would be built and operated in an environmentally sensitive manner. Project impacts will not change the current use or water quality classification of waters within the project area, which are designated as "SC" by*

NCDEQ-DWR. This saltwater classification represents the minimum quality standards applicable to all salt waters. According to NCDEQ-DWR, suitable activities for waters classified SC include aquatic life propagation and survival, fishing, wildlife and secondary recreation. Regulatory agencies will not issue permits and certifications that result in a degradation of water resources. The FEIS documents the planned mitigation measures for the Preferred Alternative, including specific project commitments presented in the "Project Commitments" section of the FEIS and updated in Appendix G of this reevaluation study report. The project will comply with the NCDOT's National Pollutant Discharge Elimination System (NPDES) permit (NCS000250) and requirements of the post-construction stormwater program.

67. **Comment:** The FEIS says on page 3-35: "Permanent impacts to water quality would be primarily associated with increased levels of bridge and highway runoff, which is considered a non-point source discharge. The effects of runoff are highly site specific. The primary pollutants associated with bridge and highway runoff include particulates, organic compounds, nutrients, and heavy metals. These pollutants accumulate on impervious surfaces and are derived from automobiles and materials used in construction and maintenance of roadways. These substances have the potential to negatively affect aquatic life by directly or indirectly interfering with various biological processes and cycles." These impacts, again, are in direct violation of G.S. 136-89.183A.

    Response: *See the response to this organization's similar comment 57 related to water quality and NC GS § 136-89.183A.*

68. **Comment:** The FEIS says: "Each of the detailed study alternatives, including the Preferred Alternative, would result in the removal of existing vegetative habitats and the displacement of wildlife within the project construction limits. ER2 would be the least invasive to habitat." [page 3-47] "ER2 would be the least invasive to wildlife habitat, since construction would occur in primarily man-dominated areas. Removal and alteration of wildlife habitat would be greatest for MCB2, MCB4, and the Preferred Alternative as a result of a new traffic corridor across Maple Swamp and a bridge across Currituck Sound. While all of the detailed study alternatives, including the Preferred Alternative, are near existing road or utility corridors and are under the influence of associated edge effects, these alternatives would amplify those effects. This would be especially detrimental to maritime wildlife habitat on the Outer Banks, where existing habitat is already extremely sparse and fragmented. MCB2, MCB4, and the Preferred Alternative would introduce noise disturbance into Maple Swamp." [page 3-48] "Fill, pile placement, shading, and clearing would result directly in the permanent loss or alteration of aquatic habitat and the wildlife that live there. Construction operations could result in temporary impacts. Aquatic impacts would be the greatest with MCB2, MCB4, and the Preferred Alternative because they include a Mid-Currituck Bridge." [page 3-50] "Currituck Sound has long been recognized as a nationally important area for freshwater recreational

fishing. Currituck Sound is an important nursery area for migratory and resident fish." [Section 3.3.4.1] "Impacts on aquatic communities are listed in Table 3-5 to Table 3-8. Fill, pile placement, shading, and clearing would result directly in the permanent loss or alteration of aquatic habitat within the project area, as indicated in Table 3-5 and Table 3-6. Aquatic impacts would be the greatest with MCB2, MCB4, and the Preferred Alternative because they include a Mid-Currituck Bridge. Overall, ER2 and the widening components of the detailed study alternatives would result in minor impacts to aquatic habitat. Runoff from active construction areas could result in temporary increases in turbidity, siltation, and sedimentation in aquatic habitat areas, but these affects are expected to be minimal and cease after revegetation. Regarding potential stormwater runoff impacts, the stormwater management plan proposed for the Preferred Alternative is described in Section 2.1.7. NCTA would comply with NC Session Law 2008-211 (An Act to Provide for Improvements in the Management of Stormwater in the Coastal Counties in Order to Protect Water Quality) to the maximum extent practicable for the additional impervious surface area created by this project. [page 3-51]

The General Statute does not say to the maximum extent practicable, it says "shall ensure the preservation of water quality in the Currituck Sound".

Response: *See the response to this organization's similar comment 57 related to environmental impacts (including water quality) and NC GS § 136-89.183A.*

69. **Comment:** The FEIS says on page 3-82: "Existing roads would be affected by sea level rise. A Mid-Currituck Bridge would be a useful asset in reducing the impact of sea level rise resulting from climate change on the project area's road system. Under all sea level rise scenarios considered, the entire barrier island would be inundated at the Dare/Currituck County line, creating a breach in the island and making a Mid-Currituck Bridge the only way off the Currituck County Outer Banks." This statement is simply NOT TRUE. Passage through False Cape and Back Bay Refuges are allowed into Sandbridge, VA. Hatteras was cut off in multiple places by hurricane Irene and temporary bridges were constructed. A map of the northern OBX was provided earlier in our comments.

Response: *The word "island" is changed to "peninsula" in Appendix D of this reevaluation study report. Further, the text has been altered to say that the only way out of the Currituck Outer Banks in this situation would be north via driving on the beach into Virginia. NCDOT views this consideration as a potential benefit of a Mid-Currituck Bridge, but it is not listed in Section 2.6 of the FEIS as a reason for building the bridge. It is presumed by NCDOT, as it is by the organization, that if at some point in the future NC 12 at the Dare/Currituck County line is threatened by sea level rise, the problem would be addressed at that time. For example, if there was no Mid-Currituck Bridge, a breach created by sea level rise could be bridged at the breach.*

70. **Comment:** The FEIS says on page 3-88: "With either Option A (included in the Preferred Alternative) or Option B, the bridge crossing Currituck Sound would be a notable change in the high quality views of Currituck Sound from Aydlett. Essentially, the 180 degree panorama of Currituck Sound would be split, with the bridge becoming a new and substantial human-made element that bisects the view. This adverse impact would be greatest for homes near the bridge where it would be a more dominant presence." This is absolutely unacceptable to Aydlett residents.

    Response: *The organization's position is acknowledged.*

71. **Comment:** The FEIS says on page 3-88: "With ER2 and MCB2, the super-street and associated interchange east of the Wright Memorial Bridge would be introduced into the views of business patrons along US 158, pedestrians and bicyclists on multi-use paths, and motorists on US 158. Principal viewers of the interchange would be users of the Aycock Brown Welcome Center, which would overlook the interchange; businesses near the interchange; a multi-story hotel; and motorists on US 158. The super-street would be the only street of such a large scale on the Outer Banks. The interchange would be the only interchange on the Outer Banks. Although the road and interchange would serve a useful purpose in terms of serving travel demand in this area, neither is what one would expect to see in a beach vacation area like the Outer Banks, with its mostly low density development." Are you saying a 7 mile long bridge is less intrusive then an interchange in a heavily traveled business district?

    Response: *No, the FEIS is not saying that one is more or less visually intrusive than the other. The text referenced in this comment is simply describing the visual impact at the one location referenced.*

72. **Comment:** The FEIS says on page 3-88: "Although no high quality views would be lost, the overall character of the area along NC 12 would be changed by the loss of vegetation and the wider pavement. Some of the sense of intimacy and isolation associated with this section of NC 12 would be lost with this change." The loss of vegetation and wider pavement on NC 12 which you agree does not affect any high quality views, is no reason to build this bridge. Aydlett and Corolla residents would have their community highly impacted, affecting high quality views and ruining their sense of intimacy, but we do not get the same consideration from the NCTA or the FHWA, why is that?

    Response: *The visual impacts in the Aydlett community by the detailed study alternatives are discussed in the FEIS on pages 3-86 and 3-88 of Section 3.4.5.2, as well as for ER2 and the Preferred Alternative revised designs in Section 4.4.5 of this reevaluation study report. Additional details on existing visual characteristics and the visual impact of the detailed study alternatives in the Aydlett community are presented*

in the Other Physical Features Technical Report (Parsons Brinckerhoff, 2011) in Sections 4.2.2.3, 4.2.3.4, 4.2.3.5, and 4.3.4.

73. **Comment:** The FEIS on page 3-108 says: "Commenters at the public hearings indicated that they believe that beach driving is or could be popular with day visitors. Day visitors to the Currituck Outer Banks are most likely interested in visiting the beach, swimming, sightseeing, or driving on the beach. In terms of the potential for an increase in the number of day trips to the Outer Banks, the findings for the detailed study alternatives are: MCB4 and the Preferred Alternative: Some potential for an increase over the No-Build Alternative with the potential higher in the non-road-accessible area." Beach driving in the 4x4 area is a huge problem with dealing with where people should drive. The hard packed sand near the shoreline is preferred as the area close to the dunes is soft sand and ruts easily causing people to be stuck in the sand, this causes safety issues for beach visitors. Currituck County still does not have an answer for this problem. A panel looking into the issue is considering beach driving permits to deal with the overcrowding and traffic on the 4x4 beach.

    Response: *The observations in this comment are noted. Beach driving is listed as an impact-causing activity in Table 5.1 of the Indirect and Cumulative Effects Technical Report (ECU, 2011). Currituck County's authority to regulate beach driving is discussed in Section 3.6.3 of the FEIS.*

74. **Comment:** The FEIS says on page 3-108: "The potential market area for substantial additional visitors to the Outer Banks would be in Virginia, particularly the Hampton Roads area. The Mid-Currituck Bridge (MCB2, MCB4, and the Preferred Alternative) would reduce the travel time from Hampton Roads to the Currituck County Outer Banks [156 minutes to 80 minutes under uncongested conditions according to Google Maps in combination with project area travel time studies for the project]. This would not be the case with ER2. With the popularity of beaches, especially in season, reducing travel time from northeastern North Carolina and southeastern Virginia would increase the potential demand for day visitors to the Currituck Outer Banks. However, there are mitigating factors that would act to hinder day visitation, even with the benefit of a bridge. These factors are: Potential day visitors have a selection of options in Virginia, Bodie Island, and Hatteras Island." The 3+ hour (uncongested) travel time to Hatteras Island is prohibitive to day trips from Norfolk VA area. People choose to visit the Outer Banks for its natural beauty historic attractions, beach driving, seeing wild horses roam free and relatively un-crowded beaches. Virginia does not offer that type of experience.

    Response: *The observations in this comment are noted. The day visitor analysis presented on page 3-108 of the FEIS notes that there are different motivations for day visitors than for overnight visitors, and that the beach locations mentioned each have*

different amenities and attractions. These factors are important to the day visitor findings presented in the FEIS.

75. **Comment:** The FEIS on page 3-108 says: "Combined tolls would be a deterrent to day trips traveling on the Mid-Currituck Bridge and the Chesapeake Expressway, the primary route in Virginia leading to the Outer Banks." The above assertion states that the high toll rates would deter travelers from using the Mid-Currituck Bridge. With that in mind, how is this project going to be truly viable?

    Response: *The FEIS quote noted in this comment relates to tolls as a deterrent to day visitors and not all visitors. In addition, the FEIS' conclusion is that tolls and other deterrents to day visitors would not completely deter new day visitors.*

76. **Comment:** The FEIS on page 3-108 says: "Beach access, parking, public facilities, and services are important amenities in attracting day visitors. Beaches in Currituck and Dare counties, however, have limited to modest public facilities, especially when compared to Virginia Beach, which is closer to the largest potential source of day visitors, the Hampton Roads area." So you are saying that the area can NOT stand an increase of visitors due to the lack of infrastructure to handle them.

    Response: *The FEIS item quoted in this comment refers to the attraction of beaches with no facilities versus ones with facilities. The point, as indicated in the FEIS text that introduces this text, is "there are mitigating factors that would act to hinder day visitation, even with the benefit of a bridge." The text quoted in this comment is one of three factors listed in the FEIS.*

77. **Comment:** The FEIS on page 3-110 says: "The introduction of a Mid-Currituck Bridge with MCB2, MCB4, or the Preferred Alternative would substantially reduce travel time from points north of the bridge on the mainland to the Currituck County Outer Banks." Does this assumption account for the traffic backed up on the bridge because it is only 1 lane each way or are all the traffic studies assuming un-congested travel, which is unrealistic?

    Response: *With the Preferred Alternative, the US 158/Mid-Currituck Bridge interchange is designed so that traffic would not back-up from the toll plazas onto US 158 or the bridge on summer weekends with the peak traffic volumes expected in 2035 with the original forecasts and FEIS design or in 2040 with the new forecasts and revised design. The improvements to NC 12 with the Preferred Alternative also are designed so that traffic would not back-up on NC 12 or onto the bridge on summer weekends with the peak traffic volumes expected in 2035/2040. It also was determined that the two-lane bridge with the Preferred Alternative would have adequate capacity to handle either predicted 2035 or 2040 traffic volumes. Traffic on the Mid-Currituck Bridge would not be able to operate at the speed limit during peak summer weekends, but with the capacity provided at the bridge termini at US 158 and NC 12, traffic would not back-up onto the*

bridge. However, as with existing roads, if an accident or some other incident occurs that blocks the travel lanes, back-ups would occur.

78. **Comment:** The FEIS on page 3-112 says: "In November 2008, Currituck County Commissioners turned down a request to allow a commercial development in this [non-paved-road accessible] area that was not in keeping with their land use plan's policy emphasis for this area. Other property owners in the area also opposed the project." The Commercial Development of 37 acres in the 4x4 area was brought back up a few months ago and the residents hired a lawyer to oppose the project. During the hearing that type of development was found to be SPOT ZONING and found to be illegal. The Commissioners wanted that economic development project.

    Response: *At their May 16, 2011 meeting the Currituck County Commissioners unanimously denied the rezoning request. In addition, Planning Department staff recommended denial and the Planning Board also unanimously recommended denial. The allegation of spot zoning was made by an attorney representing a property owner association. It was not a finding of the county. The meeting minutes, staff summary, and other information can be found for the May 16, 2011 meeting of the Currituck County Commissioners at www.co.currituck.nc.us/board-of-commissioners-minutes-2011.cfm.*

79. **Comment:** The FEIS on page 3-112 says: "It is reasonably foreseeable that the introduction of a Mid-Currituck Bridge with MCB2, MCB4, and the Preferred Alternative would alter the location of some future Outer Banks service-oriented businesses. Some business development that might otherwise have been scattered in planned commercial areas on the Outer Banks and mainland near the Wright Memorial Bridge would concentrate at locations on the mainland near the terminus of the Mid-Currituck Bridge at US 158. This change would represent a net gain in business development in a concentrated location on the Currituck County mainland, creating a potential for a notable indirect and cumulative effects focused on the mainland bridge terminus." The Wright Memorial Bridge terminus on the mainland has not brought notable commercial development to the southern end of Currituck County. That bridge is free and has been in place since the mid 1960's. Aydlett and Coinjock oppose this development in their quiet agricultural/residential communities. Currituck County does not have incorporated towns and they are not recognized for their opposition. The Currituck County Commissioners are at this moment trying to create a unified government which would never allow towns to incorporate, thus not allowing for meaningful opposition to the county's views. This is the case with Aydlett, Waterlily, Coinjock, and Corolla. Dare County does have incorporated towns so their positions are not based on the views of a few county commissioners.

    Response: *The Wright Memorial Bridge terminus has brought notable commercial development along US 158 in Kitty Hawk, including a Home Depot and a shopping*

center with a Wal-Mart. In 2017, a new water park was opened at Point Harbor as an attraction for Outer Banks visitors. Land available for commercial development is, however, limited along NC 12 at the Outer Banks terminus of the Mid-Currituck Bridge. Thus, such development could be expected to occur where land is available; on US 158 on the mainland near the entrance to the bridge. As indicated in the FEIS, this development is expected to occur along US 158 and not in Aydlett and Coinjock. The potential for such development is re-enforced by an economic development strategy prepared in 2008 that calls for such development that was commissioned by the County Commissioners. As the elected representatives for Currituck County, the County Commissioners establish land use and other policies, which are important in the impact analysis.

80. **Comment:** Page 3-112 of the FEIS says: "Although ER2 would increase road capacity and improve traffic flow, it would not change the accessibility of the road system to developable properties. Page 3-76 of the FEIS it is asserted that "and because ER2 improvements would offer no additional traffic carrying capacity," the assertion above states that ER2 does in fact increase road capacity. These views contradict each other in the FEIS.

    Response: *The paragraph on page 3-76 of the FEIS from which the second quote comes occurs in the discussion of why noise levels would increase with a third outbound emergency evacuation lane along US 158 on the mainland. ER2 would increase the road capacity for daily travel on NC 12 and US 158 east of the Wright Memorial Bridge, but would not increase the road capacity for daily travel on the mainland. The third outbound emergency evacuation lane would only increase the capacity of US 158 on the mainland during a hurricane evacuation. The two statements do not contradict each other.*

81. **Comment:** The FEIS on page 3-113 says: "Thus, while the pattern of residential development on the mainland could change with a Mid-Currituck Bridge, the change would not be concentrated in a single location, but rather scattered among lands considered suitable for development in the Currituck County land use plan. These findings are based on the following: No direct connection would be made between the community of Aydlett and the Outer Banks via a Mid-Currituck Bridge. This would be the case with either mainland approach design option." THIS STATEMENT IS SIMPLY NOT TRUE. OPTION B IS AGAINST CURRITUCK LAND USE PLAN BECAUSE IT IS A DIRECT CONNECTION INTO AYDLETT.

    Response: *As stated in the quote in this comment, Option B includes no direct connection "between the community of Aydlett and the Outer Banks via a Mid-Currituck Bridge". However, Option B does have a direct connection to Aydlett via the bridge approach road to US 158, a connection that is inconsistent with the Currituck County land use plan. The FEIS says the following in Section 3.1.6 when discussing each detailed study alternative's consistency with land use plans: "MCB2 and MCB4 with design Option B would be inconsistent with Currituck County Transportation*

Policy TR13, as the location of the toll plaza in Aydlett at the western end of the bridge would enable direct vehicular access between the bridge road across Maple Swamp and Aydlett." Option A would be consistent with the Currituck County land use plan because it does not include a direct connection to Aydlett, and this was a factor in selecting it as a part of the Preferred Alternative.

82. **Comment:** The FEIS on page 3-114 says: "With MCB2, MCB4, and the Preferred Alternative, the potential exists for increased day visitors to the Currituck County Outer Banks. These three effects would be compatible with area land use plans, social health and well-being goals, economic opportunity goals, and ecosystem protection goals." The admitted lack of infrastructure on the Currituck Outer Banks, such as parking and restroom facilities, has been an ongoing problem. Visitors have used nearby yards and the dunes as a public toilet. Day trippers' cars park along the streets and block driveways in residential areas, making trash collection and other services difficult. So, how is it then that the bridge would contribute to social health and well-being by adding more visitors to an already stressed area? We would also like to know how this environmentally destructive project would protect the fragile ecosystem of the Currituck Sound and Outer Banks.

    Response: *The FEIS quote on compatibility is taken out of context. The quote is a part of a summary of the findings of FEIS Section 3.6.2. The reasoning behind this summary is presented in the balance of the FEIS section. The point made in the summary paragraph is that the three effects (business development on the mainland, shifts in the timing of development in the resort area, and increased day visitors) are generally consistent with local plans and goals. Importantly, monitoring, regulation, and control of the activities of visitors to the Outer Banks are the authority of the local jurisdictions that generate the local plans and goals. Measures to minimize the impacts to the ecosystems of Currituck Sound and the Outer Banks are included in the Project Commitments in Appendix G of this reevaluation study report and in Section 3.3 of the FEIS.*

83. **Comment:** In conclusion, this bridge is too expensive, too environmentally damaging, and does not successfully meet its stated purpose and need. "No Mid-Currituck Bridge-Preserve the Wonder" opposes any alternative that includes a Mid-Currituck Bridge. We believe that ER2 or the No-Build Alternative should be found to be the Least Environmentally Damaging Practicable Alternative (LEDPA).

    Response: *The organization's position is acknowledged.*

B.2.3 Southern Environmental Law Center

B.2.3.1 March 12, 2012

1. **Comment:** … SELC submitted comments on the Draft EIS in June, 2010. Since this time the Transportation Agencies have made some steps towards minimizing impacts to the important natural resources in the study area. Unfortunately,

however, these steps do nothing to cure the underlying fact that the huge cost of this project, both financially and in terms of its devastating environmental impacts, is in no way justified by any demonstrated need.

Additionally, the FEIS fails to cure many of the flaws, omissions and mis-statements of the draft document. Accordingly, the comments below reiterate many of the concerns we expressed in our previous comments of June 7, 2010. In light of these fundamental deficiencies, we request that the Transportation Agencies not issue a Record of Decision ("ROD") based on this document. Rather, given the lack of a guaranteed financial plan for this project, the public opposition to it, and the devastating impact that construction will have on the environment, we urge the Transportation Agencies to reconsider whether it is the best use of the State's scarce resources.

If the Transportation Agencies determine that it is advisable to move forward with this project, we request that they initiate a new environmental review process and create a supplemental EIS that thoroughly examines a reasonable range of alternatives, including upgrades to the existing road system that would adequately meet any supposed need for this project and that would be far less costly and damaging than construction of a new seven-mile bridge. Further, we ask that the EIS properly investigate the impacts of the project, including an analysis of indirect impacts that examines impacts from a true No-Build scenario, rather than comparing "building the bridge" with "building the bridge."

Response: *The commenter's opinion that the need does not justify a decision to build a Mid-Currituck Bridge is noted. If the Preferred Alternative is selected for implementation in a ROD, NCDOT would move forward with the Mid-Currituck Bridge project using the financial plan described in Section 1.2.5 of this reevaluation study report and the impact mitigation program described throughout the document. The FEIS thoroughly examines a range of reasonable alternatives identified through a systematic screening process and in coordination with environmental resource and regulatory agencies and the public. The alternatives screening is revisited in Section3.3 of this reevaluation study report, taking into consideration the new traffic forecasts. The FEIS does evaluate ER2, which is an upgrade to the existing road system. The cumulative impact assessment evaluates impacts from reasonably foreseeable planned and expected development in the project area and a larger indirect and cumulative effects assessment study area. Indirect impacts of development on US 158 resulting from the bridge project, as well as the indirect impact of constrained (less) Outer Banks development with the No-Build Alternative and ER2, also are addressed in the FEIS. In addition, see the response to this organization's comment 8 where they expand on their comment related to considering a "true No-Build scenario" and a corresponding expanded response is presented. A Supplemental Environmental Impact Statement (SEIS) is not needed.*

Financing Status

2. **Comment:** A number of alternatives, including upgrades to the existing highway system, are available to meet the transportation needs in the study area. Driving the selection of a new bridge alternative, however, is a plan of finance that depends on tolling and other state and federal funding mechanisms. It is important to note from the outset, therefore, that the current financial status of the Bridge is in no way assured.

   Response: *It is true that the financial status of the Bridge is in no way assured. This is true of any transportation project during the planning stages. One must, however, plan based on what is anticipated. The current plan of finance for the Preferred Alternative, which is different from the one proposed in 2012 when this comment was made, is summarized in Section 1.2.5 of this reevaluation study report.*

3. **Comment:** Construction of the Mid-Currituck Bridge would be hugely expensive, with current cost estimates being placed at over $500 million. (FEIS at xvi). This is money that North Carolina currently does not have to spend. A recent assessment of the State's transportation infrastructure suggests that over the next 30 years North Carolina would need to spend almost $160 billion to meet the growing transportation needs of the evolving state.[1] Current revenue sources simply do not meet these needs,[2] and thus the State must, at this time, step back, reevaluate prior funding plans, and finance only those projects that serve the most pressing transportation needs. As discussed in more detail below [in Southern Environmental Law Center's letter], there is no such pressing need for a second, duplicative bridge to the section of the Outer Banks to be served by the Mid-Currituck Bridge.

   Response: *The commenter's positions on the Mid-Currituck Bridge project and the State of North Carolina's transportation funding priorities are noted. The priority of a Mid-Currituck Bridge for funding was reassessed since the release of the FEIS. In 2013, the General Assembly, as part of the Strategic Transportation Investments (STI) Law (Session Law 2013-183 and House Bill 817) established the Strategic Mobility Formula, a new way of allocating NCDOT's major revenue sources based on data-driven scoring and local input. The STI also withdrew the annual state appropriations or "gap funding" for the Mid-Currituck Bridge Project. Using the Strategic Mobility Formula, however, NCDOT allocated funding to the Mid-Currituck Bridge project in the 2016 to 2025 STIP and 2018 to 2027 STIP.*

[1]North Carolina Department of Transportation, Draft Report, System Inventory and Modal Needs at ix Dec. 2012 (on file with SELC and NCDOT).
[2]North Carolina Department of Transportation, Challenges and Opportunities Report at ES-ix, Sep. 2011 /www.ncdot.org/download/performance/2040_ChallengeOpp.pdf.

4. **Comment:** Various mechanisms of financing the Mid-Currituck Bridge have been proposed over the years. The project has long been suggested as North Carolina's first venture into a Public Private Partnership ("PPP"), with the Spanish Conglomerate Group ACS identified as the projected partner. Recently, however, the Turnpike Authority has indicated that this method of financing the project may be abandoned.[3]

   As expected from a project pursued by the Turnpike Authority, one of the primary sources of revenue expected to fund the project will come from tolls. Indeed, as explained in more detail below, the collection of such tolls has been a primary force driving the selection of bridge construction over less environmentally damaging alternatives centered on upgrades to the existing highway system. A traffic and revenue study focused on the toll collection was published in July, 2011. This study indicates that, in order to be financially viable, toll rates will need to be as high as $28 per trip.[4] Toll rates this high for other similar projects have been previously presented as unmanageable by NCDOT,[5] and it is unclear whether tourists will really be willing to pay such a huge toll to save 1-2 hours of time.

   Response: *The predevelopment agreement with the Currituck Development Group referenced in the comment expired in 2014. A public-private partnership could still be used as a part of financing, building, and operating the bridge, but no decision on whether to still use a public-private partnership has been made. Project financing is only one of several reasons that a Mid-Currituck Bridge was included in the Preferred Alternative, as documented in Section 2.6 of the FEIS and Section 1.2.5 of this reevaluation study report. The toll rate of $28 was proposed for summer weekend afternoon peak eastbound traffic only, when traffic demand reaches the peak and traffic congestion is the worst for the entire year. Much lower toll rates were proposed for other time periods, for example, $14 for summer Saturday morning traffic. The toll rate is evaluated according to the travelers' preferences and the benefits they receive. The distance savings for people traveling to Corolla through a Mid-Currituck Bridge could be up to approximately 34 miles, thereby also saving considerable time and motor vehicle operating expense. In addition, travelers also value the easier and safer driving and the reduced frustration of not having to be stuck in traffic for another hour after already*

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[3]North Carolina Turnpike Authority, Press release, Turnpike Authority Publishes Final Environmental Impact Statements for Mid-Currituck Bridge, Jan. 19, 2012, https://apps.dot.state.nc.us/pio/releases/details.aspx?r=5935.

[4]See Currituck Development Group, Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts at 1, July 2011, www.ncdot.gov/projects/midcurrituckbridge/download/MCBTrafficRevenueForecastsFinalJuly2011.pdf [hereinafter Traffic and Revenue Study].

[5]See Revised Final Section 4(f) Evaluation, NC 12 Replacement of Herbert C. Bonner Bridge (Oct. 9, 2009), Appendix G 13-14, www.ncdot.gov/projects/bonnerbridgerepairs/download/RevisedFEIS.pdf (attached).

having driven several hours. Finally, they are on vacation and have frequently already paid several thousand dollars for their rental property. A new investment grade toll and revenue study is being prepared as of the date of this reevaluation.

5. **Comment:** Generally, toll projects have a high rate of failure, and traffic and revenue studies almost always overstate potential revenues. A recent study of toll road projects across the nation found them to average less than half the anticipated revenues.[6] The seasonal, weekend focused, nature of the anticipated travel on the Mid-Currituck Bridge makes future usage even more difficult to predict. Moreover, even if toll revenues do live up to expectations, they will cover less than half of the required cost of construction.

   Response: *The experience related to potential revenue overestimation on some toll road projects does not apply to all projects. During the course of the preparation of the Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts (Currituck Development Group, July 2011), the inherent uncertainty of revenue forecasting was well recognized, especially on a Mid-Currituck Bridge because of its unique traffic demand pattern. Numerous sensitivity tests were conducted to ensure the reasonableness and robustness of the forecast. Arup, the consultant for the traffic study, is an internationally recognized transportation consulting firm with extensive experience on traffic and revenue studies. The same is true for Stantec, the firm preparing the new investment grade toll and revenue study.*

6. **Comment:** Given the likelihood that tolls will not cover the cost of the whole project, NCTA has attempted on multiple occasions to secure federal Transportation Infrastructure Finance and Innovation Act ("TIFIA") loans for the projects. These attempts have failed each time, however, with the federal government declining to finance the project. Financing for the project will depend on non-toll state money: "gap" funding was secured by the North Carolina legislature in the form of an annual appropriation of $15 million, rising to $28 million annually after two years.[7] During the 2011 legislative session, groups of local opponents made several trips to the legislature to voice their opposition to the Bridge. Having listened to this opposition and reviewed the assorted issues associated with the project, the North Carolina Senate was poised to eliminate entirely its "gap" funding, and instead focus

[6]See Terry Maynard for the Reston Citizens Association, Wilbur Smith Associates' Traffic and Revenue Forecasts: Plenty of Room for Error (Jan. 27, 2012) www.scribd.com /doc/79582705/RCA-Study-WilburSmith-Traffic-amp-Revenue-Forecasts-012712; see also NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM, SYNTHESIS 364, Estimating Toll Road Demand and Revenue (2006), http://onlinepubs.trb.org/onlinepubs/nchrp /nchrp_syn_364.pdf; Jason Lemp, Understanding and Accommodating Risk and Uncertainty in Toll Road Projects: A Review of the Literature (2009) (attached).

[7]N.C. Gen. Stat. § 136-176 (b2).

those funds on maintenance of the existing highway system.[8] Ultimately, the legislature settled on a budget that restored the funding for the project. However, legislators remain substantially concerned about the project and funding may be eliminated entirely in the upcoming legislative session. If the "gap" funding does remain in place, it will saddle the next two generations with the debt of this project, and over time will cost over $1 billion of state tax-payer money.[9]

Response: *In 2013, the General Assembly, as part of the Strategic Transportation Investments (STI) Law (Session Law 2013-183 and House Bill 817) established the Strategic Mobility Formula, a new way of allocating NCDOT's major revenue sources based on data-driven scoring and local input. The STI also withdrew the annual state appropriations or "gap funding" for the Mid-Currituck Bridge Project. Using the Strategic Mobility Formula, however, NCDOT allocated funding to the Mid-Currituck Bridge project in the 2016 to 2025 STIP and 2018 to 2027 STIP. The allocation of STIP funds to toll projects leverages limited state transportation tax funds to allow construction of projects important to the State of North Carolina for which substantial funds can be raised through toll revenues, but not all the funds that are needed.*

7. **Comment:** Given the serious shortfall in transportation resources currently facing North Carolina, it is essential that scarce resources be spent wisely. As the FEIS makes plain, there are other less expensive and less destructive options to building this $500 million bridge, which will largely benefit out-of-state residents. There are also far more pressing needs for the State's limited transportation funds to be spent elsewhere. As a number of commenters have observed,[10] transportation resources could be spent more prudently, such as by pursuing much needed long-term transportation solutions for the Outer Banks, including the "long bridge" option for the Bonner Bridge replacement.[11]

Response: *Out-of-state visitors to the Outer Banks are an important part of North Carolina's economy. For example, in 2017, visitors spent $230.86 million dollars in Currituck County, generating $24.12 million in state and local tax receipts. In Dare County, visitors spent $1.132 billion in 2017, generating $105.6 million in state and local tax receipts (https://partners.visitnc.com/economic-impact-studies and the latest data available as of February 2019) In addition, it is important for North Carolina to provide a good road system whether its users are North Carolinians or visitors. Finally,*

[8] *Highlights of the House, Senate and Perdue Budgets,* Charlotte Observer, May 25, 2011, www.charlotteobserver.com/2011/05/25/2324080/highlights-of-senate-house-perdue.html (attached).

[9] N.C. Gen. Stat. § 136-176 (b2).

[10] See, e.g., Stakeholder Involvement FEIS Technical Report at 4-13, 4-27.

[11] Final Environmental Impact Statement and 4(f) Evaluation, NC 12 Replacement of Herbert C. Bonner Bridge at 2-81 – 2-101, (Sep. 17, 2008) www.ncdot.org/projects/bonnerbridgerepairs/

although the Mid-Currituck Bridge may largely benefit out-of-state visitors, they will help pay for the bridge through tolls. The commenter's opinion on North Carolina's transportation improvement priorities as established by the NCDOT Board of Transportation and the North Carolina General Assembly is noted.

A Realistic Baseline

8. **Comment:** Regulations promulgated by the Council on Environmental Quality ("CEQ") require each EIS to include "the alternative of no action," 40 C.F.R. § 1502.14(d); § 1508.25(b)(1). This alternative should be presented in a comparative fashion so as to "sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decision maker and the public." 40 C.F.R. § 1502.14. A true "No-Build" scenario then should present a clear picture of what would occur if the Mid-Currituck Bridge were not to be built. All impacts that result from building the Bridge should be based from this "No-Build" baseline and should be reported and analyzed accordingly.

   The current FEIS does not follow this common-sense methodology. Rather than using a "No-Build" scenario as the baseline from which to calculate impacts, the EIS implicitly uses a "Build" scenario. The analysis of alternatives and impacts is based on a scenario that assumes "full build-out" of commercial and residential development[12] despite the fact that "full build-out" is only expected to occur if the bridge is constructed. Relying on this flawed baseline, the EIS repeatedly reports that construction of a seven mile bridge out to a remote barrier island would result in no induced growth or development on the barrier island, while simultaneously reporting that failure to construct the bridge would inhibit development.[13] These conclusions defy logic and common sense. If failure to construct the bridge would discourage growth, construction of the bridge must be supposed to encourage growth.

   Response: *The starting point for planning a new transportation project is to assess and analyze land use plans and development trends, and determine through local input, what level of future development needs to be served and how well the various alternatives would serve that development. This was done in the development of alternatives for the Mid-Currituck Bridge project. The project's original traffic forecasts for 2035 and the new 2040 forecasts assume full build-out of the NC 12-accessible Outer Banks north of US 158 in Dare and Currituck counties, as well as additional development (based on development trends) from the northern end of NC 12 to the Virginia line. These forecasts*

[12] See, e.g., Stakeholder Involvement FEIS Technical Report at 3-12 (explaining that "the project's traffic forecasts assume full build-out of the NC 12-accessible Outer Banks north of US 158 in Dare and Currituck counties.")

[13] See, e.g., Mid-Currituck Bridge, FEIS at 3-107 – 3-114; Stakeholder Involvement FEIS Technical Report at 3-11 – 3-13.

do not presume that development would be constrained by the lack of capacity in the road system, a lack that the proposed action is being proposed to address. Taken as a whole, the original 2035 forecasts assumed 85 percent of full build-out of the Outer Banks from Southern Shores to the Virginia Line (see correction from 86 percent and reason why in Appendix F of this reevaluation study report). Eighty-five percent also is assumed in the new 2040 forecasts (13,122 units of 15,400 potential units).

Section 4.2.3 (particularly Section 4.2.3.5) of the Indirect and Cumulative Effects Technical Report (ECU, 2011) and Section 3.6.1.4 of the FEIS (page 3-109) indicate that the No-Build Alternative (70 percent of full build-out from Southern Shores to the Virginia line) and ER2 (75 percent of full build-out) could constrain growth from what is planned and expected (85 percent of full build-out) and quantifies that potential change. This analysis was revised in 2017 to assume a NC 12 capacity based on the 2016 Highway Capacity Model (HCM) model (see Section 2.8 of this reevaluation study report). The revised analysis places the No-Build Alternative at 69 percent of full build-out (10,646 units) and ER2 at 75 percent of full build-out (11,577 units). The Preferred Alternative would not have such a road capacity constraint and would allow planned and expected development (85 percent of full build-out; 13,122 units) through 2040 to occur. Full build-out from Southern Shores to the Virginia line is 15,418 units. The cumulative impact assessment assesses the impacts of this planned and expected development. The constraints analysis also is described in the response to USACE's DEIS comments 1 and 18 and in response to this organization's DEIS comments 8 and 15. These comments and responses are included in the Stakeholder Involvement for Final Environmental Impact Statement Technical Report (Parsons Brinckerhoff, 2011). The response to comment 3 of this organization's June 1, 2012 letter presents how the travel benefits of the detail study alternatives would be affected by considering the constrained development that could be associated with the No-Build Alternative and ER2 using the original 2035 forecasts and congestions analysis methodology used for the FEIS. These findings are presented using the new 2040 forecasts and the 2016 HCM in Section 3.0 of this reevaluation study report.

NCDOT chose not to use development levels constrained by traffic congestion as its starting point for the reason noted in the first paragraph of this response. If it had done so, the increase in development with the Preferred Alternative over the No-Build Alternative and ER2 would have been discussed in the indirect and cumulative impact assessment as an indirect impact instead of discussing the decrease in development with the No-Build Alternative and ER2 as an indirect impact. However, either approach results in planned and expected development being assessed as a cumulative impact, so from the perspective of documenting cumulative impacts, it makes no difference which starting point one uses.

The potential impact of fewer lots being developed with the No-Build Alternative and ER2 is addressed in Section 3.6.2.3 of the FEIS. The effect on that assessment resulting

from the revised constraints analysis is discussed in Section 4.6.3 of this reevaluation study report.

9. **Comment:** Not only is the EIS itself a self-contradictory document in this respect, but other documents prepared by the Transportation Agencies also repeatedly acknowledge that construction of the Mid-Currituck Bridge *will* encourage growth. For example, the Traffic and Revenue study states that construction of the bridge "could greatly facilitate the continued growth within the area."[14] The report explains that the bridge "will significantly increase the level of access to this key vacation destination."[15] Indeed, presumably in an attempt to reassure potential bond rating entities about the revenues that the project could be expected to generate, the report goes as far as to state that "the project presents a unique marketing opportunity to leverage the existing Outer Banks travel/tourism industry with tailored marketing strategies to highlight substantial travel time savings, cost savings, and increased accessibility to this beautiful and unique destination."[16]

Response: *The FEIS was prepared independent of the Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts (Currituck Development Group, July 2011). Irrespective of the words chosen by the firm that prepared the study, the planned and expected development levels assumed for the FEIS traffic forecasts and the July 2011 traffic and revenue forecast are consistent with only about a 2 percent difference. The traffic forecasts in the FEIS assumed 13,122 units in 2035, whereas the July 2011 forecast assumed 13,376 units in 2035.*

It is noted that none of the three examples from the study provided in the comment conclude that the bridge would encourage growth beyond what is planned and expected. The first example says that the bridge will facilitate continued growth, which is in keeping with the finding of the indirect and cumulative impact assessment, as well as Section 2.8 of this report, that with the No-Build Alternative and ER2 growth would be constrained from what is planned and expected. Furthermore, the full sentence on page 2 of the report states: "The new bridge could greatly facilitate the continued growth within the area, which are [sic] consistent with local land use and transportation plans." To leave off the final phrase as done by the commenter misrepresents the statement made. The effect of the development constraint on the traffic forecasts has been determined. The effect of the development constraint on traffic flow, travel time, and hurricane clearance time with the No-Build Alternative and ER2 is addressed in Section 3.2.

[14]Traffic and Revenue study at 2.
[15]Id. at 11.
[16]Id.

The second quote from the study indicates that the bridge will increase the level of access to the Currituck Outer Banks. This is consistent with the findings in Table 2-3 of the FEIS that the bridge will reduce travel time and congested travel.

The third quote from the study is focused on the opportunity to coordinate already on-going Outer Banks marketing efforts with highlighting the benefits (travel time savings and reduced time in congested traffic) of paying a toll and using the bridge to reach the Currituck Outer Banks. This is made clear on page 90 of the study where the same statement is made with an addition, so it reads: "the project presents a unique marketing opportunity to leverage the existing Outer Banks travel/tourism industry with tailored marketing strategies, with 82% of forecast Mid-Currituck Bridge revenues from visitors to the area in the Peak Season, 77% in the Shoulder Peak Season and 58% in the Off Peak Season."

One sentence from the Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts (Currituck Development Group, July 2011) not quoted in the comment might also be interpreted as supporting the idea of the bridge inducing development beyond what is planned and expected: "As a result, it [the bridge project] could provide opportunities for sustainable additional development of the northern part of the Outer Banks and the mainland." Again, however, this statement is not inconsistent with the finding of the indirect and cumulative impact assessment that with the No-Build Alternative and ER2, growth would be constrained from what is planned and expected.

10. **Comment:** Thus, when it comes to examining environmental impacts, the Transportation Agencies would have us believe that construction of the Mid-Currituck Bridge would make not the slightest of differences to development. However, when attempting to justify the need for the project, or make clear that substantial toll revenues will be generated as a result of construction, the Transportation Agencies make clear that construction of the Bridge is an important mechanism to facilitate tourism and additional development. These two contradictory positions cannot be reconciled. Moreover, it is clear which scenario is more likely. As we explained in our original comments,[17] the idea that transportation improvements encourage growth and development in areas that were previously difficult to access is nothing new and has been carefully documented by transportation experts[18] and recognized by the courts.[19]

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[17]Stakeholder Involvement FEIS Technical Report at C7-C10.

[18]See, e.g., Robert B. Noland, A Review of the Evidence for Induced Travel and Changes in Transportation and Environmental Policy in the United States and the United Kingdom, (Feb. 2001) www.cts.cv.ic.ac.uk/documents/publications/iccts00244.pdf; Gilles Duranton and Matthew A. Turner, The Fundamental Law of Road Congestion: Evidence from US cities, American Economic Review, American Economic Association, vol. 101(6) (Oct. 2009) (attached).

[19]See, e.g., Mullin v. Skinner, 756 F. Supp. 904, 917 (E.D.N.C. 1990); City of Davis v. Coleman, 521 F.2d 661 (9th Cir. 1975); Conservation Law Found. v. Fed. Highway Admin, 630 F. Supp. 2d 183

Response: *The statement in the comment that the environmental review documents find "that the construction of the Mid-Currituck Bridge would make not the slightest of differences to development" is incorrect and a misrepresentation of the findings. (See the responses to the commenter's comments 8 and 9 above related to development levels with and without a bridge.) Furthermore, the comment misrepresents the purpose and need of the project as including "that construction of the Bridge is an important mechanism to facilitate tourism and additional development." (See the response to comment 9 above regarding statements on tourism and development made in the Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts [Currituck Development Group, July 2011] and their relation to the findings in the FEIS.)*

Finally, it is important to note that the commenter's general conclusions that there have been cases in the US where transportation improvements have "encouraged growth and development" is accurate, but hardly constitutes a hard look at the facts and conditions presented by these project alternatives and their setting. Even the implication that the Outer Banks are "difficult to access" is belied by the fact that highways and bridges do currently exist that enable cars and trucks to drive directly to the area to be served by a Mid-Currituck Bridge.

11. **Comment:** The Transportation Agencies have a duty under NEPA to carefully examine alternatives to project and the impacts that will result from those alternatives. 40 C.F.R. § 1502.14. These impacts must be analyzed from a base scenario which shows what would be likely to occur if the project was not constructed. 40 C.F.R. § 1502.14 (d). If, as the FEIS states, development would be inhibited by a failure to construct the bridge, then full build-out is not a reasonable baseline from which to measure impacts and compare alternatives. Accordingly, if the Transportation Agencies wish to move forward with this project, they must prepare a supplemental EIS that is founded on a realistic "No-Build" baseline. Failure to do this infects all aspects of the EIS and renders the NEPA analysis inadequate.

    Response: *The response to this organization's comment 8 also addresses this similar comment.*

Alternatives Analysis

12. **Comment:** In our previous comments, SELC documented substantial concerns about the purpose and need articulated for the Mid-Currituck project. These concerns remain. Like the earlier DEIS, the FEIS fails to explain how a new connection between the two sides of Currituck County addresses any existing,

(D.N.H. 2007); Highway J Citizens Group v. U.S. DOT, 656 F. Supp. 2d 868 (E.D. Wis. 2009); N.C. Alliance for Transp. Reform v. U.S. DOT, 151 F. Supp. 2d 661 (M.D.N.C. 2001); Sierra Club v. U.S. DOT, 962 F. Supp. 1037 (N.D. Ill. 1997).

actual, significant need and thus gives little reason to suggest that this "purpose" justifies the enormous economic and ecological costs of the Project. Additionally, as explained in our previous comments, rather than meeting the purposes of addressing traffic congestion and hurricane evacuation times, construction of a Mid-Currituck bridge will instead exacerbate those problems by encouraging more drivers to visit the Outer Banks and therefore result in increased congestion on area roadways and an increased number of people in the path of any potential hurricane.[20]

Response: *The commenter's opinion on the Statement of Purpose and Need contained in the FEIS is noted. The revised traffic flow and hurricane evacuation findings in Section 3.0 address the effect on traffic congestion and hurricane clearance times of NC 12's capacity constraining Currituck County development when a Mid-Currituck Bridge is not present.*

ER2 – The Upgrade Alternative

13. **Comment:** Despite being based on an impermissibly narrow statement of purpose and need, the FEIS makes clear that a number of alternatives would satisfy the articulated statement. This includes "ER 2," the alternative of upgrading some of the existing roads in the study area. FEIS at 2-5. Because this alternative is centered on upgrades to existing infrastructure, rather than the construction of a whole new facility in the middle of the Currituck Sound, it has substantially fewer environmental impacts. Id. Accordingly, as noted in their comments on the Draft EIS, the vast majority of resource agencies involved in the process expressed a preference for ER2 over other alternatives:

"EPA believes that ER2 should be designated as the environmentally preferred alternative and meets the proposed project's purpose and need by providing the appropriate balance of impacts to the benefits and costs."[21] (US Environmental Protection Agency)

"ER2 costs 269.2 to 292.8 million less than the MCB4 alternative and it meets the purpose and need of the project. ER 2 also has less impact to the natural environment and its community impacts are comparable to the MCB4 alternatives"[22] (U.S. Army Corps of Engineers).

ER2 would damage less coastal habitat than any of the alternatives that require the construction of a new bridge. Alternative ER2 uses improvements to existing roads to address the purpose and need for the project rather than relying upon a new

[20]Stakeholder Involvement FEIS Technical Report at C5-C6.
[21]Stakeholder Involvement FEIS Technical Report at 2-34.
[22]Id. at 2-2.

bridge over the Sound. Alternative ER2 would have the least adverse impact to EFH and other NOAA trust resources."[23] (National Oceanic and Atmospheric Administration, National Marine Fisheries Service).

"ER2 clearly has the least impacts to fish and wildlife resources and federal trust resources."[24] (Department of Interior, Office of the Solicitor).

"Of the alternatives listed the least environmentally damaging alternative is ER2 and is the NCDMF recommended alternative. ER2 will not shade important essential fish habitat."[25] (North Carolina Division of Marine Fisheries)

"ER2 is the least damaging alternative to fish and wildlife resources in the project study area."[26] (North Carolina Wildlife Resources Commission)

Response: *The commenter does not explain why they believe that the Statement of Purpose and Need is impermissibly narrow, and NCDOT disagrees with the commenter's opinion. NCDOT seriously considered the concerns of the resource agencies and the public and, as such, chose the Preferred Alternative presented in the FEIS taking their concerns into consideration. Section 2.6 of the FEIS presents the reasons why the Preferred Alternative was chosen, including a discussion of the benefits and impacts of the Preferred Alternative that differentiated it in comparison to the other detailed study alternatives. This is updated in Section 1.3 of this reevaluation study report. In addition, NCDOT developed, in association with the resource agencies, numerous minimization and mitigation strategies for the Preferred Alternative that are documented in the FEIS and committed to in the document's Project Commitments. The multiple agency meetings are documented in Appendix C of the Stakeholder Involvement for Final Environmental Impact Statement Technical Report (Parsons Brinckerhoff, 2011).*

No new or past issues of concern were raised during the March 2018 agency coordination meeting at which reevaluation findings were presented. A summary of this meeting is in Appendix H of the Reevaluation of the FEIS Study Report. Four potential issues of concern for the Preferred Alternative were identified by agencies and addressed between the DEIS and FEIS: dredging in Currituck Sound during construction, stormwater management, submerged aquatic vegetation (SAV) impacts, and fisheries moratorium for in-water construction activities. The Summary of Agency Coordination Efforts to Resolve Potential Issues of Concern (NCTA, October 2011) indicates that "These four concerns were addressed in writing through briefing papers and during coordination meetings with the relevant agencies. As a result of the briefing papers and the

[23] Id. at 2-11.
[24] Id. at 2-33.
[25] Id. at 2-60.
[26] Id. at 2-88.

coordination, it appears that the Preferred Alternative could be permitted and implemented. There remain additional details to be completed as project development continues through final design and permit application preparation. But the agencies have indicated that the project development is heading in the correct direction to achieve permit approval." The findings of the October 2011 report and the associated briefing papers and coordination meetings remain valid.

14. **Comment:** Despite the clear preference for ER2 by the resource agencies, the Turnpike Authority, driven by its focus on alternatives that it can toll, has chosen MCB4/C1 with Option A as its "preferred alternative." The FEIS lists a number of reasons as to why it chose this alternative, but these reasons do not logically support the selection of MCB4/C1. (FEIS at 2-54 - 2-56). While the FEIS predicts that the chosen alternative will result in better travel benefits than ER2, ER2 is predicted to meet the project purpose and need for this metric. By contrast, ER2 has significantly fewer environmental impacts than MCB4/C1. So long as there is a less environmentally damaging alternative that is practicable and meets the project purpose and need, it will be difficult for MCB4/C1 to receive necessary permits from federal agencies. Further, where MCB4/C1 is anticipated to result in community and neighborhood cohesion impacts, such impacts would be minor with ER2.

    Response: *The commenter's opinion on what should have been chosen as the Preferred Alternative is noted. NCDOT worked closely with the environmental resource and regulatory agencies when choosing the Preferred Alternative identified in the FEIS and developing the conceptual mitigation plans included in the FEIS. The multiple agency meetings are documented in Appendix C of the Stakeholder Involvement for Final Environmental Impact Statement Technical Report (Parsons Brinckerhoff, 2011). NCDOT would continue to work with the resource agencies in finalizing mitigation plans. NCDOT expects, based on agency input to date, that the Preferred Alternative (revised design) will be found to be a Least Environmentally Damaging Practicable Alternative and will receive the necessary permits if it is identified as the Selected Alternative in the ROD.*

15. **Comment:** The factor which seemingly influences the choice of the preferred alternative most heavily, therefore, appears to be the fact that it could be financed through state gap funding and toll revenue bonds. (FEIS at 2-56). In response to agency concerns about this issues, the FEIS further asserts that, if ER2 were to be chosen, it could only be built by NCDOT and would therefore be subject to the State's Equity Formula.[27] The FEIS suggests that, as the project is in the same Division as the Bonner Bridge, that project would be likely commandeer available resources and that, accordingly, ER2 would be unlikely to be constructed.[28]

[27] See, e.g., id. at 2-3, 2-37-38.
[28] Id.

Response: *Financing is one reason for selecting MCB4/C1 as the Preferred Alternative identified in the FEIS. However, Section 2.6 of the FEIS presents numerous reasons for this decision. Based on the findings of this reevaluation, the basis for choosing the Preferred Alternative is refined in Section 1.3 of this reevaluation study report, including financing considerations.*

16. **Comment:** This reasoning illustrates the problematic nature of the Turnpike Authority's involvement in transportation decision making. NCDOT should not allow one specific financing mechanism to drive transportation policy, particularly when sensitive environmental resources are at stake.

    Given North Carolina's scarce transportation resources and the fragile nature of the natural environment on the State's Outer Banks, the first question that the Transportation Agencies should consider is how to most efficiently address the transportation challenges faced in the project area with the least impact. Only then should specific financing mechanisms be considered.

    NCDOT has a number of innovative ways to fund projects such as GARVEE bond programs and the State's Mobility Fund.[29] Further, numerous exceptions to the "Equity Formula" exist,[30] and NCDOT could work with the legislature to create an additional exception for this unique situation, or come up with other creative solutions. To suggest that the Transportation Agencies should pursue an alternative that is not only more environmentally destructive, but also is more expensive, just because it fits in with a decades-old, pre-conceived plan to finance the project through tolls, undermines the purpose of NEPA to carefully evaluate alternatives. A state created constraint cannot be a valid reason for violating federal law. It also runs contrary to the State's more careful approach to transportation policy that is being articulated in the crafting of North Carolina's 2040 Statewide transportation plan.[31]

    Response: *The use of tolls to build a Mid-Currituck Bridge is a part of statewide transportation planning that considered how best to use limited transportation funds to build and maintain a statewide transportation system whose components and priorities are reflected in: NCDOT's STIP, current when the FEIS was prepared and the current*

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[29] See NCDOT Urban Loop Acceleration Plan, www.ncdot.org/performance/reform/prioritization/; North Carolina Mobility Fund, www.ncdot.org/about/finance /mobilityfund/; N.C. GEN. STAT. § 136-187-89.

[30] See, e.g., N.C. GEN. STAT. § 136-17.2A (exempting "federal congestion mitigation and air quality improvement program funds", "funds expended on . . . urban loop project[s]" and "funds from the federal government for the Appalachian Development Highway System" from the Equity formula.); N.C. GEN. STAT. § 136-187(b) (exempting the Mobility Fund from the Equity formula).

[31] See generally, North Carolina Department of Transportation, Challenges and Opportunities Report supra note 3.

STIP, as well as county Comprehensive Transportation Plans developed by NCDOT in association with county and municipal governments, and county and local CAMA land use plans. A Mid-Currituck Bridge is included in all of these plans/programs.

When considering the construction of a federally-funded major transportation investment, decision-makers are required to follow the NEPA process in choosing a Preferred Alternative. NCDOT met the requirements of the NEPA process through the preparation and release of the FEIS and now this reevaluation. The Preferred Alternative presented in the FEIS was chosen by taking into account the key findings from completion of the NEPA process. For the Mid-Currituck Bridge project, these findings were associated with travel benefits; community, cultural, natural resource, other physical characteristic impacts; and financing and design considerations, as well as public involvement comments. Section 2.6 of the FEIS and Section 1.3 *of this reevaluation study report present the reasons why a refinement of MCB4/C1 with Option A was chosen as the Preferred Alternative. The source of funding for the proposed project was an important consideration in the selection of the Preferred Alternative in the FEIS, but it was not the primary consideration. Other key factors were potential environmental impact and opportunities for minimization and mitigation and how well alternatives performed in terms of reducing congestion in the project area, a measure, along with travel time, of an "efficient" transportation system. The information in Section 2.2 of the FEIS and Section 3.2 of this reevaluation study report indicates that in terms of providing an "efficient" transportation system, the Preferred Alternative does more than ER2.*

With the 2013 change in the way transportation funds are allocated, funds in the current STIP allocated the Mid-Currituck Bridge could be shifted to ER2 if it were selected for implementation in the ROD. However, the funds allocated in the preliminary Plan of Finance for Preferred Alternative in Section 1.2.5 of this reevaluation study report that are not supported by toll revenues would not be adequate to construct ER2.

17. **Comment:** Further, in addition to satisfying the NEPA, this FEIS will also be used by the Transportation Agencies to satisfy the requirements of the Clean Water Act. Yet, Section 404 has a requirement that entities pursue the "Least Environmentally Damaging Practicable Alternative." 40 C.F.R. § 230.12(a)(3). Presumably, as the preferred alternative, (MCB4C Option1), is more damaging to the environment than ER2, the transportation authorities intend to argue that ER2 is "not practicable." Indeed, the Army Corps specifically asked for information about financing stating that it would be required to determine practicability of less damaging alternatives.[32] Given the fact that financing has not been secured and finalized for the preferred alternative, it would be arbitrary and capricious to suggest that one unfunded alternative is "practicable" while others are not, and to justify tremendous environmental impacts on that basis. Furthermore, even were funding for

[32]Stakeholder Involvement FEIS Technical Report at 2-10-11.

MCB4/C1to be fully secured by the General Assembly, the annually appropriated "gap funding" required for the Bridge option will amount to more than double the cost of an upgrade alternative.

Response: *It is up to the USACE to decide if the Preferred Alternative meet the criteria of Least Environmentally Damaging Practicable Alternative (LEDPA). At an August 17, 2017 meeting with the USACE representatives, initial jurisdictional resource impact numbers for the revised designs of the Preferred Alternative and ER2 were presented. USACE representatives indicated that they were pleased that design revisions to the Preferred Alternative and ER2 had been made to take into consideration reduced traffic forecasts and new jurisdictional resource delineations, including wetlands. They did not see anything that needed to be addressed at that time from a jurisdictional resources perspective related to the practicability of the Preferred Alternative. They indicated that they will need to review the entire reevaluation report (i.e. consider all impacts and costs) before an indication of practicability could be made, but did not see any red flags at that time for the Mid-Currituck Bridge being identified as a LEDPA.*

Under state law, mechanisms were in place to finance the Mid-Currituck Bridge project when the FEIS was released and, today, funding for the project is in the 2018 to 2027 STIP. The financial plan for the project was described in Section 2.3 of the FEIS and is updated in Section 1.2.5 of this reevaluation study report. Under NCDOT's current approach to allocating transportation revenues, it would be possible for the STIP funds allocated to the Mid-Currituck Bridge Project to be assigned to ER2 as discussed in Section 1.2.5. However, while more expensive, the Mid-Currituck Bridge would use fewer transportation tax revenues than ER2 because of toll financing. The transportation benefits of the Preferred Alternative are greater than ER2, making an additional overall investment reasonable to consider.

Ferries

18. **Comment:** The FEIS fails to give a satisfactory response as to why ferry options were not fully considered in the alternatives analysis. Rather than analyze the potential benefits of a ferry service alternative, the FEIS instead lists a number of attempted justifications as to why such an alternative should not even be considered. These justifications are not persuasive.

    First, the FEIS sets forth the argument that ferry service would have to be dramatically expanded to meet the need of the Mid-Currituck Bridge.[33] Indeed, the FEIS suggests that ferry service for the entire state would need to be expanded by four times in order to meet transportation needs in the project area. However, the "need" being accounted for here is the forecasted traffic volumes for 2035, traffic volumes which were created based on the assumption that a bridge would be

[33]Stakeholder Involvement FEIS Technical Report at 3-8.

constructed. No examination of changes to traffic and development under a ferry alternative has been performed, and thus we cannot know what level of traffic ferries would be required to carry. Further, even were traffic volumes to expand significantly, that expansion would take place over a period of approximately twenty years. In other words, ferry services would not be quadrupled immediately, if at all, but would gently ramp up over time. One benefit of the ferry alternative is that ferry fleets may be expanded with relative ease, and therefore would be adaptable over time to increased demand.

Response: *As indicated in Section 2.5 of the DEIS, the ferry alternative was dropped because a ferry would not notably reduce congestion or travel times, would be costly, and would require substantial dredging in Currituck Sound, with resulting impacts to the natural environment.*

As discussed in the Alternatives Screening Report (Parsons Brinckerhoff, 2009) in Section 2.2.4, the ferry service assessed during the screening was developed considering the cost of typical ferry operations over 50 years compared to the cost of building, operating, and maintaining a Mid-Currituck Bridge. It was determined that the cost of two typical NCDOT ferry services would be higher, but roughly equivalent, to the cost of a two-lane Mid-Currituck Bridge. Given the limited capacity of ferry service, however, three typical ferry operations were assumed for the ferry component of the Ferry Alternatives (F1 to F4) for comparison with a Mid-Currituck Bridge. F1 and F2 included both the ferry and the improvements associated with ER1 and ER2, respectively. F3 and F4 were a ferry plus hurricane evacuation improvements. Note that it was found that eight typical ferry services would be needed to provide summer weekday travel benefits equivalent to a bridge, and ten would be needed to provide the equivalent benefits on summer weekends. It was concluded that equivalent service could not be provided without substantial cost and environmental impact (even if "ramped up"), and thus the approach above was used to define the ferry alternative.

As discussed in the Alternatives Screening Report (Parsons Brinckerhoff, 2009), the traffic analysis for the Ferry Alternatives concluded that these ferry alternatives would provide modest travel benefits at a much higher cost (both in terms of funding required and impacts to the natural environment) than the existing road (ER) or Mid-Currituck Bridge alternatives. The modest travel benefit of the Ferry Alternative is reaffirmed in Section 3.3.7.8 of this reevaluation study report.

The reasonableness of a ferry alternative overall is revisited in Section 3.3.7, in part in response to comments provided by this commenter in December 2016.

19. **Comment:** In our comments on the Draft EIS, SELC listed a number of different ferry alternatives that have been used with success around the United States. These examples were intended to illustrate the variety of possible ways in which ferries can be added as effective transportation alternatives in a range of different geographical

situations. Rather than use this list as a jumping off point to explore ferry alternatives for the Currituck Sound, however, the FEIS instead focuses on distinguishing why the specific details of each service listed is distinct from the precise geographical situation in the study area.[34]

For example, the FEIS states that comparison with the Puget Sound ferry system is inappropriate since Puget Sound's average depth is 450 feet, whereas the Currituck Sound's average depth is six feet.[35] However, our earlier comments were not intended to suggest that NCDOT replicate the exact model used in Puget Sound with the exact same ferries, but rather to illustrate the potential success of high volume ferry services. Further, while it is true that Currituck Sound is shallow, ferries do exist that are capable of navigating in as little as five feet of water.[36] Additionally, suitable ferry routes might be mapped by using readily available nautical charts and bathymetry data that indicate water depths throughout Currituck Sound.[37] The Knotts Island Ferry that operates in the northern Currituck Sound between Knotts Island and Currituck demonstrates the feasibility of developing suitable ferry routes.[38] Ferry terminals for these options could financially boost Aydlett and other mainland towns without the impacts to community cohesion, visual impairments and environmental destruction associated with construction of a new bridge.

> ***Response:*** *It is NCDOT's position that the ferry analysis presented in the Alternatives Screening Report (Parsons Brinckerhoff, 2009) was sufficient to conclude that ferries are not a reasonable alternative that should be studied in detail in this setting. Thus, from NCDOT's perspective, the fact that ferry service is provided in other settings is not necessarily relevant. Indeed, when NCDOT looked into the examples provided, it found that the settings of those other services were sufficiently different so as to not provide an example relevant to the Mid-Currituck Bridge project setting.*
>
> *In terms of the comment that ferries do exist capable of navigating in as little as 5 feet of water, much of Currituck Sound in the project area is actually less than 5 feet deep. For example, the construction barges that would be used to build the bridge can operate only in waters 6 feet deep or deeper. Where the water is too shallow, the bridge over Currituck Sound would be built from a work bridge to avoid the need to dredge. As indicated in Section 2.4.2 of the FEIS, the construction of the bridge over Currituck Sound would involve the use of 6,400 feet of work trestle or 1.2 miles. Furthermore, the National*

[34] Id.
[35] Id.
[36] See *M/V SOLANO Facts & Figures* (last visited Feb. 24, 2012), www.baylinkferry.com /ferry/solano-ferry-facts.php (attached).
[37] See, e.g., NOAA Office of Coast Survey, *Chart 12207* (Oct. 2009), www.charts.noaa.gov /OnLineViewer/12207.shtml.
[38] See NCDOT, North Carolina Ferry Routes www.ncdot.gov/travel/ferryroutes/#0 (last visited Feb. 24, 2012) (attached).

Oceanic and Atmospheric Administration nautical chart at www.charts.noaa.gov /OnLineViewer/12204.shtml consistently shows that the depth of the water along the shoreline of Currituck Sound, as well as at many locations in the middle of the sound, is less than 5 feet deep. In addition, draft assumes a loaded vessel at rest. A vessel with, for example, a draft of 5 feet cannot operate in 5 feet of water. Additional water beneath the keel is needed for a ferry vessel to operate. See the discussion included in Section 3.3.7 of this reevaluation study report. Thus, if the commenter's observation of the shallow draft of some ferries presumes that such ferries could be operated without dredging and the associated environmental impact, the commenter is mistaken. A similar comment was received in the December 16, 2016 letter sent by the commenter. See the responses to This organization's comment 28 in Appendix D.

The Preferred Alternative specifically does not include direct access between the bridge and the community of Aydlett because Aydlett and Currituck County do not want induced development in this community. Thus, it is not clear why the commenter believes that Aydlett would find the presence of the ferry terminal and its associated traffic in their community to be a benefit.

20. **Comment:** In sum, the Transportation Agencies have failed to perform a comprehensive, up-to-date study of ferry alternatives in the FEIS. The very limited analysis of ferries that does appear remains based on a 1991 study. Reliance on such two-decades old, outdated information when new data is readily available has been held to be arbitrary and capricious.[39] Moving forward, the Transportation Agencies must take a hard look at all alternatives, including ferry alternatives, based on recent reliable data and information about new low-draft, high-speed, high capacity ferries, that gives a true picture of the possibilities that can be expected from ferry alternatives.

Response: *The positions expressed in this comment are addressed in the responses to the other comments on ferries by this organization, with the exception of the recommendation that "new low-draft, high-speed, high capacity ferries" be considered. The commenter is incorrect in their statement that the analysis of ferries was based on a 1991 study. The ferry analysis presented in Section 2.2.4 of the Alternatives Screening Report (Parsons Brinckerhoff, 2009) was completely new, including consideration of new alternatives for using ferries, cost and other operational information obtained from the NCDOT Ferry Division in 2007, and use of the 2006 traffic forecast model when considering the effect of ferry use on 2035 traffic in the rest of the network. The ferry analysis is updated in Section 3.3.7 of this reevaluation study report using 2017 information on ferry operations and cost from NCDOT's Ferry Division, as well as a reassessment of the*

[39] See Northern Plains Resource Council v. Tongue River Railroad, No. 97-70037 at 30 (9th Cir. December 29, 2011).

benefits of a ferry service to traffic movement in the project area in 2040. Section 3.3.7.3 includes a discussion of alternative ferry vessels considered.

Environmental Impacts

21. **Comment:** Since publication of the DEIS, the Transportation Agencies have spent time working with resource agencies to minimize some of the direct environmental impacts that will be occasioned by construction of the bridge. We applaud these efforts, specifically the decision to bridge Maple Swamp and the commitment to construct the bridge without any dredging and with a moratorium placed on construction during fish spawning habitat. Despite these advances, the fundamental problem remains that the Transportation Agencies seem determined to pursue an alternative that will result in other devastating direct and indirect impacts to the environment. In an attempt, perhaps, to obscure this fact, the agencies have conducted a flawed study of environmental impacts that improperly minimizes the dramatic impact that building a seven-mile bridge to a barrier island will have. Not only does this insufficient analysis violate NEPA, but it also fails to fulfill the Transportation Agencies' responsibility under state law to implement the bridge in a manner that "[e]nsures the preservation of water quality in Currituck Sound" "protects the natural environment" and "[m]itigates the environmental impact of the bridge on the Currituck County mainland and the Outer Banks." N. C. GEN. STAT. § 136-89.183A(a), (d).

Response: *NCTA disagrees with the commenter's opinion that the agencies have "conducted a flawed study of environmental impacts that improperly minimizes the dramatic impact that building a seven-mile bridge to a barrier island will have" and that that analysis violates NEPA. From the perspective of the state law:*

- *In the FEIS, NCDOT committed to developing and implementing a stormwater management plan (a preliminary plan is described in Section 2.1.7 of the FEIS). Project impacts will not change the current use or water quality classification of waters within the projects area, which are designated as "SC" by NCDEQ-DWR. This saltwater classification represents the minimum quality standards applicable to all salt waters. According to NCDEQ-DWR, suitable activities for waters classified SC include aquatic life propagation and survival, fishing, wildlife and secondary recreation. Regulatory agencies will not issue permits and certifications that result in a degradation of water resources.*

- *The project will comply with the NCDOT's National Pollutant Discharge Elimination System (NPDES) permit (NCS000250) and requirements of the post-construction stormwater program.*

- *The choice of the location and design components of the Preferred Alternative was focused on protecting the natural environment, including bridging Maple Swamp*

and using the C1 bridge terminus, as well as the other design refinements listed in Section 2.1.2.5 of the FEIS.

– *The FEIS documents the planned mitigation measures for the Preferred Alternative, including specific project commitments presented in the "Project Commitments" section of the FEIS and updated in this ROD.*

Direct Impacts

22. **Comment:** As detailed in our previous comments,[40] construction of the Mid-Currituck Bridge will result in a number of direct impacts to the natural environment. Draining and fill of wetlands to make way for the proposed bridge will directly reduce habitat for waterfowl and their food sources. Runoff from the Bridge will pollute the waters used by waterfowl, fish and other species. Increased traffic that will accompany the Bridge will increase bird-vehicle collisions, and increased noise and visual disturbance is likely to disrupt waterfowl and potentially cause sensitive species to abandon the area. Shading from the bridge will directly impact existing areas of Submerged Aquatic Vegetation ("SAV"), and areas of potential future establishment, reducing important fish spawning habitat in the Currituck Sound. Construction may also introduce a range of invasive species into the Sound, including plants such as Phragmites which are extremely difficult to eliminate.[41] The FEIS fails to include an analysis of these direct impacts that is sufficient to satisfy NEPA. Any discussion of the impacts that is included is overly general in nature and falsely minimizes the effects that these impacts will have on the sensitive resources in the project area, particularly when considered in combination.

Response: *NCDOT disagrees with the commenter's opinion on the sufficiency of the direct impact assessment in the FEIS. Comments on the direct impact assessment from the environmental resource and regulatory agencies were addressed and resolved by the Preferred Alternative selected, design refinements to that Preferred Alternative, and in the development of mitigation. (See Sections 4.3.6 (related to wetland impacts and mitigation), 4.3.7.1 (related to water resource mitigation, including SAV), 4.3.3.1 (regarding bird collisions and roosting/perching birds), and 4.3.5 (regarding invasive species), as well as the parts of the FEIS and its associated technical reports that are referenced in these sections. The only state-designated fish nursery/spawning area (primary, secondary, or anadromous spawning area) in the project area is Jean Guite Creek (see Section 4.3.7), which is a Primary Nursery Area. It would not be affected by the Preferred Alternative.*

[40]Stakeholder Involvement FEIS Technical Report at C7-C-11.
[41]Stakeholder Involvement FEIS Technical Report at 2-42.

Indirect Impacts

23. **Comment:** In addition to its inadequate analysis of direct environmental impacts, the FEIS also fails to sufficiently document indirect impacts associated with construction of the project. The Indirect and Cumulative Effects ("ICE") analysis prepared for the FEIS is fundamentally biased by its reliance on a flawed baseline that fatally infects the analysis of indirect environmental impacts. By failing to base its analysis on a true picture of what would occur in the absence of transportation improvements, the Indirect and Cumulative Effects analysis reaches the absurd conclusion that construction of the Mid-Currituck bridge will result in a "negligible increase in permanent population", "no reasonably foreseeable change in the demand for homes and businesses" and "no reasonably foreseeable change in the type, density, rate of, or demand for, development on the Outer Banks that are made accessible by construction of the bridge."[42] Indeed, it is clear from other documents that even the Turnpike Authority does not believe these arbitrary and capricious statements. In light of these erroneous conclusions, the analysis of environmental impacts is wrongly muted, and therefore insufficient to satisfy NEPA. 40 C.F.R. § 1502.16.

    Not only does the conclusion that construction of the Bridge would result in almost no induced environmental impacts defy common sense, but documents obtained through the North Carolina Public Records Act make it appear that the Turnpike Authority knew that its chosen "baseline" was flawed and that it would serve to underestimate the potential effects of the bridge.

    The ICE study was ostensibly developed with the purpose of underestimating the environmental impact of the proposed Bridge. During initial discussions the consultant charged with analyzing the indirect and cumulative impacts from the project was cautioned to avoid using "loaded" words in his report.[43] Specifically, where the consultant had termed the bridge a "significant intervention" in an important natural area, he was warned to speak of the bridge as an intervention only "to the extent that it will support development that is already occurring in the County and make it easier for the county to provide public services."[44] This interference in the consultant's work came before the ICE analysis had even been

[42]NCDOT, Mid-Currituck Bridge Study, Indirect and Cumulative Effects Technical Report, (Nov. 2011) [hereinafter ICE Report] at xxii-xxiv.
[43]Exhibit 1, E-mail from John Page to Dan Marcucci and Jennifer Harris (Oct. 12, 2007).
[44]Exhibit 2, Comments from John Page on Draft Abstract, Dan Marcucci, Environmental Planning in the Vise between Urban and Coastal Sprawl: Sound Planning in Currituck County, NC (Oct. 2007).

started.[45] Thus, the conclusion that the bridge would not, in fact, itself induce growth was apparently provided to the consultant before the study began.

Additionally, in comments to the ICE study, a NCDOT employee noted that "[i]t can be argued that the higher percentages of build-out . . . are the induced changes of the study alternatives."[46] Despite the recognition of the logical conclusion that higher growth percentages only found with construction of the Bridge should be attributable to the Bridge, no such conclusions have been adopted in the ICE study, or, indeed, anywhere else in the EIS.

In places, the ICE study does acknowledge that there will be some change in development patterns attributable to the preferred build alternative. For example, the study acknowledges that construction of the bridge would result in a potential increase in day trips, including in the "non-road, four-wheel drive accessible area." Further, the study suggests that there would be a net gain in service-oriented businesses on Currituck County mainland. However, here again the FEIS is lacking; while some of this potential change in development is admitted, the environmental impacts associated with such growth is in no way analyzed.

Response: *NCDOT disagrees with the opinions expressed by the commenter in the first two paragraphs of this comment. Further, the reasons behind those opinions presented in the subsequent paragraphs not only misinterpret the documents discussed by the commenter, but in doing so they give a directly contrary interpretation to the actual intent and effect of the communication. First, the abstract in question in the e-mail thread was not a "report," as the comment implies, that was part of the environmental review process, but rather an academic paper that investigated the background landscape conditions in the study area. It was a hypothetical abstract written in advance of the research and drafting of the academic paper. In addition, it was in advance of the research and analysis that led to the findings in the indirect and cumulative impact assessment. More importantly, the consultant's advice was precisely to avoid any foregone conclusions: "Our job under NEPA is to approach our work as a dispassionate observer who addresses a full range of issues as an aid to sound decision-making. We cannot have a personal agenda or approach our work with preconceptions."*

With respect to the internal review comments from NCDOT's Human Environment Unit (HEU), the comment regarding the logic and conclusions of reasonably foreseeable outcomes for the No-Build Alternative was further discussed and clarified with the commenter. As a result of this discussion, the commenter indicated in the context of a conference call that he now understood the conclusions that he questioned related to the

[45] Id.

[46] Exhibit 3, ICE Technical Report Draft, May 20, 2011 at 6-5 (comment by Herman Huang, NCDOT-HEU).

indirect and cumulative effects analyses and that he was no longer concerned with these conclusions.

24. **Comment:** In sum, the ICE study first minimizes artificially environmental impacts by basing its calculations on a flawed baseline. Then, for the environmental impacts it does it acknowledge that the study spends substantial time documenting and cataloguing the existing conditions in the study area, while never taking the additional required step of analyzing how those conditions will be changed by the construction of the bridge. Both failures render the analysis inadequate and any decision to authorize the Bridge based upon will necessarily lack a reasoned basis, rendering it arbitrary and capricious.

    Response: *NCDOT disagrees with the commenter's opinion related to the sufficiency of the indirect and cumulative effects analysis and findings. See the response to this organization's comment 8 regarding the "flawed baseline" and how the impacts of planned and expected development were assessed in the indirect and cumulative impact assessment.*

Dunes

25. **Comment:** The analysis of dunes on the Outer Banks in the ICE study provides an example of this doubly flawed analysis. First, the ICE provides a confusing statement about how much dune disturbance may result from the bridge. The ICE attempts to explain that "[t]here is no reasonably foreseeable induced development on the Outer Banks," however, at the same time, the study acknowledges that the absence of a bridge may result in a scenario where "development is constrained because of traffic congestion" and that such a scenario would result in "less land disturbance in the dunes."[47] This seemingly contradictory statement fails to explain exactly how much development is attributable to the road, and what impact that development might have on dunes.

    The ICE study does acknowledge that "the dune system could potentially be impacted by increased day visitors." However, nowhere in the document does it analyze what these impacts would be. Rather, the ICE study briefly documents how impacts to the dunes could be mitigated. (ICE 6-7). This is not sufficient information to satisfy NEPA. One of the key purposes of an EIS is to document and analyze the environmental consequences of an action. 40 C.F.R. § 1500.1(c). As recently explained by a federal appellate court,

    > such mitigation measures, while necessary, are not alone sufficient to meet the Board's NEPA obligations to determine the projected extent of the environmental harm to enumerated resources before a project is approved. Mitigation measures

[47]ICE Report at 6-7.

may help alleviate impact after construction, but do not help to evaluate and understand the impact before construction.

Northern Plains Resource Council v. Tongue River Railroad, No. 97-70037 at 28 (9th Cir. December 29, 2011).

Under NEPA then, the Transportation Agencies have a responsibility to first clearly explain exactly what indirect impacts to the dune system are attributable to the construction from both increased day trips and induced development. 40 C.F.R. § 1502.16(b). The discussion should include a detailed analysis of how severe the degradation of dunes will be, the potential loss of vegetation, wildlife habitat, nesting grounds and all other associated impacts. This analysis must be based on a true "No Build" baseline, in which development may be constrained. 40 C.F.R. § 1502.14(d). Once the amount of impact has been determined the EIS must carefully document these impacts, and how they would present in the absence of mitigation. *Northern Plains Resource Council* 97-70037 at 28.

Response: *NCDOT disagrees with the commenter's opinion of a "doubly flawed" analysis. Regarding development findings associated with the bridge alternatives, the No-Build Alternative, and ER2; see the response to this organization's comment 8.*

With respect to the dunes as a notable environmental feature, the indirect and cumulative impacts to the dune system are discussed in Sections 6.2.2.1 and 6.3.2.1, respectively, of the Indirect and Cumulative Effects Technical Report (ECU, 2011) and summarized in Section 3.6.2.3 of the FEIS. The indirect effects conclusions are that with MCB2, MCB4, and the Preferred Alternative, the "dune system could potentially be impacted by increased day visitors. This would occur largely through driving or walking through prohibited areas and destroying vegetation."

Although NCDOT believes that the material included in the FEIS and the associated Indirect and Cumulative Effects (ICE) technical report sufficiently addressed indirect impacts to the dune system, in response to this comment additional studies were completed related to the potential impact on the non-road-accessible Outer Banks that would be associated with increased driving by owners/renters of residences in that area, day trips by persons staying overnight in the road-accessible area, and, with MCB2, MCB4, and the Preferred Alternative, additional day trips from the mainland. These findings are presented in an Indirect and Cumulative Effects Technical Report Addendum (Parsons Brinckerhoff, 2012) and described in Appendix F of this reevaluation study report. Appendix F contains FEIS revisions prepared in response to FEIS comments. They augment the findings presented in the 2011 ICE technical report and FEIS. The indirect and cumulative effects addendum is available for inspection at www.ncdot.gov/projects/mid-currituck-bridge/Pages/project-documents.aspx.

This additional data gathering and impact assessment effort, along with the material presented in previous reports, has identified the indirect effects that are known, and represents a good faith effort to explain the indirect effects that are not known but are reasonably foreseeable. The NEPA process does not require the lead agency to engage in speculation.

Stormwater

26. **Comment:** The ICE study similarly fails to fully analyze the indirect impacts caused by increased stormwater run off that will be occasioned by the project. Much like its analysis of dunes, the study first fails to acknowledge the full extent to which stormwater run off will result from the induced development associated with the project.[48] The ICE study admits that 68 acres of impervious surfaces will be added to the Currituck mainland as a result of construction, but does nothing to analyze what impact associated increased run off will have on Maple Swamp and Great Swamp.[49] Rather, the ICE study simply catalogues the laws which govern runoff.[50] A similar approach is taken for stormwater concerns on the Outer Banks – the laws governing run off are listed and ways that run-off may potentially be mitigated are given.[51] This analysis is not sufficient to satisfy NEPA, the purpose of which is to analyze the environmental impacts that will be occasioned by a project. 40 C.F.R. § 1502.16(b). Such an analysis has not been performed, and the EIS is therefore rendered inadequate.

    To the extent the impacts of stormwater are mentioned anywhere else in the ICE study, the mention is brief, dismissive and without analysis. For example, the analysis of coastal marshes states that "there would be no indirect effect" to Coastal Marshes, "except to the extent that degraded runoff from sound side lots might affect these marshes."[52] No analysis as to how stormwater may indeed impact the marshes is given. Indeed, no detailed recognition is given to the many impacts that will be occasioned by increased stormwater run-off which could lead to substantial degradation of water quality,[53] including increased turbidity, siltation and sedimentation in aquatic habitat areas.[54] Nor is there any analysis of the impact such degradation would have on waterfowl, Submerged Aquatic Vegetation and other important fish habitat. As noted above, this limited analysis fails to demonstrate how the Transportation Agencies intend to comply with the state law to guarantee

[48]ICE Report at 6-7 – 6-8, 6-24.
[49]ICE Report at 6-7.
[50]ICE Report at 6-7 – 6-8.
[51]ICE Report at 6-8.
[52]ICE Report at 6-9.
[53]Stakeholder Involvement FEIS Technical Report at 2-17 – 2-18
[54]Id. at 2-40.

that the bridge is constructed in a manner that "[e]nsures the preservation of water quality in Currituck Sound" N. C. GEN. STAT. § 136-89.183A (d).

Response: *The laws referenced are designed to protect the area's water quality. It is considered reasonably foreseeable that these laws would be properly applied to future development, just as they would be applied to the detailed study alternatives. When applied, the impact on water quality should be minimal. Although NCDOT believes that the material included in the FEIS and the associated ICE technical report sufficiently addressed indirect impacts to water quality, in response to this comment additional analysis was completed related to the potential impact to water quality resulting from indirect impacts, including induced development on the mainland and constrained development with the No-Build Alternative and ER2. These findings are presented in an Indirect and Cumulative Effects Technical Report Addendum (Parsons Brinckerhoff, 2012) and described in Appendix F of this reevaluation study report. They augment the findings presented in the 2011 ICE technical report and FEIS. The indirect and cumulative effects addendum is available for inspection at www.ncdot.gov/projects/mid-currituck-bridge/Pages/project-documents.aspx.*

From the perspective of complying with NC GS § 136-89.183A, if selected for implementation, the Preferred Alternative would be built and operated in an environmentally sensitive manner. Project impacts would not change the current use or water quality classification of waters within the project area, which are designated as "SC" by NCDEQ-DWR. This saltwater classification represents the minimum quality standards applicable to all salt waters. According to NCDEQ-DWR, suitable activities for waters classified SC include aquatic life propagation and survival, fishing, wildlife and secondary recreation. Regulatory agencies will not issue permits and certifications that result in a degradation of water resources. In the FEIS, NCDOT committed to implementing a stormwater management plan. As such, NCDOT developed, in coordination with federal and state resource agencies the preliminary stormwater management plan described in Section 2.1.7 of the FEIS. NCDOT developed, in association with the resource agencies, numerous mitigation strategies for the Preferred Alternative that are documented in the FEIS and committed to in the document's Project Commitments (also included as Appendix G of this reevaluation study report), including the stormwater management plan. The multiple agency meetings are documented in Appendix C of the Stakeholder Involvement for Final Environmental Impact Statement Technical Report (Parsons Brinckerhoff, 2011). NCDOT will continue to work with the resource agencies in finalizing mitigation plans and to receive any necessary permits in the event a build alternative is selected for implementation in this project's ROD.

Beach Driving

27. **Comment:** The ICE analysis of the impacts associated with beach driving is again confusing and inadequate. On the one hand, the ICE study appears to suggest that construction of the Mid-Currituck Bridge would have very little effect on increased

beach driving in the northern Outer Banks.[55] However, elsewhere the ICE study suggests that "[i]ncreased beach driving because of induced additional day visitors could exacerbate" the degradation of breeding, migrating and wintering habitat for shorebirds and sea turtles, including several protected species listed as threatened or endangered under the federal Endangered Species Act.[56] The extent to which construction of the project will in fact induce additional beach driving is unclear. This inadequacy in the analysis is further exacerbated by the fact that the Transportation Agencies have failed to analyze the current rate of beach driving in the study area.[57] Furthermore, where the ICE study does acknowledge some increased beach driving it fails to adequately document the resultant impacts to the environment, discussing the issues at a very general level rather than specifically delving into what increase driving could mean for populations of migrating and nesting shorebirds, turtle nests and wild horses.[58] As much of the additional beach driving will occur on environmentally important lands including Currituck National Wildlife Refuge, Pine Island Audubon Sanctuary, Nature Conservancy land, and other Natural Heritage Areas, it is particularly important that a thorough analysis of potential impacts appear in the EIS.

Response: *Although NCDOT believes that the material included in the FEIS and the associated ICE technical report sufficiently addressed indirect impacts of beach driving, in response to this comment additional studies were completed related to the potential impact on the non-road-accessible Outer Banks that would be associated with increased driving by owners/renters of residences in that area, day trips by persons staying overnight in the road-accessible area, and, with the Bridge alternatives, additional day trips from the mainland. These findings are presented in an Indirect and Cumulative Effects Technical Report Addendum (Parsons Brinckerhoff, 2012) and described in Appendix F of this reevaluation study report. They augment the findings presented in the 2011 ICE technical report and FEIS. The indirect and cumulative effects addendum is available for inspection at www.ncdot.gov/projects/midcurrituckbridge/.*

This additional data gathering and impact assessment effort and the material presented in previous reports have identified indirect effects that are known and represent a good faith effort to explain the effects that are not known but are reasonably foreseeable. The NEPA process does not require the lead agency to engage in speculation.

Currituck County appointed a Beach Driving Committee to study issues related to beach driving in the county. In August 2011, the Beach Driving Committee identified three

[55]ICE Report at 6-10

[56]Id.

[57]ICE Report at 4-18 – 4-19; see also Exhibit 4, comment from John Page, April 18, 2011 "nobody knows how much beach driving there is today, making it more difficult to know how much more that might occur."

[58]ICE Report at 6-10.

issues related to beach driving and made recommendations to address each issue. The three issues identified were congestion, education, and public safety. The primary recommendations to address each issue were as follows:

1) *Congestion:*
   - *Promote beach access in Corolla (NC 12-accessible area);*
   - *Improve parking lots and accesses in Corolla (Lighthouse, Corolla Bay, and Whalehead); and*
   - *Permit system – complete a feasibility study for seasonal beach permitting.*
2) *Education*
   - *Convey consistent messages;*
   - *Emphasize the importance of airing down (reducing tire pressure before driving on the beach); and*
   - *Market the message.*
3) *Public Safety*
   - *Emphasize traffic patterns;*
   - *Implement a consistent speed limit;*
   - *Make access ramp safer; and*
   - *Permit system – complete a feasibility study for seasonal beach permitting.*

Each of these primary recommendations included specific short- and long-term recommended actions to implement the primary recommendations.

Since the preparation of the FEIS, Currituck County actions taken to regulate beach driving have been confined to regulating commercial ventures that involve beach driving. Vendors are no longer permitted to rent four-wheel drive vehicles to visitors in Currituck County for use on the beach. For the beaches north of Corolla, the beach without improved all-weather road access, group trips are regulated annually. Each year the county monitors the number of visitors and gives operational permits to tour companies. Ten annual licenses are granted each year. Each license holder can operate up to five vehicles, with a maximum capacity of 15 persons. No action has been taken to regulate beach driving in personal vehicles (personal communication, Ben Woody, Planning Director, Currituck County Planning Department, February 12, 2015; personal communication with Jennie Turner and Laurie LoCicero, Currituck County Planning Department, July 31st, 2017).

28. **Comment:** One of the primary purposes of NEPA is to present a detailed picture of environmental impacts to the public and engage them in the decision making process. 40 C.F.R. § 1500.1(b); 49 C.F.R. 520.25; 26. Accordingly, the EIS process is used to solicit public input to help foster more informed decision-making. Unfortunately, the Transportation Agencies are not uniform in their concern for public input. For example, while the Transportation Agencies have gone out of their way to elicit public support to eliminate an environmentally preferable alternative

for another toll project, the South-East Extension[59], they have been far less responsive to public input on the proposed Garden Parkway and this project, the Mid-Currituck Bridge, where the position of the public runs counter to the agency's own goals.

One of the most striking examples of this ambivalence to public engagement for the Mid-Currituck Bridge was the holding of a closed-door stakeholder meeting about the design of the bridge.[60] The meeting, which was intended to engage participants in "idea gathering," was not advertised to the public and did not include any of the stakeholders who are opposed to the project. Indeed, despite the fact that there is a well organized, vocal group of local residents in Aydlett and nearby towns who oppose the project, the group has not been recognized during the EIS process or any aspect of the project development, and was not included in that stakeholder meeting.

Response: *The article referenced was written in the context of the decisions on the detailed study alternatives to assess in a DEIS for the Triangle Expressway Southeast Extension project. NCDOT did not actively seek public support to eliminate this alternative, nor does the referenced article say this. USACE and other environmental resource and regulatory agencies wanted it retained. The article discusses the concerns of the public and the General Assembly (Legislature) at that time over the resource agencies' preference.*

The purpose of the August 2011 meeting held in Grandy that was discussed in the Daily Advance article was to solicit ideas from community representatives that could be used by the design team to prepare aesthetic concepts for the Mid-Currituck Bridge project. Based on information gathered during the meeting regarding local history, culture, and architecture, NCDOT was preparing Aesthetic Design Guidelines for providing an attractive look for the project. The guidelines were anticipated to address items such as the landscaping, architecture, colors, and materials that might be used for the US 158 interchange and toll plaza area, the bridges across Maple Swamp and Currituck Sound, the roundabout at NC 12, and other project elements. NCDOT expects to renew that effort if the Preferred Alternative is selected for implementation in the ROD. The ultimate aesthetic treatments will depend on several factors including cost, constructability, maintenance, and public input. If the bridge project advances through final design and construction, it is NCDOT's intent to have future meetings with the public that will include discussions related to project aesthetics.

The public is never invited to every meeting in the context of the NEPA process, nor does NEPA require it. It is up to the lead agency to decide on the components of its public involvement program. Both those opposed to the project and those in favor of the project,

[59]See, e.g., Exhibit 5 Shirley Hayes, With red route gone, what's next for I-540 expressway extension?, Garner News, March 29, 2011.
[60]Exhibit 6, Cindy Beamon, Bridge 'idea-gathering' meeting not advertised to public, Daily Advance, Sept. 18, 2011.

whether as individuals or as organizations, were and will continue to be given the opportunity to be heard. The extensive public outreach for this project is documented in the two stakeholder involvements reports: Stakeholder Involvement for Draft Environmental Impact Statement Technical Report (Parsons Brinckerhoff, 2009) and Stakeholder Involvement for Final Environmental Impact Statement Technical Report (Parsons Brinckerhoff, 2011).

29. **Comment:** The FEIS fails to provide the basis needed for a rational appraisal of this project's impacts, benefits, or alternatives. In light of financial uncertainty surrounding this project, the overwhelming public opposition, and the flawed and insufficient EIS, we urge the Transportation Agencies to reconsider the project, and give serious consideration to an upgrade alternative and issue a Supplemental EIS that addresses the issues raised by these comments, our earlier comments and the comments of others.

    Response: *NCDOT disagrees with the commenter's opinion. Regarding the observation that there was overwhelming public opposition, as documented on page 4-3 of the Stakeholder Involvement for Final Environmental Impact Statement Technical Report (Parsons Brinckerhoff, 2011), during the public review period for the DEIS, far more people favored the bridge than opposed it.*

B.2.3.2 June 1, 2012

1. **Comment:** Meanwhile, in light of the Monroe ruling [court ruling in response to a law suit on another NCTA project] and the issues we have already raised, we request that Federal Highway Administration ("FHWA") issue notices in the Federal Register to rescind the Record of Decision ("ROD") for the Gaston East-West Connector and notice the intent to prepare Supplemental Environmental Impact Statements ("SEIS") for both that project and the Mid-Currituck Bridge.

    Response: *NCDOT and FHWA disagree with the commenter's opinion that in light of the Monroe ruling a SEIS is needed.*

2. **Comment:** The Mid-Currituck Bridge similarly is a highly expensive toll project proposal that fails to serve a demonstrated transportation need. The suggestion in the EIS that this project will result in little induced development to the Outer Banks is demonstrably false, and, in fact, the project will serve to bring substantial increased development pressure to this fragile, shifting barrier island. Furthermore, resource agencies are near unanimous in their preference for upgrades to the existing highways in place of this new location bridge, which will pass directly through Maple Swamp and impact important fish spawning grounds and migratory bird habitat.

    Response: *NCDOT disagrees with the commenter's opinion that the bridge project will serve little demonstrated transportation need. The project's need is described in Chapter*

1 of the FEIS and updated in Section 3.0 of this reevaluation study report. Regarding induced development, see the response above to comment 8 in this commenter's March 12, 2012 letter. The agencies have expressed a preference for improving existing roads. However, the reasons why NCDOT prefers a bridge alternative are documented in Section 2.6 of the FEIS and updated in Section 1.3 of this reevaluation study report.

NCDOT is working closely with the agencies to minimize impacts to the area's natural resources. Portions of Maple Swamp are identified by the NC Natural Heritage Program (NHP) as NHP natural areas. However, Maple Swamp has not been designated as important fish spawning grounds or important migratory bird habitat. Large forest tracts, in general, are important to many bird species, including Neotropical migrants, that prefer interior or non-fragmented habitats. However, the largest and most intact forest in Maple Swamp occurs south of the project alignment and would not be affected by the project. The integrity of the forest within Maple Swamp crossed by the Preferred Alternative has been severely affected by logging activity and the presence of a large powerline crossing north of the east-west crossing of Maple Swamp via Aydlett Road.

There are no designated "spawning grounds" or "important fish spawning grounds" affected by the project. The state identifies some important spawning areas as Anadromous Fish Spawning Areas (AFSA), and often identifies important fish nursery areas with the designations of Primary Nursery Area (PNA) or Secondary Nursery Area (SNA). Within the project area, only Jean Guite Creek, which is currently bridged and would continue to be bridged under ER2, is designated as a PNA. As indicated in Section 3.2.2 of the Natural Resources Technical Report (CZR Incorporated, 2011), portions of Currituck Sound provide nursery functions for diadromous fish species (fish that use both marine and freshwater habitats) that use the area, but no state-designated SNAs are affected by the project. For more details on the effects of the project on fishery resources, see Section 5.0 of the Essential Fish Habitat Technical Report (CZR Incorporated, 2011), which was reviewed by regulatory agencies.

Migratory bird habitat exists in the area and would be affected by the project; however, the effects are not anticipated to significantly adversely affect populations of migratory birds. Many land and waterbirds migrate and use habitats throughout the year in North Carolina and within the project area. For more details on the effects of the project on birds, including migratory birds, see the Natural Resources Technical Report (CZR Incorporated, 2011).

3. **Comment:** The alternatives analysis for the Bridge project was based on the same flawed process as discussed above for the Monroe Connector/Bypass and the Garden Parkway. The forecasts of future traffic were based on a single set of socio-economic data that assumed construction of the project. As with the other toll projects, the agencies must prepare a SEIS for this project that bases its traffic forecasts on two separate sets of socio-economic data – one "build," and one "no build." Only then can a reasonable picture of future needs be attained. Those forecasts should then be

the basis to consider a full range of alternatives, including upgrades and ferry alternatives.

Response: *Although NCDOT believes that the material included in the FEIS in 2012 sufficiently addressed the purpose and need for the project and the benefits of the detailed study alternatives, as part of the response to this comment it was determined in 2012 that it was appropriate to examine the congestion differences between the traffic forecasts used in the FEIS, as documented in the 2035 Traffic Alternatives Report (Parsons Brinckerhoff, 2009), and a scenario where traffic congestion on NC 12 would constrain the development potential on the Outer Banks, resulting in a lower traffic forecast as well as less congestion. This supplemental analysis examined the effect of constrained development as applied to two FEIS detailed study alternatives: the No-Build Alternative and ER2. The text that follows presents the 2012 findings and conclusions. It is provided for the reader's information but is no longer current. This 2012 analysis was revised for this reevaluation using the new 2040 traffic forecasts and the 2016 HCM. The results are presented in Section 3.2.1 of this reevaluation study report.*

Table 2-3 of the FEIS, which summarized the travel benefits of the FEIS detailed study alternatives, is repeated here in Table B-1, but with the addition of the results of the constrained development analysis for the No-Build Alternative and ER2 to show how the travel benefits of these alternatives would be affected by considering the constrained development that could occur with these alternatives. (The "unconstrained" columns for the No-Build Alternative and ER2 include the same results as presented in Table 2-3 of the FEIS.)

The findings in Table B-1 show that from the perspective of the project's purpose and need, it could be concluded that even taking into consideration the potential for constrained development with the No-Build Alternative, the needs for substantially improving traffic flow and substantially reducing travel time remain valid. As shown in the table, substantial congestion would still occur with a No-Build Alternative traffic forecast that assumes constrained development, for example 60.8 million total congested annual vehicle-miles traveled (VMT), compared to 66.1 million total congested VMT assuming unconstrained development. Summer travel time via the Wright Memorial Bridge from Aydlett Road to Albacore Street would be 146 minutes with the No-Build Alternative assuming constrained development, compared to 154 minutes assuming unconstrained development, a minor (8 minute) difference.

Based on the findings in Table B-1, it also can be concluded from the perspective of meeting the project's purpose and need that even taking into consideration the potential for constrained development, the conclusion that MCB4 and the Preferred Alternative would provide notably more travel benefits than the No-Build Alternative and ER2 remained valid. As shown in the table, although the traffic flow and travel time numbers of the No-Build Alternative and ER2 assuming constrained development improve in comparison to the same alternatives with unconstrained development, a Mid-Currituck

Table B-1 Travel Benefits of Detailed Study Alternatives including Results of Constrained Development Analysis for No-Build Alternative and ER2

	No-Build Uncon-strained	No-Build Constrained	ER2 Uncon-strained	ER2 Constrained	MCB2	MCB4 and Preferred Alternative[1]
2035 Traffic Flow Benefits						
Congested Annual Millions of Vehicle-Miles Traveled (VMT)						
• Total Congested VMT (millions)	66.1	60.8	51.4	47.2	31.4	40.2
• VMT with Traffic Demand at or Above Road Capacity (millions)	60.6	51.4	44.4	36.5	5.3	17.7
• VMT with Traffic Demand 30 Percent or Above Road Capacity (millions)	15.8	12.7	8.9	6.6	0.0	4.9
Miles of Road Operating with Traffic Demand at or Above Road Capacity						
• Summer Weekday (SWD)	14.7	7.9	5.9	5.9	0.0	5.7
• Summer Weekend (SWE)	43.5	41.4	39.0	33.4	4.8	11.7
• Weighted Average of SWD & SWE	22.9	17.5	15.4	13.8	1.4	7.4
Miles of Road with Traffic Demand 30 Percent or Above Road Capacity						
• Summer Weekday (SWD)	5.7	5.7	3.7	3.7	0.0	0.8
• Summer Weekend (SWE)	7.9	5.7	5.9	3.7	0.0	2.0
• Weighted Average of SWD & SWE	6.3	5.7	4.3	3.7	0.0	1.1
2035 Travel Time Benefit Aydlett Road to Albacore Street (in minutes)						
Summer Travel Time via Wright Memorial Bridge (weighted average of SWD & SWE)	154	146	125	116	86	107
Summer Travel Time via Mid-Currituck Bridge (weighted average of SWD & SWE)	N/A	N/A	N/A	N/A	11	11

[1]Note that the travel benefits of the Preferred Alternative would likely be slightly lower than with MCB4 because MCB4 assumes a four-lane section on NC 12 between Currituck Clubhouse Drive and the Mid-Currituck Bridge, whereas the Preferred Alternative assumes a four-lane section only at the bridge terminus, the commercial area surrounding Albacore Street, and Currituck Clubhouse Drive. However, widening NC 12 to four lanes at these three locations would account for the majority of delays on NC 12 between Currituck Clubhouse Drive and the bridge.

Bridge would still offer notable traffic flow and travel time benefits in comparison to either of the scenarios (i.e., unconstrained or constrained) for the No-Build Alternative or ER2. For example, MCB4 and the Preferred Alternative would reduce total congested annual VMT by an additional 7.0 million vehicle-miles over ER2 even assuming constrained development (40.2 versus 47.2). In addition, the travel time for traveling from the mainland to the Outer Banks of 11 minutes with MCB2, MCB4, and the Preferred Alternative remains a substantial benefit for many travelers irrespective of development level assumptions. Those travelers still using existing roads also would benefit more with MCB2, MCB4, and the Preferred Alternative in place to divert traffic from the existing roads. For example, summer travel time via the Wright Memorial Bridge from Aydlett Road to Albacore Street would be 107 minutes with MCB4 and the Preferred Alternative in place, compared to 116 minutes with ER2 assuming constrained development.

The methodology and results for this constrained development analysis for the No-Build Alternative and ER2 are documented in a memorandum with the subject "Analysis of Traffic Constraints for Mid-Currituck Bridge FEIS Comments" (Parsons Brinckerhoff, 2012).

Regarding consideration of ferry alternatives, see the responses above to this organization's comments 18 through 20 from their March 12, 2012 letter.

4. **Comment:** While the precise methodology used was different than that in Monroe, the analysis of environmental impacts for the Bridge was similarly flawed. Contrary to the Fourth Circuit's recognition of the "no build" baseline as a "critical aspect" of the NEPA process, the FEIS for the Mid-Currituck Bridge failed to include such a scenario. As detailed in our comments on the FEIS for that project, rather than using a "no-build" scenario as the baseline from which to calculate impacts, the analysis of impacts from the Bridge was based on a scenario that assumed "full build-out" of commercial and residential development despite the fact that "full build-out" is only expected to occur if the bridge is constructed. Rather than base its analysis on a "no build" scenario, NCDOT analyzed impacts from what was, by the agency's own admission, a "build" scenario.

   Response: *See the response above to the similar comment 8 in this commenter's March 12, 2012 letter. The impact assessment did not assume "full build-out" for any of the detailed study alternatives analyzed in the FEIS as incorrectly stated in the comment. It was concluded that 85 percent of full build-out from Southern Shores to the Virginia Line was planned and expected by 2035 if the Preferred Alternative is constructed (see correction from 86 percent and reason why in Appendix F of this reevaluation study report). However, as discussed in Section 3.6.1.4 of the FEIS (page 3-109), the No-Build Alternative (70 percent of full build-out) and ER2 (75 percent of full build-out) could constrain growth from what is planned and expected. The indirect and cumulative impact assessment in the FEIS discusses in detail how future summer congestion on NC*

12 with the No-Build Alternative and ER2 could discourage the growth in demand for tourism-related development, resulting in less development than what is planned and expected. The commenter is incorrect in their comment that the FEIS failed to take into consideration the "no-build" scenario.

B.3 Public Comments and Responses

Correspondence was received from nine persons during the FEIS waiting period that specifically commented on or asked questions about the findings of the FEIS. The originals of these comments are included in Appendix C. They are summarized and presented by topic in the sections below, along with responses. Letters also were received from two local citizens groups. Responses to those comments are included above in Section B.2.

In addition, 287 e-mails expressed support for the Preferred Alternative and included no other comments. Most of these e-mails included the statement: "I enthusiastically support the Final EIS determination of Corridor MCB4/C1 (the northern corridor) with Option A (a second bridge across Maple Swamp) as the preferred alternative for construction of the Mid-Currituck Bridge. This preferred alternative takes into account cost and design considerations, travel benefits, community and natural resource impacts, comments and suggestions from environmental regulatory and resource agencies, and public input. The Mid-Currituck Bridge will improve mobility and road capacity within the project study area by providing an alternative route to and from the Currituck County Outer Banks."

B.3.1 FEIS Organization

1. **Comment:** One of the principle purposes of compiling and releasing a Final EIS is to respond to the agency and public comments filed on the Draft EIS. Normally these comments and the responses thereto are included in the body of the Final EIS in a simple comment-response format. In this case, however, the lead agencies have seen fit to include the public comments in a CD that is not part of the body of the Final EIS. The comments of the public appear in one volume and are not directly responded to in the same place they are printed. The responses seem to be collected in another volume with no attribution to the commenter. This trivializes the comment process and makes comments on the Final EIS unnecessarily complicated.

   Response: *It is customary in North Carolina to respond to public comments by topic, rather than by individual. NCDOT feels it makes it easier for those reviewing the published responses to see the range of public comment and NCDOT's response. This method of responding to comments complies with the President's Council on Environmental Quality requirements for responding to comments as specified in Title 40 of the Code of Federal Regulations (CFR), Section 1503.4. Printed copies of all technical reports, including the two volumes containing comments, responses, and original letters,*

were available at nine public review locations, so they were readily available to all that wished to review them. In addition, electronic copies of all technical reports were available on NCDOT's web site, as well as on the compact disc (CD) enclosed with the FEIS. As indicated on the inside cover of the FEIS: "This FEIS includes all of the sections specified by the President's Council on Environmental Quality in sections 1502.10 to 1502.18 of Title 40 of the Code of Federal Regulations (CFR). These sections are presented in a manner that is intended to facilitate the reading and understanding of this document's findings by all readers, including the public, environmental resource and regulatory agency representatives, non-government environmental organizations, and decision-makers." Finally, in this particular case, it would have been impossible to bind the FEIS and the comments, responses, and original letters into a single volume because of the large number of pages.

B.3.2 Preferred Alternative

2. **Comment:** The bridge to impact an already established commercial area is preferred, either at the TimBuck II shopping center or by the Currituck water station and visitors' center. Commercial entities would be clustered together and established neighborhoods would not be impacted by the view or the noise of a bridge. More thought should be given to the impact the bridge will have on private rental home investment properties, the tax these properties provides, and traffic flow.

   Response: *Substantive environmental resource and regulatory agency comments related to the selection of the C1 corridor versus C2 indicated a general preference for Outer Banks terminus C1 because of less potential Currituck Sound and coastal marsh impact. With the public, preference was divided between the two Outer Banks termini alternatives. Those who favored C1 generally did so because the C2 bridge terminus is in a commercial area and NC 12 in that area already carries substantial traffic, a position expressed by this commenter. Those who favored C2 were concerned about community impacts associated with C1 and felt that a commercial area is the best place to add bridge traffic. NCDOT also met with Currituck County representatives to discuss issues raised by the agencies and the public related to C1 and C2. The county manager indicated that the county would like to see the concerns raised about C1 and C2 addressed, but did not object to either corridor. Based on the above factors, NCDOT recommended C1 as part of the Preferred Alternative. Section 2.6 of the FEIS documents the efforts that were made to avoid and minimize impacts at the C1 terminus.*

3. **Comment:** The purpose and use of the added lane to Duck Woods Drive escapes me. It seems to me this will be another one of these not understood not anticipated right (travel) lane ends mergers that unfamiliar drivers will not anticipate and will not respond to in a safe manner. It will allow speeds to increase for a short distance to the east only to reach another arbitrary bottleneck. I'm no traffic engineer but as a long term resident of Duck Woods Drive, I'll bet I'm right on this one. This is a bad

idea. Then the next solution to "fix" the problem you create will be a realignment of Duck Woods Drive and another traffic control light, which will just move the weekend parking lot.

Response: *The added lane is essentially extending further west an existing lane (Virginia Dare Trail as it merges into US 158). Its purpose is to provide a longer distance for traffic moving from Virginia Dare Trail to westbound US 158 during a hurricane evacuation to merge into the regular travel lane. This will allow more vehicles to complete the merge in a shorter period of time. Appropriate signing, lane striping, and pavement markings in accordance with FHWA's Manual on Uniform Traffic Control Devices (MUTCD) would be included with the added lane.*

Although US 158 is not a freeway, Virginia Dare Trail merges into US 158 in the same manner as a freeway entrance ramp merges into the travel lanes of a freeway. The longer the entrance ramp parallels the travel lanes, the easier it is to find a gap in the traffic flow to merge into the travel lanes. When the ramp is too short and traffic is heavy, it becomes difficult to move into the travel lanes, thereby resulting in congestion.

B.3.3 Funding Priorities

4. **Comment:** The tax payers of North Carolina do not need to spend any more tax dollars on new projects nor can the state afford it. Funds could be spent on education, existing roads and bridges (including the Bonner Bridge replacement), and ferries. Cut off the gap funding for this project. How about our inflated gas tax. The middle class poor are being suffocated under the load of ill advised funding for projects such as Mid-Currituck Bridge.

   Response: *This position is noted. The decision to provide gap funding was made by the North Carolina General Assembly. In 2013, the General Assembly, as part of the Strategic Transportation Investments (STI) Law (Session Law 2013-183 and House Bill 817) established the Strategic Mobility Formula, a new way of allocating NCDOT's major revenue sources based on data-driven scoring and local input. The STI also withdrew the annual state appropriations or gap funding for the Mid-Currituck Bridge Project. Using the Strategic Mobility Formula, NCDOT has now allocated funding to the Mid-Currituck Bridge project in the 2018 to 2027 STIP.*

   State motor vehicle and gasoline taxes are set by the General Assembly. Federal gasoline taxes are set by the US Congress. The US Congress also establishes what portions of federal gasoline taxes are returned to the states and under what conditions. Decisions on how to spend available motor vehicle taxes statewide are made by the NCDOT Board of Transportation based on the Strategic Mobility Formula, as well as Comprehensive Transportation Plans developed by NCDOT in association with county and municipal governments. The Mid-Currituck Bridge project is shown in the Comprehensive Transportation Plan for Currituck County (NCDOT, 2012) and the Currituck County land use plan. The Comprehensive Transportation Plan lists the Mid-Currituck Bridge

project as one of its six "major recommendations for improvements" in Currituck County.

5. **Comment:** The Final EIS (FEIS) never comes to terms with the fact that one of the major purposes of the proposed Project is to reduce congestion and improve traffic flow on only 26 days a year. The expenditure of approximately $600,000,000 to achieve this end is a colossal waste of resources. The FEIS seems to give the project an economic life extending to 2035. A fairly simple calculation (with no discount rate) puts the cost of this congestion reduction at over $1,000,000 per day of congestion reduced over the life of the project. Surely there are better transportation uses of this money—nationally, statewide and regionally.

   Response: *Many transportation projects in the United States are planned with the intent to minimize times of congestion. For example, the standard in urban areas is to plan road projects to serve without congestion the 30th highest hour each year. In other words, the road would operate at congested levels only 30 hours out of 8,760 hours in a year (or 0.3 percent of the year). The FEIS traffic congestion study found that in 2006, US 158 between the Wright Memorial Bridge and NC 12 operated at congested levels for approximately 224 hours during the year (2.5 percent). By 2035, that number is expected to rise to 504 hours per year (5.8 percent). The new traffic congestion study completed for this reevaluation found that in 2015, US 158 between the Wright Memorial Bridge and NC 12 operated at congested levels for approximately 420 hours during the year (4.8 percent). By 2040, that number is expected to rise to 560 hours per year taking into consideration constrained development in Currituck County (6.4 percent). The primary reason for the high number of congested hours per year over only a limited number of summer days is the high number of congested hours on the summer weekend day. The 2015 summer weekend day had up to 9 hours of congestion. By 2040, the congested hours are anticipated to reach 12 hours on the summer weekend day if no improvements are made.*

   By both measures, the congestion at the Outer Banks exceeds the congestion typically used as a threshold for considering improvements. Thus, to consider and implement improvements to the road system in the northern Outer Banks is a reasonable thing to do based on customary transportation practice. Whether the cost of reducing congestion is worth it is the decision that will be documented in the ROD for the Selected Alternative.

   Also, note that the commenter incorrectly states that the FEIS seems to give the project an economic life extending to 2035. Year 2035 (now 2040) is the project's design year, which also reflects the design life of the road components of the project. In actuality, the economic life of the project would extend well beyond the design life. It is also expected that the Mid-Currituck Bridge itself could stay in service up to 75 years.

B.3.4 Traffic

6. **Comment:** Development of Corolla could be the main subject in this statement. No concern is indicated to what it is going to do to our natural resources and environment. Corolla doesn't have the infrastructure to handle what this bridge is going to create. So again it is going to be left up to the NCDOT to fix the traffic that you project is seasonal. I've lived here all of my life and see it every day. I see how you take your surveys the weekends in summer months. Where are your cameras during January and February? The bridge will create more problems than it solves.

   Response: *The impact of future development in Currituck and Dare counties is included in the indirect and cumulative impact assessment, Section 3.6 of the FEIS. The Currituck County land use plan assumes the construction of a Mid-Currituck Bridge and, in association with its development ordinances, plans for future development and its infrastructure needs. The Preferred Alternative would reduce the length of time and the severity of congestion on NC 12, as illustrated in Figures 3-1 and 3-3 of this reevaluation study report. Traffic counts are important to take in the summer months because that is when congestion occurs. NCDOT takes 24-hour counts 365 days a year on the Wright Memorial Bridge.*

B.3.5 Purpose and Need

7. **Comment:** The FEIS fails to adequately achieve any of the three needs stated in Chapter 1. The substantial improvement of traffic flow on the project area's thoroughfares fails to be met by the FEIS and the backup documents analysis:

   - Traffic south of Corolla will actually get worse if the bridge is built according to NCTA's 2035 Traffic Alternatives Report.

   - 2006 traffic data listed is unsupported by observation/personal traffic count. I also come to this conclusion on the statement in NCTA's Alternatives Screening Report "Widening US 158 in Currituck County was not considered because congestion is not forecast to occur on US 158 in Currituck County on summer weekdays in 2035, but only the summer weekends."

   - The NCTA's Mid-County Traffic & Revenue Report bases its analysis of need on several sources, among which are the Realtors Survey (which is inherently suspect to bias); Value of Time (VOT) analysis (which indicates the value of time for travel for vacationers of $14.25 versus a proposed toll of $28.00) indicating that most vacationers value the time saved at about half of the proposed cost. So the expected usage of a toll bridge should be considered low. Also, actual counts of traffic on a 2010 NCDOT Long Term Data Count Data indicate traffic to have increased at 1.1 percent over the volume of 1998 measured Average Annual Daily traffic at the Wright Memorial Bridge (again uses measurement outside study area) meaning that in 12 years, traffic has increased only 2,379 additional

cars per day total for all cars going to the Outer Banks—much lower than the estimated traffic volumes used in DEIS analysis. At this constant rate, 2035 estimated rates should be an increase of 3.2 percent over 1998 traffic volumes. Additionally, of these 2,379 additional cars crossing Wright Memorial Bridge to Dare County from Currituck, only 40 percent will reach the Currituck County line. In other words, the proposed bridge will only mean a 40 car per hour reduction in cars traveling into Currituck County via NC 12. This reduction in volume of traffic will have practically NO impact on travel time.

The answer is to improve the NC 12 corridor in Dare, the US 158/NC 12 intersection, and US 158 from the NC 12 intersection to the Wright Memorial Bridge. The 2035 Traffic Alternatives Report concludes on page 77: "On US 158 north of the new bridge, traffic volumes are the same with or without a bridge." It says, "the two mile section of US 158 between the Wright Memorial Bridge will have extreme congestion by 2035 if the road is not widened. If a new bridge is constructed, this roadway would require a combination of six and eight lanes." "The intersection of NC 12 and US 158 should be upgraded to … an interchange or similar improvement." On NC 12 in Dare, widening to four lanes would resolve congestion problems with or without a new bridge.

The FEIS fails to adequately address the acceleration of traffic issues due to the build out of remaining unimproved lots on the Currituck Outer Banks. This negatively impacts traffic congestion along the problem areas of Dare NC 12 and US 158. Most service vehicles—construction and building trades in particular—will be traveling from Dare and will not utilize the proposed bridge. Increased permanent residents will also increase the volume of traffic. This was mentioned in workshops as early as 2004 and is not adequately addressed in this FEIS.

The conclusion should be obvious, widen NC 12, create a flyover at NC 12 and US 158, widen and limit access on US 158 south of the Wright Memorial Bridge. The Bridge fails to resolve the congestion problem and actually worsens congestion in the target area.

Response: *Regarding the commenter's three bullet points:*

- *Traffic volumes would be higher south of Corolla with the Mid-Currituck Bridge as compared with the No-Build Alternative or ER2. This is because some traffic traveling north on NC 12 through Duck and Southern Shores to reach Currituck County would shift to the bridge and then travel south to their destinations. For this reason, the design of the Mid-Currituck Bridge alternatives (MCB2, MCB4, and the Preferred Alternative) assessed in the FEIS include some widening of NC 12 and intersection improvements between the bridge terminus and Currituck Clubhouse Drive. With the new 2040 traffic forecasts it was found that only improvements to NC 12 intersection area would be needed.*

- *Traffic data was collected for over 57 intersections on US 158 and NC 12 in the summer of 2006 (both weekend and weekday) for use in the original 2035 traffic forecast. For the new 2040 traffic forecasts, traffic data was collected at 40 intersections and 19 other locations on US 158 and NC 12 in the summer of 2015 (both weekend and weekday). This data was used as part of the traffic forecast and capacity analysis. As part of the analysis, US 158 was examined from the US 158/NC 168 intersection in Barco south to the US 158/NC 12 intersection in Southern Shores. A 2035 capacity analysis for the summer weekday was performed for these sections as documented in the 2035 Traffic Alternatives Report (Parsons Brinckerhoff, 2009). This analysis found that congestion is not anticipated on US 158 in Currituck County during the 2035 summer weekday. A 2040 capacity analysis for the summer weekday was performed for these sections as documented in the 2040 Traffic Alternatives Report (WSP USA, 2017). This analysis also found that congestion is not anticipated on US 158 in Currituck County during the 2040 summer weekday. The project's design goal was to serve future (2035 and now 2040) summer weekday traffic without congestion.*

- *The toll rate of $28 was proposed in a 2011 investment grade toll and revenue study (Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts [Currituck Development Group, July 2011]) for summer weekend afternoon peak eastbound traffic only, when traffic demand reaches the peak and traffic congestion is the worst for the entire year. The toll rate is evaluated according to the travelers' preferences and the benefits they receive that include not only time savings, but also distance savings, fuel savings, and an easy and safe driving experience. The value of time applies only to time savings. The rate of $14.25 per hour is for an individual visitor, while visitors generally arrive at the Outer Banks with more than one occupant in the car, but pay one toll. In addition, the distance savings for people traveling to Corolla via a Mid-Currituck Bridge could be up to approximately 34 miles. Independent of travel time savings and all other costs (e.g., vehicle wear and tear and maintenance cost savings), the 34 miles distance savings should save 1.5 gallons or more of gas (assumed to be $3.50 per gallon in the 2011 study). In addition, travelers also value the easier and safer driving and the reduced frustration of not having to be stuck in traffic for another hour after already having driven several hours. Finally, they are on vacation and have frequently already paid several thousand dollars for their rental property. The new investment grade toll and revenue study is being prepared and will assume new traffic forecasts*

The commenter's preference for widening existing roads is noted. However, the project's alternatives screening analysis concluded that widening NC 12 to four lanes was not a reasonable alternative for several reasons, including the displacement of 195 homes and businesses along NC 12. ER2, which assumes a three-lane NC 12, as well as the widening of US 158 east of the Wright Memorial Bridge and an NC 12/US 158 interchange, was assessed in the FEIS and reexamined in this reevaluation.

The original 2035 traffic forecasts and new 2040 traffic forecasts assume full build-out of the road-accessible Outer Banks along NC 12 north of US 158, as well as continued building in the non-road-accessible Carova area. Trip patterns, including drivers coming north on NC 12 from points south of US 158, were taken into consideration. The potential for increased permanent residents on the Outer Banks is discussed starting on page 3-107 of the FEIS. The conclusion was that a Mid-Currituck Bridge would at most result in a slight increase in the number of permanent residents (see page 3-107 of the FEIS).

8. **Comment:** Regarding substantially reducing travel time from the mainland to the Currituck Outer Banks, I have randomly driven from the end of Aydlett Road to the Dare/Currituck County line in 45.5 minutes at or below the stated speed limit because of flooded roads on NC 12. On another trip, I drove to the Wildlife Center from my home (.5 miles from bridge site) in 56 minutes. I did have to stop for one stop light each day. At the Duck Pier, there was a roadside radar sign that indicated that the nine cars in front of me were driving 30 mph on what was then a clear dry road in a 35 mph zone. I have no suggestions as to how the FEIS should analyze that problem. However, widening of NC 12 South of Duck and providing turn lanes allowing other traffic to pass would positively impact the travel time. This was not analyzed as it was not included in the study area. The bridge has no positive impact on this issue.

   Travel time can be measured for comparison. But a cost versus benefit analysis has to be included in making decisions regarding each of these stated goals. Therefore, it is important that we look at accurate times for traveling the routes under normal circumstances—not worse case scenarios. Additionally, those times should be analyzed based on a weighted average which takes into account frequency of congested days. Because the worse travel times are only 26 summer weekend days per year, estimated times within the FEIS overemphasizes the times required to make this trip for substantially the whole (93 percent) of the total travel time. Summer weekdays add only an additional 65 days, so 91 of 365 equals 24.9 percent—less than a quarter—of total traffic days which would have abnormal traffic conditions.

   This issue is a matter of perception for those traveling. What is substantial to mainland Currituck residents? It depends on from where you are traveling in the county. For those of us in Aydlett, a bridge would allow us to be at the beach access in about 20 minutes given our need to travel to Coinjock to get on the toll road, travel across the bridge, take a drive to the beach access. So my decrease in time traveled would be 36 minutes—a decrease of 180 percent. A driver from Moyock to Currituck Outer Banks (COBX) access would see a decrease from 86 minutes to 45 minutes with a bridge. This is a 41 minute decrease but represents only a 91 percent savings in time traveled. It is relative to the total time currently travelled. It is approximately 21 miles to the Wright Memorial Bridge from Aydlett Road and US

158. It is reasonable to expect that those residents of Currituck who are closer than half way (approximately south of Jarvisburg) to the Wright Memorial Bridge will use NC 12 and drive the (at most) 36 miles to get to the bridge terminus rather than drive thru 3 stop lights in Grandy, pay a toll and travel further to get to a beach with limited resources. With only 30 spaces for beach goers on Currituck beaches, most Currituck beachgoers will need to travel to Dare.

The 2010 Mid County Traffic Revenue & Forecast report mentioned above indicates that the average visitor to the Outer Banks (not just Currituck Outer Banks) travels 300 miles. They have done this for at least half a century and it hasn't slowed the number coming to the beach. The additional mileage driven to reach the bridge terminus in Corolla is 45 miles from Aydlett (an additional 15 percent of their travel time) and assumes that everyone taking the bridge ends their journey there and does not drive further south on NC 12. They value their time on this at $14.50 yet we are asking them to pay a $28.00 toll, most will refuse. According to the tables in the Mid-County Traffic & Revenue Report, this is essentially a 13 weekend a year problem. And, essentially a 1 day a week problem during these 13 weekends. Expenditures of $685 million and an additional $28 million per year for 40 years are unjustified. The conclusion reached on page 78 of the report--that 142 minutes are saved by traveling the proposed Mid County Bridge versus the current route—is flawed because it fails to use a weighted average approach and instead chooses a worse-case scenario that fails to take into account the relatively minor period that the scenario exists. It is ridiculous to assume a 99 percent "capture rate" for travelers from the northern areas when the same document states that the traveler only values their time expenditure at $14.50, not $28.00. In fact, the report itself indicates that an expected capture rate is only 12 percent. The "optimal" utilization of the tolls at the proposed bridge opening generates revenue that is less than half of its yearly operating expense and pays NONE of the cost of the bridge. The dollar cost/benefit of this project cannot be completely determined because the cost won't be finally determined until the design is determined. This project will require continual funding because it will never pay for itself. I don't believe that it is the best use of Taxpayer's dollars to spend on unneeded and unjustifiable wants. That's what this bridge represents—a want not a need.

These scenarios do not meet the substantial reduced travel time standard required. Again, a bridge fails to meet the standard set by the FEIS.

> ***Response:*** *Widening of NC 12 to three lanes (adding a center left turn lane) in Dare County, including Duck, was examined as part of the DEIS. This was included in both ER2 and MCB2. The benefits of these alternatives were identified in Section 2.2 of the FEIS, and the benefits of ER2 are addressed in Section 3.2 of this reevaluation study report. MCB2 is not reconsidered in this reevaluation for reasons presented in Section 1.22 of this reevaluation study report. Estimates of travel time in the traffic analysis included consideration of 2006 summer travel times and for this reevaluation 2015*

summer travel times determined by traffic analysis staff driving the current route along US 158 and NC 12 between the Intracoastal Waterway and Corolla. The travel time analysis is documented in Section 4.4 of the 2035 Traffic Alternatives Report (Parsons Brinckerhoff, 2009) and Section 4.2 of the 2040 Traffic Alternatives Report (WSP USA, 2017). Congested travel times are compared with uncongested travel times. The response to public comment 5 in Section B.3.3 discusses why it is reasonable to consider transportation improvements in the project area, even though there are many hours in the year when congestion does not occur.

It also would be inappropriate to use a weighted average based on the number of days in a calendar year rather than the number summer days since it would not provide an indication of the need being addressed. That need is reflected in the difference between the uncongested travel time, which as indicated in Section 1.2 of the FEIS as approximately 1 hour, and the congested travel time.

Although a cost-benefit analysis is typically not done during traffic planning, if the current cost of driving a car is about 50 cents a mile (the 2017 IRS standard mileage rate allowed for business is 53.5 cents per mile), a reduction of 86 million vehicle-miles in a single year (2040) saves drivers approximately $43 million dollars in that single year. The new traffic forecasts found that with the No-Build Alternative and ER2 in 2040, the annual VMT would be 502.1 million vehicle-miles. For the Preferred Alternative, it would be 416.1 million vehicle-miles, a difference of 86 million vehicle-miles. Furthermore, if the value of people's time saved by reducing travel time, as well as the cost of extra fuel used when operating in congestion (from both slower speeds and queuing), are factored in, even more savings would occur. One reason why cost-benefit analyses are seldom done in traffic studies is because the cost of driving is so high.

NCDOT concurs that the amount of travel time savings varies depending upon the specific location of the trip. This is one reason why Table 2-3 of the FEIS and Table 3.4 of this revaluation includes the travel time via the Wright Memorial Bridge for all alternatives. Those numbers also are reflective of the time savings for all of the shorter trips that would occur over that distance. Travel times savings over four segments of that overall trip are presented in Tables 24 and 25 of the 2035 Traffic Alternatives Report (Parsons Brinckerhoff, 2009) and in Tables 17 and 18 of the 2040 Traffic Alternatives Report (WSP USA, 2017).

Regarding capture rates, there are two types of capture rates presented in the Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts (Currituck Development Group, July 2011) report. One is for all crossing traffic between the mainland and the Outer Banks via a Mid-Currituck Bridge and the Wright Memorial Bridge. The other includes only "in-scope" traffic, that is, Mid-Currituck Bridge traffic and traffic crossing via the Wright Memorial Bridge but with a destination to the north of the Wright Memorial Bridge. Traffic with a destination to the south of the Wright Memorial Bridge is considered not likely to use a Mid-Currituck Bridge. The 12 percent referred to in the

public comment represents the capture rate for all crossing traffic, which is much lower than the capture rate for only "in-scope" traffic since a majority of Wright Memorial Bridge traffic goes to the south. The new investment grade toll and revenue study being prepared also will consider different types of capture rates.

The 99 percent capture rate in the 2011 report represents one particular trip from Norfolk to Corolla on a summer Saturday during afternoon peak period. The expected time savings was 2 hours 23 minutes with a distance savings of approximately 34 miles. The 2 hours 23 minutes time savings would only be valued over a $28 toll by using a $14.50 per hour value of time. Independent of travel time savings and all other costs (e.g., vehicle wear and tear and maintenance cost savings), the 34 miles distance savings should save 1.5 gallons or more of gas. However, these calculations have not accounted for the additional frustration of being stuck in traffic and not being able to enjoy the beach. Based on these factors, the total benefits provided by a Mid-Currituck Bridge are substantially higher than the toll paid; therefore, the high capture rate in the 2011 report was not unreasonable. However, it should be noted that this high capture rate was applied only to this particular trip during the time period with the worst traffic congestion.

Regarding the assumptions in the Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts (Currituck Development Group, July 2011) report, see also the response to public comment 7 above.

The commenter's conclusion that substantial time savings will not occur is noted. Section 1.2 of the FEIS presents the definition of substantial used in judging the merits of the alternatives considered: "an improvement is considered substantial as opposed to minor if the improvement is great enough to be largely noticeable to typical users of the transportation system and if the improvement offers some benefit across much of the network, as opposed to offering only a few localized benefits. Alternatives that provide only minor or no improvement, as opposed to substantial improvement, would not meet the above needs."

9. **Comment:** The last purpose and need is to substantially reduce hurricane clearance time for residents and visitors who use NC 168 and US 158 during a coastal evacuation.

   Regarding the Hurricane Evacuation Improvements in the Alternatives Screening Report on pg 12 states "without improvements in the outbound capacity of this portion of US 158 (from NC 168 to NC 12) future hurricane evacuation clearance times would not decrease, even if NC 12 was widened, or a Mid-Currituck Bridge was built." Additionally, the failure of the DEIS to analyze the impact of the current widening and improvement to US 158 from Belcross to Camden and on to US 17 (Project #34430.3) likely causes the evacuation time to be overstated. Lastly, during his comments at a DEIS public hearing in Dare, Mr. Page described the use a 3rd

lane along US 158 as an impractical (uncontrollable) solution to hurricane evacuation, yet is an integral part of the plan to make the goal obtainable—and it's been done before.

The vast majority of hurricane evacuation traffic leaving the Outer Banks will be leaving Dare County and travelling up US 158 rather than using a Mid Currituck Bridge. Given the greater population of northern Dare County and its proximity to the Wright Memorial Bridge, the need to improve US 158 rather than build a Mid-Currituck Bridge should be the highest priority for hurricane evacuation. There are no estimates in the DEIS as to expected volumes from Dare versus the Mid Currituck Bridge. The need to merge traffic from any outbound Mid-Currituck Bridge lanes will create a bottleneck south of the JP Knapp Bridge. Both of these presume there will be a backup at the Barco intersection. If there is no backup, there is no need for a bridge. If there is a backup, the bridge will exacerbate the problem.

Lastly, a bridge will likely encourage residents and visitors to remain on the Currituck Outer Bank longer because of a misguided overconfidence and an aversion to wasting time for their vacations.

The conclusion of the MCB4 substantially improving hurricane evacuation is premature and illogical.

> ***Response:*** *NCDOT's hurricane clearance model estimated clearance times in 2035. The updated model whose results are presented in Sections 3.1 and 3.2 of this reevaluation study report estimated clearance times in 2040. It was found in both assessments that, the worst bottleneck for evacuations off of the Outer Banks of North Carolina is US 158 between the NC 12 intersection and Barco (intersection of US 158 and NC 168). Therefore, improvements along that link would reduce clearance times. Additional improvements along the evacuation route, such as to US 158 and US 17, would further reduce clearance times. The reasons why reversing the center turn lane along US 158 north of the Wright Memorial Bridge is not practical are discussed in Section 2.1.10.4 of the FEIS. This is the position of those responsible for hurricane evacuations. A Mid-Currituck Bridge would reduce the length of the bottleneck created by the capacity of US 158 from 27 to 5 miles by diverting some traffic from the Wright Memorial Bridge to the Mid-Currituck Bridge. The capacity problem would remain when northbound traffic on US 158 and the Mid-Currituck Bridge meet, but according to those responsible for hurricane evacuation, the shorter distance of capacity problems on US 158 would be easier to deal with and reversing lanes would be manageable for 5 miles. It is possible that making improvements to facilitate quicker hurricane evacuations will change the behavior of some people related to when they choose to start evacuating; however, this is not a good reason for doing nothing to facilitate evacuation.*

10. **Comment:** Over the years hurricane evacuation notification has come so far of a hurricane there is plenty of time to leave. It is not the state's responsibility to help

the ones who wait to the last minute to leave. The rental agencies help in solutions of rental money, but no, time is money; who cares about the tourist then.

Response: *NCDOT and FHWA believe that it is in everyone's best interest to improve hurricane evacuation times. In addition, local emergency management officials were consulted and continue to agree that a new bridge is important for improving Outer Banks clearance. NCTA received a letter from Currituck County Emergency Management (the letter is included in Appendix C) documenting traffic issues that resulted from evacuation during Hurricane Earl. The letter stated that, "Although traffic was heavy, it was moving adequately until an accident occurred in Duck which was then compounded by a malfunctioning traffic light. This turned the Currituck portion of highway 12 into a literal parking lot for several hours. Our call center was over loaded with concerned, scared and angry tourists." The letter went on to state, "While we understand that putting a mid-county bridge in our county will not alleviate all traffic issues and will not be protected from the occasional accident, it does offer us the opportunity to reroute traffic. How can we expect people to continually respond well to our evacuation orders if they must sit on a road with thousands of other vehicles and not move for long periods of time? Many of these people turned around and went back to their rental properties because they naturally assumed the traffic was going to be this way throughout the evacuation route."*

11. **Comment:** The FEIS never considers the most recent hurricane evacuation experience, that of the mandatory evacuation for Hurricane Irene during the last week of August 2012. The Counties of Currituck, Dare and Hyde issued phased, coordinated evacuation orders, first for visitors and then for permanent residents day by day starting in Ocracoke Island and proceeding northward through Dare and then to the Currituck Outer Banks. The evacuation for this major hurricane as large in area as the State of Texas was completed without any major or even minor congestion on Route 12 in the Currituck Outer Banks or on US 158 and NC 168 on the Mainland. This experience, an eventless, congestion free hurricane evacuation, based a sensible coordinated planning should have been considered and analyzed in the FEIS as it considers the validity of one of its stated purposes, and the expenditure of $600,000,000 to accomplish that purpose.

    Response: *The hurricane evacuation model used by NCDOT to forecast clearance times for the FEIS and the new clearance time model used for this reevaluation both take into consideration the behavior of evacuees in past hurricanes, including that more people choose to evacuate when the hurricane is more severe. Hurricane Irene was a Category 1 storm. As the population of Dare and Currituck counties continues to grow and more people require evacuation, the challenges of a timely evacuation will continue to grow. Although hurricane evacuation is one of the purposes of the project, it is not the sole purpose. As discussed in Section 2.1.10.4 of the FEIS, Currituck County Emergency Management supports the Mid-Currituck Bridge because it would provide them with the flexibility to re-route traffic from congestion on NC 12, including such situations as in*

2010 when an accident and malfunctioning traffic signal disrupted the Hurricane Earl evacuation.

B.3.6 Community Impacts

12. **Comment:** My concern is around our ability to get across NC 12 with the increased southbound flow. It will be difficult and dangerous to cross NC 12 to get to the beach access. Additionally, I think consideration should be given to building a pedestrian overpass so that individuals on the soundside of NC 12 can safely bike/ walk to the beach. Monterey Shores will unfortunately be affected the most of all the developments because of the proximity of the bridge landing just north of our community.

    Response: *The Preferred Alternative includes marked at-grade pedestrian crossings (including advance warning signs for motorists) at the bridge terminus and at North Harbor View Drive, two locations where NC 12 is widened to four lanes as a part of the revised design of the Preferred Alternative. Pedestrian overpasses are not proposed, however, since people tend not to use them. People generally do not want to make the equivalent of a two-story climb up the steps or the handicap ramp of a pedestrian overpass to clear vehicles. Thus, the preference for well-marked and signed at-grade pedestrian crossings.*

13. **Comment:** We own property on North Harbor View in Corolla that backs up onto NC 12. We are very concerned about the widening of the road behind our house with a drainage ditch. That is one major concern along with losing the serenity of the area with trees and wildlife. We have spent several weekends improving on our rental property in hopes of retiring there in the future. There is no way we would live in that house with the sound of that widened NC 12 behind us. Will the Preferred Alternative widen behind our house? Is there a drainage ditch behind our house? How far is the nearest traffic lane to our house? This would certainly devalue our house in many ways and we would be seeking legal counsel. Mature trees protect our house from sound and traffic. That is a dangerous curve on North Harbor View and most people do not do the speed limit. We can hear the cars and trucks jamming on their brakes at times. The dune and trees are our protection. What family would want to rent our house with children with a drainage ditch behind us? Maybe you need to see the pictures of our street during the rains in 2006. The entire area was flooded. So, now we can have an entire ditch full of water emptying on our property when we have the nor'easter rains. Our renters have to cross NC 12 to get to the club house to enjoy the amenities that are offered with our property in Monteray Shores. The ditch will be a hazard to family renters with children, and that is already a low area during storms. Why wasn't this ditch considered further up the road where there are no homes on North Harbor View?

    Response: *With the Preferred Alternative, NC 12 would be widened behind your home, but it would not be as wide as shown at the public hearings. The public hearing maps*

showed four through travel lanes (two northbound and two southbound) and a left turn lane on NC 12 behind your home. Both the FEIS and revised designs of the Preferred Alternative includes three through travel lanes (one northbound and two southbound) and a left turn lane in this area. With the FEIS and revised designs, the second northbound lane on NC 12 does not start until after the intersection with Ocean Forest Court. The FEIS and revised designs also include an infiltration ditch behind your home. The ditch would be 2.4 feet deeper than the elevation of NC 12 and would have a 3 to 1 slope coming in and out of the ditch. That means that it would take about 7 feet of horizontal distance to drop the 2.4 feet from the road elevation to the bottom of the ditch. In addition, with the FEIS and revised designs, NC 12 would have two through lanes and a left turn lane in both directions at the intersection of North Harbor View Drive and NC 12, which is also a change from the design presented at the public hearings. A marked pedestrian crossing with associated signing would be provided at North Harbor View Drive.

The purpose of the narrow drainage ditches along both sides of NC 12, and along all parts where the road would be widened with the Preferred Alternative, is to collect drainage from the road. The water from the part of NC 12 directly behind your home would flow into the ditch to be stored until it infiltrates into the sand at the bottom of the ditch. However, the ditch on the east side of NC 12 behind your home would only collect water from the northbound half of the road. A ditch on the west side of NC 12 would receive water from the southbound half. This is the case for all of the drainage ditches associated with the Preferred Alternative. With no drainage ditch, rain water from a road can go everywhere with no limit except for higher ground. The lack of a drainage ditch along the side of the road to collect runoff, along with the heavy amounts of rainfall, is probably one of the reasons that your street flooded in 2006.

14. **Comment:** The FEIS mentions the visual impact of the proposed Mid Currituck Bridge preferred option on the Corolla Bay Subdivision. It totally ignores the impact on the visitors to Currituck Heritage Park, the Historic Whalehead Club House, and the Currituck Beach Light House. All are located right on the Currituck Sound in Corolla. This is a serious omission. The Light House alone has over 100,000 climbers a year (Personal Communication-Megan Agresto, Light House Site Manager). The significant adverse visual impact on these visitors and climbers must be acknowledged and addressed.

Response: *The Currituck Heritage Park (which includes the Currituck Beach Light Station and Light Keeper's House; Whalehead Club; Outer Banks Center for Wildlife Education; and a marina and picnic facilities) is listed as a community resource in the Community Impact Assessment Technical Report (Parsons Brinckerhoff, 2011). Admission to the park is free, but there are fees for tours of the lighthouse and the Whalehead Club. The park is 1.6 miles away from the Preferred Alternative (measured from the Whalehead Club to the bridge). While the bridge could be seen from the shoreline and the lighthouse, given the distance from the park and the extensive modern*

development already introduced into views from the lighthouse, the change in the view would not be substantial. As indicated in Section 3.2.1 of the FEIS, the State Historic Preservation Office concluded that the Preferred Alternative would have No Effect on the Whalehead Club or the lighthouse as historic properties listed on the National Register of Historic Places (see FEIS Table 3-3).

B.3.7 Indirect and Cumulative Impacts

15. **Comment:** The comments received on the DEIS necessitated some revision in the FEIS and in the Technical Report supporting it. However, the basic conclusion of the document remains the same: the project will not induce growth in the Currituck County Outer Banks. This conclusion is not supported by experience or case law. The FEIS's acknowledgement that the proposed project would change the location of growth from Dare County to the Currituck County Outer Banks is in itself a significant adverse environmental impact for the Currituck County Outer Banks for which mitigation needs to be recommended and implemented.

    Response: *This comment incorrectly assesses both the revisions to the DEIS analysis and the scope of the conclusions with respect to indirect and cumulative impacts. Without more specifics, the claim of inconsistency with "experience or case law" cannot be addressed.*

    Analyses of the induced actions are updated in the FEIS in response to comments received on the DEIS. There are five questions in particular that are analyzed in the FEIS, which yield five separate conclusions concerning the following issues: permanent residents on the Outer Banks; day trips on the Outer Banks; development in the NC 12-accessible area; development in the non-paved-road accessible area; and development on the Currituck mainland. Findings of potential effects are made and detailed for the project alternatives. (See Section 3.6.1.4 of the FEIS.) These findings have been reviewed and affirmed by relevant local planning officials.

    Related to development, the conclusion was that with the Preferred Alternative, expected and planned growth in development would occur. However, with the No-Build Alternative and ER2, traffic congestion likely would constrain development to levels less than what is expected and planned. The change in location referenced by the commenter relates to an expected change in the order in which available (existing and authorized) lots are developed and not the development of new lots.

16. **Comment:** The FEIS has now acknowledged the potential for adverse impacts resulting from increased trips to the Currituck County Outer Banks and its roadless area on the Northern Beaches. The Mid Currituck bridge will put 11 miles of pristine beach (the last chance for the state horse) in easy access of a major population center. Kids play on this beach in the summer and driving there is like a demolition derby on a playground.

However, the FEIS unreasonably minimizes these impacts and absolves the Lead Agencies of any responsibility for mitigation, particularly where the Wild Horse Herd is concerned. Not only is this an abdication of responsibility, it is far too vague a measure to be effective.

In terms of controlling beach driving the FEIS says the Currituck County Commissioners have the authority. Based on a personal conversation with Commissioner Butch Petrey, it seems unlikely the Commissioners will restrict access. Further, the County has rejected the recommendations of its own Beach Driving Task Force to restrict access. The politicians you work for, not regulators by the way, are exempt from their negligence under NC law. You ignored the most horrific impact of all. Now you can't say it was up to the Commissioners when a child in the 4WD is hurt or killed in this insanity. As a matter of record it was up to you!

The FEIS fails to acknowledge that the State Department of Transportation still has right-of-way jurisdiction over the access to the off-road area and part of the Beach itself (It is part of the NC 12 right-of-way). This being the case, it is clearly the obligation of the Lead Agencies to recommend and implement mitigation measures.

Response: *The indirect and cumulative impact assessment does not "absolve the lead agency of any responsibility for mitigation." NCDOT has no legal authority to restrict beach driving and, therefore, it is impossible for NCDOT to mitigate the impact. NCDOT has no right-of-way on the beach. The text notes that Currituck County has the authority to restrict beach driving and, if this authority is exercised, the impact could be mitigated. NCDOT's decision was whether or not to build the bridge project despite this potential impact, while recognizing that others (Currituck County) have the only legal authority to mitigate the impact.*

17. **Comment:** The FEIS mentions project related increased human-horse encounters and collisions. The Wild Horse Herd is nearly 500 years old. The Spanish Mustangs which comprise the Herd are here as a result of Spanish colonization attempts and shipwrecks. Their unique survival skills have enabled them to continue in the face of human encroachment, although their numbers have now dwindled to a little over 100. Since the DEIS was published, the North Carolina Legislature and Governor have designated the "Banker Horse" as the State Horse of North Carolina. Collisions and human interference with this resource deserves more than mention. It is a substantial adverse project impact which requires mitigation.

    Response: *The commenter's position on the potential impacts to the wild horse herd and the need for mitigation is noted. See the response to the previous comment regarding mitigation.*

18. **Comment:** Comments on the DEIS mentioned the impact of project induced driving on the dunes and the Currituck National Wildlife Refuge. The response to those

comments was that driving is prohibited in the Currituck National Wildlife Refuge. The response ignores the fact that despite the prohibition, because of lack of personnel to enforce this prohibition, driving in the Refuge is occurring now and such driving will significantly increase if the project is built. This impact must be identified and mitigated for.

Response: *The commenter's position is noted. See the response to public comment 16 above regarding mitigation. Multiple management options exist for refuge managers, including closing access to refuge areas to all visitors. Currently, critical areas of the Currituck National Wildlife Refuge are seasonally closed to all entry. Increased day visitors to the non-road-accessible area could impact the privately owned dunes, as is acknowledged in Section 6.2.2.1 of the Indirect and Cumulative Effects Technical Report (ECU, 2011).*

B.3.8 Trade-Off's between Local Short-Term Uses of Man's Environment and Maintenance and Enhancement of Long-Term Productivity

19. **Comment:** The FEIS does not adequately address the trade-off between the short term commitment of $600,000,000 capital resources required to build the proposed bridge and the long-term impacts of its contribution to the overdevelopment of a barrier island.

Response: *The commenter's position on overdevelopment of the barrier island is noted. As indicated in Section 3.7 of the FEIS, the project is consistent with the maintenance and enhancement of long-term productivity of the project area as defined by area land use and transportation plans. A hard look was undertaken of indirect impacts, which are defined as those effects that are remote in distance or time from the project. Questions addressing induced development are analyzed in the Indirect and Cumulative Effects Technical Report (ECU, 2011), and summarized in Section 3.6 of the FEIS.*

B.3.9 Irreversible and Irretrievable Commitment of Resources

20. **Comment:** The FEIS never adequately addresses the irreversible and irretrievable commitment of resources required to build and maintain the Bridge versus commitment of those resources to another transportation use. Capital is a limited resource. $600,000,000 is a significant amount of capital. How does the expenditure of $600,000,000 to build a bridge to a barrier island to alleviate congestion on 13 weekends a year stack up against expenditure of such an amount to address potentially more legitimate traffic and safety issues regionally, statewide and nationally? This issue needs to be discussed.

Response: *The commenter's position on regional, statewide, and national transportation priorities is noted. The State of North Carolina sets its transportation investment priorities in a variety of ways. State and county priorities are documented in: NCDOT's 2018 to 2027 STIP, the Comprehensive Transportation Plan for Currituck County (NCDOT, 2012), and county and municipal CAMA land use plans. A Mid-*

Currituck Bridge is included in all these documents/programs. The study process being followed for the Mid-Currituck Bridge project is examining whether to, and if so how to, implement a project already found to be a priority in these documents/programs.

Appendix C

Correspondence Commenting on the FEIS

C. Correspondence Commenting on the FEIS

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
Washington Regulatory Field Office
2407 W 5th Street
Washington, North Carolina 27889

IN REPLY REFER TO

March 12, 2012

Regulatory Division

Subject: Action ID. 199502242

Ms. Jennifer Harris, P.E.
Director of Planning and Environmental Studies
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, North Carolina 27699-1578

Dear Ms. Harris:

Please reference your January 30, 2012, correspondence requesting our review and comments concerning the Final Environmental Impact Statement (FEIS) for the Mid-Currituck Bridge Study Project, TIP No. 2576, Currituck and Dare Counties, North Carolina. In response to your request we have the following comments:

1. Page 2-47, Table 2-4, **Cost of the Detailed Study Alternatives.** For comparison purposes all the bridge alternative costs need to be evaluated and calculated equally or some kind of explanation should be included in the narrative section on page 2-46 explaining the differences in calculating these costs. Additionally ER2 costs should be updated to reflect current estimates. From what we understand bridging costs for MCB4/C1 Option A and your Preferred Alternative are basically the same except the preferred has refinements to the MCB4/C1 Alternative as described on pages X and XI. The costs between those two alternatives in Table 2-4 are considerably different especially for the Maple Swamp Bridge which we understand would be the same structure except for the drainage treatment option that is explained in footnote 1. The "other" cost column in the Table needs to be explained in more detail in this section of the document. The other cost for the Maple Swamp bridge is 168 to 207 million dollars more for MCB4/C1 than the preferred alternative.

2. Pages 3-40 through 3-43 and 3-56 through 3-57, Tables 3-3 through 3-10, **Jurisdictional Waters Impacts**. Some of the numbers contained in the Tables in the FEIS are confusing. Can you explain how in Table 3-9, ER2's total jurisdictional impact of 7.6 acres (which includes temporary impacts) increases to 12.6 acres whereby in Table 3-10 the Preferred Alternative's Total of 6.2 acres (minus the 25.5 acres calculated as clearing impacts) increases to 7.9 acres once the 25-foot buffer is calculated (with the understanding that an additional 1.5 acres of that 7.9 acres is for the Waterlily median acceleration lane) for both? Wouldn't the numbers change proportionally when the 25-foot slope stake was calculated for each alternative? It appears ER2 increases 5 additional acres while the Preferred Alternative increases 0.2 acres when the 25-foot buffer is added.

3. Page 3-55, Section 3.3.6.2, **Impacts to Jurisdictional Features.** This section explains that permanent impacts include permanently cleared areas under proposed bridge structures. However it states that in these areas stumps would not be removed nor the area grubbed and graded. If these lands are already cleared (trees have been timbered) and no mechanized clearing and grubbing will be occurring in these area, they would not be considered jurisdictional impacts under the Corps of Engineers regulations. However, any areas that would require clearing (mechanized) for pile installation would be considered permanent impacts. This section needs to be clarified and the corresponding impact tables updated to reflect these type impacts. Additionally, temporary impacts need to be explained in more detail as to what they entail. It specifies temporary impact calculations are those areas that are disturbed during construction activities and are associated with temporary construction easements. They appear to only be associated with constructing a third outbound hurricane evacuation lane.

4. Page 3-60, **Compensatory Mitigation of Impacts**. Add the following language to the second paragraph of this section: To offset unavoidable impacts to aquatic resources, the amount of required mitigation must be, to the extent practicable, sufficient to replace lost aquatic functions. In the second paragraph change the preservation ratio from 5:1 to a minimum of 10:1.

As we progress in determining the Least Environmentally Damaging Practicable Alternative (LEDPA), we will continue to work with you as a Cooperating Agency and the other Participating Agencies in accordance with the coordination plan under Section 6002 of SAFETEA-LU for the proposed Mid-Currituck Bridge project. Since our last agency coordination meeting in April, 2011, NCTA produced an October, 2011, document titled "Summary of Agency Coordination Efforts to Resolve Potential Issues of Concern." Many of these issues were addressed in the FEIS and project commitments were made but additional details remain to be completed as you move forward with project development in association with the issuance of the Record of Decision (ROD) and subsequent permit application. Please be aware that any unresolved issues of concern will need to be resolved prior to the issuance of a Section 404 permit per the guidelines specified in the 6002 Coordination Plan.

As a major permitting and cooperating agency, we appreciate the opportunity to comment with you prior to the issuance of the ROD. The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at http://per2.nwp.usace.army.mil/survey.html to complete the survey online. If you have any questions regarding our comments, please do not hesitate to contact me at the Washington Regulatory Field Office, telephone (910) 251-4558.

Sincerely,

William J. Biddlecome

William J. Biddlecome
Regulatory Project Manager

Copies Furnished:

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Michael J. Hinton, ASTC-Easements & WR
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March 1, 2012

Ms. Jennifer Harris, P. E.
Director of Planning & Environmental Studies
NC Turnpike Authority
1578 Mail Service Center
Raleigh, NC 27699-1578

Dear Ms. Harris:

Thank you for the opportunity to provide comments on the Federal Final Environmental Impact Statement STIP Project No: R-2576 for Mid-Currituck Bridge Study in Currituck and Dare Counties, North Carolina.

The Natural Resources Conservation Service does not have any comments at this time.

If you need additional information, please feel free to contact me at (919) 873-2103. Please update all future correspondence as follows:

State Conservationist
USDA-Natural Resources Conservation Service
4407 Bland Road, Suite 117
Raleigh, NC 27609

Sincerely,

Michael J. Hinton
Assistant State Conservationist for Easements & Water Resources

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

March 12, 2012

Ms. Jennifer Harris, P.E.
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, North Carolina 27699-1578

SUBJECT: Federal Final Environmental Impact Statement for the Mid-Currituck Bridge Study, Currituck and Dare Counties, North Carolina; TIP Project No.: R-2576; CEQ No.: 20120029

Dear Ms. Harris:

The U.S. Environmental Protection Agency Region 4 (EPA) has reviewed the subject document and is commenting in accordance with Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The North Carolina Turnpike Authority (NCTA), a division of the North Carolina Department of Transportation (NCDOT), and the Federal Highway Administration (FHWA) are proposing to construct a new, multilane 7-mile bridge and other access roads and interchanges across Currituck Sound between US 158 in Currituck County and NC 12 in Dare County. NCTA and FHWA have identified a preferred alternative as a refinement to MCB4/C1/Option A (or MCB4/A/C1).

Review comments on the Final Environmental Impact Statement (FEIS) are included in an attachment to this letter (See Attachment A). In summary, EPA continues to have environmental concerns to the water quality to Currituck Sound and impacts to other natural resources, including aquatic species and migratory birds. The long-term degradation to the water quality of Currituck Sound from untreated stormwater remains EPA's primary environmental concern. We plan to continue to work with the transportation agencies on this unresolved issue. EPA continues to have environmental concerns for the indirect and cumulative effects of the proposed project, including increased development pressure north of Corolla, N.C. EPA does acknowledge the avoidance and minimization efforts associated with the transportation agencies Preferred Alternative, including the bridging of Maple Swamp, the type of construction method proposed that eliminates dredging, and the potential methods to treat bridge stormwater.

EPA staff will continue to work with the transportation agencies and other resource and permitting agencies on the proposed action and opportunities for additional avoidance and minimization measures. EPA requests that review comments included in Attachment A be addressed prior to or in the Record of Decision (ROD), as appropriate. EPA requests a copy of the final mitigation plan for review and acceptance prior to the issuance of the ROD. Should you

have any questions, please feel free to call Mr. Christopher Militscher of my staff at 404-562-9512 or 919-856-4206.

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office

cc: J. Sullivan, FHWA
W. Biddlecome, USACE
D. Wainwright, NCDWQ
C. Brittingham, NCDCM

w/Attachment

Attachment A

FEIS Review Comments

Mid-Currituck Bridge Study

Currituck and Dare Counties

TIP No.: R-2576

General Comments

NCTA and FHWA identify cost and affordability as the second most important priority for selecting the Preferred Alternative (Page xiv). Pages xv and xvi identify cost ranges (high and low) for the different alternatives. EPA has provided the range of the cost differences for each alternative and percent difference from the low cost estimate as shown below:

ER2:	$107.3 million	25.8%
MCB2/A/C1:	$178.2 million	20.2%
MCB2/B/C1:	$170.1 million	21.3%
MCB2/A/C2:	$177.0 million	19.9%
MCB2/B/C2:	$171.1 million	21.3%
MCB4/A/C1:	$130.9 million	19.1%
MCB4/B/C1:	$123.4 million	20.5%
MCB4/A/C2:	$128.3 million	18.9%
MCB4/B/C2:	$120.9 million	20.3%
Preferred Alt.:	$91.7 million	18.3%

NCTA and FHWA have not identified the reasons for the variable range of costs for the different alternatives and why the 'improve existing roadways' alternative (ER2) has the greatest degree of cost uncertainty (25.8%) compared with the Preferred Alternative (18.3%) and other bridge alternatives. It is also not clear in the FEIS why there is such a greater cost for alternative MCB4/A/C1 ($685.3 to $816.2 million) than for the Preferred Alternative of MCB4/A/C1 with refinements (Pages x and xi) which is estimated to cost $502.4 to $594.1 million. The median cost difference for two similar bridge alternatives is estimated to $202.6 million. The FEIS does not provide the rationale for the $202.6 million cost difference with the discussion concerning the refinements that were made to MCB4/A/C1 other than the explaining that there will be less widening along NC 12, roundabouts instead of intersections, and that the approximately 7-mile long bridge will be approximately 250 feet shorter.

Pages xvi and xvii of the FEIS includes a discussion concerning funding. There is no identification of Federal funding sources for any of the build alternatives, including the Preferred Alternative. The following statement is not fully described: "*If these funds were allocated to NCDOT, they would be subject to the equity formula, which would dilute the effectiveness of funding*". The FEIS does not describe 'the equity formula' or its specific requirements as it relates to the proposed project.

Regarding Table S-1 and the Comparison of Key Impacts, EPA reiterates its unaddressed comments from the DEIS concerning the relocation of "Outdoor Advertising Signs" under the different alternatives. Other 'key impacts' identified in this table are not believed by EPA to be significant, including the land use plan compatibility. This is not an 'impact' as defined under NEPA and other statutes. Land use plans can be and are periodically changed, revised or modified.

Table S-1 also provides for impacts to businesses. For ER2, the transportation agencies identify 40 lost parking spaces at the Home Depot, or 10%. For the Preferred Alternative, 129 parking spaces in Albacore Street commercial and retail area will be lost. The percentage of lost parking spaces in this important Outer Banks business area is not provided in the table. The FEIS does not identify the specific small businesses that will lose parking spaces in the Albacore Street commercial and retail area. Please see comments below from:

http://www.outerbankschamber.com/main/economic-outlook-for-the-outer-banks-nc/

Specifically, there are three sectors that that provide fifty [50%] percent of the jobs in the two county area [Dare and Currituck] and thereby show this orientation:

- *Accommodation and Food Services, which encompass the hotels, motels, and restaurants (20.7 percent of the jobs in the Outer Banks to 8.9 percent statewide);*
- *Retail Trade, from souvenir shops to grocery stores (18.3 percent on the Outer Banks to 11.7 percent in North Carolina); and,*
- *Real Estate, Rental and Leasing, to sell the second homes and to rent the beach houses (11.7 percent in Dare and Currituck Counties to 1.3 percent statewide).*

Purpose and Need

The FEIS reiterates the DEIS regarding purpose and need. The base year traffic included in the analysis is 2006 (Page 1-3). This base year traffic may not be an accurate measure of current or average conditions. Furthermore, the 'congestion that occurs on almost all of NC 12 in the project [study] area', is not described. EPA notes that traffic congestion occurs during the summer months due to the presence of vacationers to the Outer Banks. The transportation agencies evaluated traffic congestion using summer weekday (2 hours per day) and the summer weekend (7 hours per day). The FEIS states on Page 1-4 that travel demand exceeds capacity of NC 12 in Southern Shores. However, Page 1-3 highlights that US 158 is also becoming increasingly congested without providing details of the travel demand. Travel demand on US 158 is later identified on Page 1-4 as being expected to be notably greater in 2035 on the summer weekday.

Regarding Hurricane Evacuation and clearance times under N.C.G.S. Section 136-102.7, and the FEIS comments on Page 1-5 and Table 2-3, the Preferred Alternative does not meet the State's clearance times even with US 158 Reversing Center Turn Lane (27 hours) and US 158 Third Outbound Lane (22 hours). The US 158 Third Outbound Lane is not included in the Preferred Alternative and the clearance time would be 27 hours (50% greater than the standard). The Preferred Alternative does not meet the clearance time requirement and the FEIS does not fully address this purpose and need issue.

http://law.onecle.com/north-carolina/136-roads-and-highways/136-102.7.html

"Evacuation Standard: The hurricane evacuation standard to be used for any bridge or highway construction project pursuant to this Chapter shall be no more than 18 hours, as recommended by the State Emergency Management officials".

Per Table 2-3, ER2 provides the same clearance times as the Preferred Alternative but would include the US 158 Third Outbound Lane and would achieve the 22-hour clearance time. Alternative ER2 provides a 5-hour improvement in meeting the State's standard for hurricane evacuation compared to the Preferred Alternative.

Responses to Federal agencies DEIS comments were included in Chapter 2 to the included Compact Disk (CD) with the FEIS. It is noted that all of the corrections and revisions requested by Federal agencies and supplemental information to the DEIS identified in pages 2-1 to 2-47 were included in an amended Natural Resources Technical Report (NRTR) or other sections of the FEIS.

EPA recognizes the transportation agencies efforts to avoid and minimize impacts to natural resources including the refinements to MCB4/C1/Option A. However, avoidance and minimization efforts were only explored for the Preferred Alternative and not the other Detailed Study Alternatives (DSAs) such as ER2. Impacts to human and natural resources are now being compared to the DEIS DSAs with the Preferred Alternative without including any reasonable avoidance and minimization efforts for the other DSAs. The transportation agencies may wish to consider a discussion for not including comparative opportunities for avoidance and minimization measures for the other DSAs in the Record of Decision (ROD).

On page 2-26 of the responses to Federal agency comments (#9), the transportation agencies incorrectly stated the following: "*...however, the Preferred Alternative would avoid all direct impacts to coastal, brackish, and freshwater marsh*". Bridging existing wetlands minimizes impacts from direct fill activities. However, shading underneath bridges is also a direct impact through the eventual loss or change in wetlands vegetation. Construction activities will also potentially compact soils around the proposed bridges. Impacts from bridge shading to wetlands do not require compensatory mitigation under Section 404 of the Clean Water Act, but still potentially represent a direct impact.

On page 2-27 the transportation agencies have made a speculative assessment in response to comment #9 that is not supported by relevant studies ("*It is also likely that birds may become accustomed to the elevated bridge and will continue to use some areas in the bridge vicinity*"). Page 2-28 of the responses includes a conclusion from a study on bird mortality and roadkill data from bridges and roadways (Jacobson, 2005). Estimates of mortality from this study are given as being from 10 to 380 million each year. This enormous variation in the study data is not

believed to be statistically valid and a full explanation of the estimated range of mortality is not provided in the response. The 'expanded discussion' on bird mortality and vehicle collisions on bridges referenced in Section 4.1.4.2 of the revised NRTR is a duplicate discussion of the information provided on Page 2-28. EPA supports the USFWS's request for additional avoidance and minimization measures including the use bridge deck fencing to potentially reduce documented vehicle mortality of migratory birds.

The response on Page 2-29 regarding the removal of Aydlett Road is confusing ("*The presence of Aydlett Road was assumed in all cases since [because] its removal is unacceptable to Aydlett residents and Currituck County officials*"). Based upon the public hearings, responses from a majority of the residents in the Aydlett Road area were strongly opposed to any Mid-Currituck Bridge alternative. Transportation agencies are required to consider public input and local official concerns for traffic access and design but frequently make relocation and other transportation design decisions that are known to be 'unacceptable' to effected residents and local officials.

EPA does not concur with the assessment provided in the response on Page 2-31 concerning Indirect and Cumulative Effects, including eventual pressure to create NC 12 paved roadway access in the northern communities of Dare County to the Virginia border. Based upon past comments from a variety of sources, it is believed by EPA and some other resource agencies more than likely (reasonably foreseeable) that the Mid-Currituck Bridge once completed will encourage the further extension of a paved NC 12 through the undeveloped northern part of the island and the Currituck National Wildlife Refuge (CNWR). Please see: http://www.corollaguide.com/history

Past documented trends in the development of the Outer Banks would indicate that shortened access from other mainland locations will create additional pressure on the transportation agencies and other decision-makers to pave NC 12 north of Corolla to access private, undeveloped beachfront lands that are not included within CNWR. Efforts to connect the development communities in Carova Beach, Swan Beach and North Swan Beach along Sandfiddler Road/North Beach Access Road through CNWR to the paved NC 12 is believed by EPA to very foreseeable effect once a new bridge across Currituck Sound is constructed. Please see: http://www.corollaguide.com/getting_here and http://www.aaroads.com/guide.php?page=obxnc

The response to EPA's comment #7, page 2-35 is noted. However, the financial plan for the Preferred Alternative is not referenced or disclosed in the FEIS. The statement concerning long-term maintenance for 7 miles of new bridge infrastructure from the Preferred Alternative is vague: ("*The project is not anticipated to add to Division 1 maintenance expenditures during the period of the concession agreement, which is assumed in the FEIS to be 50 years*"). Federal and state agencies were previously informed by NCTA and FHWA that there was an existing Public Private Partnership (PPP) agreement and that this contract detailed short and long-term financial commitments. It is unclear why the commitments for maintenance expenditures of the new bridge are assumed and that they would be for 50 years. The ROD should clarify this issue.

The additional information concerning Division 1 traditional highway funding in the response to comment #11 is acknowledged. The anticipated cost of $300,000,000 for the Bonner Bridge Phase I project cited on Page 2-38 is not accurate. The NCDOT website cites a total cost of $236,000,000. Other STIP projects in Division 1 are not detailed with respect to cost in this response. Regarding the revised cost estimate of $502.4 to $594.1 million for the Preferred Alternative, EPA was unable to find in the FEIS the breakdown of the financing needed to make the Preferred Alternative a 'practicable' alternative compared to ER2 (e.g., Highway Trust Fund Aide, Federal and State bonds, NCDOT gap funding accumulated, Federal loans, PPP contribution, etc.). This general information regarding the practicability of the Preferred Alternative should be considered for inclusion in the ROD. It is acknowledged that there may be some difficulty providing specific financing estimates for the Preferred Alternative with the range of cost uncertainty at 18.3 % or $91.7 million.

Regarding the response to comment #13, the transportation agencies might consider addressing substantial and significant effects criteria of the proposed action and include those impacts in summary tables. The relocation of outdoor advertising signs (e.g., or the number of utility poles to be relocated) are not generally considered by transportation agency to be 'key' impacts.

Regarding the response to comment #19 dealing with the introduction of invasive plant species, the information provided is not believed to be responsive or consistent with the FHWA requirements under Executive Order 13112. EPA has previously provided additional guidance to NCDOT and FHWA concerning the use of a combination of methods to potentially control invasive plants. Foremost, the transportation agencies should minimize clearing to existing vegetated areas to the extent practicable. Contractor and NCDOT equipment arriving from off-site locations can be cleaned daily to remove foreign seed sources, one of the most common sources of invasive plants on highway projects. Disturbed areas should be re-vegetated as soon as possible with native plants. Wherever aggressive invasive plants begin to establish a colony, measures that include physical or mechanical removal, herbicide spraying and /or re-planting should be performed expeditiously. Trained and knowledgeable site personnel can monitor for invasive plants weekly or monthly and take appropriate steps as soon as invasive plants are identified. EPA acknowledges and concurs that current NCDOT BMPs and monitoring activities are not to adequate to address the issues and only becomes a potential concern identified by resource agencies after construction of the project. A detailed monitoring and action plan needs to be developed prior to the approval of the project permits.

EPA acknowledges the approximate 1,600 feet of a new third outbound lane to the west of the NC 12/US 158 intersection to provide additional road capacity during hurricane evacuation. The distance from Duck, NC (where the traffic accident and malfunctioning traffic light occurred during the Hurricane Earl evacuation) is not provided. The transportation agencies have provided additional information on hurricane evacuation with respect to Hurricane Earl (August 25-September 5, 2010) and coordination with local emergency management officials. The traffic congestion on NC 12 following the evacuation order and traffic incident is documented in a letter from local emergency management officials. From EPA's cursory search, there was little to no news media concerning this evacuation problem along NC 12. Considering this example and the hours of delay for some visitors to leave Bodie Island, it would be an important project commitment that the transportation agencies continue to plan and coordinate directly with local emergency officials after a new 2-lane bridge is built. Traffic accidents on either or both the Wright Memorial Bridge and/or the new bridge during an evacuation could strand motorists on a bridge for hours or more. Along NC 12, there are numerous side roads for

motorists to turn around. Being stranded in gridlock traffic on a 7-mile, 2-lane bridge during a hurricane evacuation could be overwhelming for some vacationers. Please see: http://en.wikipedia.org/wiki/Hurricane_Earl_(2010)

"The storm's center passed roughly 85 mi (140 km) east of Cape Hatteras, North Carolina on September 3. Six fatalities took place in the country due as a result of rip currents and rough seas, three in Florida, two in New Jersey and one in Massachusetts

On August 31, mandatory evacuations began on North Carolina's Ocracoke Island. "I don't remember the last time there was a mandatory evacuation order for the island," stated Commissioner Kenneth Collier of Hyde County. Mandatory evacuations were also issued for Hatteras Island on September 1, with a total of 30,000 residents and visitors affected.

President Barack Obama signed a disaster declaration for North Carolina on the evening of September 1. The action authorized the Department of Homeland Security and the Federal Emergency Management Agency to coordinate relief efforts and makes federal funds available. Officials in Dare County, North Carolina, issued mandatory evacuation orders September 2 for visitors to the coastal county, including the Outer Banks. The mandatory evacuation extended to residents in some areas, including the town of South Nags Head and Hatteras Island. Dare County schools and courts were closed September 2 and were to be closed September 3.

Although the center of Hurricane Earl passed roughly 100 mi (160 km) off the coast of North Carolina, its large size brought hurricane-force winds and a significant storm surge. Heavy rains accompanied the storm, peaking at 4.52 in (115 mm) in Cape Hatteras. The highest winds were recorded in Cape Hatteras at 67 mph (108 km/h) and gusts reached 83 mph (134 km/h); however, there were few reports of damage in relation to the winds. A storm surge of 4.7 ft (1.4 m) came ashore on Hatteras Island, inundating nearby areas. Minor flooding took place along several roads, including North Carolina Highway 12 which was shut down on Hatteras Island. A pier at Atlantic Beach was also damaged by rough seas. Numerous homes along the coast were flooded by rising waters, reaching 3 ft (0.91 m) in places. An estimated 6,600 residences were left without power due to Hurricane Earl. Waves just offshore were measured between 25 and 36 ft (7.6 and 11 m), likely resulting in beach erosion. In Manteo, a gas station lost its canopy and some homes lost roofing shingles due to high winds. Damage in Dare County totaled over $500,000 (2010 USD), with 79 houses in the county sustaining minor damage and another six receiving major damage, mainly due to storm surge. In neighboring Hyde County, strong winds caused about $2 million in crop damage. Several homes were also damaged by fallen trees in the Fairfield and Swan Quarter areas. Throughout the state, damage from Earl amounted to $3.88 million, mainly from losses sustained by national parks and agriculture. Nearly two weeks after Earl's passage, the North Carolina Department of Transportation began to pick up debris left alongside roads in the wake of the storm."

Stormwater Impacts

It is acknowledged that dredging will no longer be required under the Preferred Alternative and short-term impacts to water quality from this construction activity will be greatly reduced. Responses to comments #15 are provided and further described in Sections 3.3.1.3 of the FEIS and the revised NRTR (Section 3.2.1) and Essential Fish Habitat Report (Section 5.2.4). Other measures to minimize water quality impacts are further described in Section 3.3.7.2 of the FEIS.

The response to EPA's comment #18 is noted regarding collecting and treating bridge stormwater runoff. The transportation agencies have not cited the specific cost basis for determining that the collection and treatment of stormwater from the proposed bridge over Currituck Sound is not 'practicable'. EPA understands that an alternative stormwater management plan is identified in Section 2.1.7.2 of the FEIS. EPA does not agree that this plan has been developed in coordination with NCDWQ, but is potentially being developed by NCDWQ with required input from other regulatory and resource agencies. EPA is a participating member of the Inter-agency Leadership Team's (ILT) Flexible Stormwater Mitigation Team where Mid-Currituck Bridge is being identified as a potential pilot project.

EPA does agree that some of the provisions contained in Sections 2.1.7.2 and 2.1.7.3 are potentially reasonable methods of addressing stormwater. EPA remains concerned that sweeping and vacuuming of the bridges will not be fully implemented by the concession contractor and that the proposed wet detention basins will not be properly monitored and cleaned. The un-captured area of the Preferred Alternative over Currituck Sound would be 24 acres. The un-captured area of Option A over Maple Swamp would be 10 acres. Based upon past field observations with other coastal projects, the types of maintenance activities proposed are given very low priority by the transportation agencies maintenance departments. Vacuuming equipment systems can become expensive to properly maintain and EPA is concerned that contractors will eventually just sweep bridge and roadway pollutants directly into the Sound through the proposed scuppers (miles of bridge drainage holes). EPA would request that specific permit conditions in the Section 401 Water Quality Certification be added by NCDWQ and the applicant to further discourage illegal discharges. Furthermore, wet detention basins become estuary sources of E. coli and other bacteria and do not remove or filter these biological pollutants to receiving waters. Hydraulic trespass from other developments into roadside ditches that lead to wet detention basins becomes an additional untreated source of harmful biological pollutants. Regarding the general water quality monitoring and research program described on Page 2-32 of the FEIS, the NCDWQ would appear to be better qualified and an existing State resource to conduct this monitoring program. Similar to the Ecosystem Enhancement Program (EEP), the monitoring program might be developed as a collaborative effort between NCTA, NCDWQ and other stakeholder interests (e.g., N.C. Coastal Federation).

Avoidance and Minimization Efforts

EPA recognizes that Option A to the Preferred Alternative includes a 2,640-foot bridge across Maple Swamp, a reduction in SAV impacts and a top-down construction method as three of the primary avoidance and minimization measures.

Compensatory Mitigation to Jurisdictional Resources

The FEIS in Section 3.3.6 identifies direct fill impacts to jurisdictional wetlands to be 7.9 acres from the Preferred Alternative after avoidance and minimization measures. The FEIS did not identify avoidance and minimization measures to jurisdictional wetlands for ER2. Jurisdictional impacts from the DSAs are further detailed in Tables 3-9 and 3-10 of the FEIS. Total wetland impacts are given as 31.6 acres to jurisdictional wetlands. Shading impacts to wetlands is not shown in these tables and future tables should include this estimate of shading impact under the proposed Maple Swamp bridge. Permanent fill impacts to wetlands also increased by 1.5 acres for the Preferred Alternative (from the DEIS) due to the placement a median acceleration lane on US 158 (footnote #2).

Regarding the potential purchase of 6 landlocked tracts of Maple Swamp on page 3-59 of the FEIS, EPA will provide additional comments on the final mitigation plan. While EPA generally supports this initiative to preserve high quality wetlands for conservation measures, there is no detail concerning who would manage this proposed conservation area. Regarding the use of the NCDOT's Ballance Farm Mitigation Site, EPA would generally agree with using available credits from this site for the unavoidable compensatory mitigation needs for the proposed project pending EPA's review and acceptance of a final mitigation plan from the transportation agencies.

Shading of SAV habitat in Currituck Sound from the Preferred Alternative is estimated at 4.8 acres and mitigation proposals are discussed in Section 3.3.7.2 of the FEIS. Impacts to Essential Fish Habitat are included in Tables 3-12 and 3-13. Additional impacts to SAV habitat and potential SAV habitat are identified. EPA generally concurs with the general mitigation options identified on page 3-66 of the FEIS provided that the National Marine Fisheries Service (NMFS) acceptance of the options identified is provided prior to the issuance of a ROD. EPA's general preference is for in-kind restoration for direct impacts to SAVs as described in the first bullet on page 3-66. The other three options identified (in-lieu-of mitigation strategies) have not shown documented successes in Currituck Sound.

From: Gary_Jordan@fws.gov
Sent: Monday, February 06, 2012 2:41 PM
To: Roberts, Tracy
Cc: Bill.H.Brazier@uscg.mil; Wrenn, Brian; Brittingham, Cathy; Owens, Charlan; Wainwright, David; George.Hoops@dot.gov; Harris, Jennifer; Hart, Kevin; Chris Militscher (militscher.chris@epa.gov); Page, John; Sandbeck, Peter; Gledhill-earley, Renee; Ron Sechler; Lane, Stephen; Wilson, Travis W.; Biddlecome, William J SAW; John_Stanton@fws.gov; Pete_Benjamin@fws.gov
Subject: Re: Mid-Currituck Bridge: Final EIS
Attachments: Schuyler Heim Bridge bird rail plans.pdf; Schuyler Heim Bridge.1.jpg; Schuyler Heim Bridge ROD.pdf

Tracy,

Since NCTA more or less addressed the issues we identified in our comments on the Draft EIS and made several revisions as a result, the USFWS is not going to provide formal comments on the FEIS. However, I would like to revisit one point that the USFWS previously brought up. On page xxix and page 3-49 of the FEIS, it states "...During final design, NCTA will investigate proven methods of reducing collisions between vehicles operating on the bridge and flying birds and incorporate them as appropriate..." Since we last discussed this issue in a TEAC meeting, I have had correspondence with a USFWS biologist in California who worked on this same type of issue on a coastal area bridge. As a result of her work, the California Department of Transportation (CalTrans) is going to utilize a 14' tall bird rail/fence design that will force migratory birds to fly over the traffic instead of through the line of traffic. Construction of this bridge began in November 2011. Attached is a set of plans, a conceptual drawing, and the ROD for that project.

The CalTrans contact for this bird mortality minimization design is:

Karl Price
Senior Environmental Planner
Division of Environmental Planning
Caltrans - District 7
213-897-1839
karl_price@dot.ca.gov

The USFWS believes that migratory bird mortality will be significant on the Mid-Currituck Bridge without some avoidance measures. We would like to see a solution similar to what is being done in California.

Gary Jordan
Fish and Wildlife Biologist
US Fish and Wildlife Service
PO Box 33726
Raleigh, NC 27636-3726

Phone (919) 856-4520 ext. 32
Fax (919) 856-4556
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To "Biddlecome, William J SAW" <William.J.Biddlecome@usace.army.mil>, "Chris Militscher (militscher.chris@epa.gov)" <militscher.chris@epa.gov>, "Wainwright, David" <david.wainwright@ncdenr.gov>, "Gledhill-earley, Renee"

01/27/2012 05:01 PM

<renee.gledhill-earley@ncdcr.gov>, Ron Sechler <ron.sechler@noaa.gov>, "Brittingham, Cathy" <cathy.brittingham@ncdenr.gov>, "Hart, Kevin" <kevin.hart@ncdenr.gov>, "Wilson, Travis W." <travis.wilson@ncwildlife.org>, "Gary Jordan (gary_jordan@fws.gov)" <gary_jordan@fws.gov>, "Wrenn, Brian" <brian.wrenn@ncdenr.gov>, "Bill.H.Brazier@uscg.mil" <Bill.H.Brazier@uscg.mil>, "Sandbeck, Peter" <peter.sandbeck@ncdcr.gov>, "Owens, Charlan" <charlan.owens@ncdenr.gov>, "Lane, Stephen" <stephen.lane@ncdenr.gov>

cc "George.Hoops@dot.gov" <George.Hoops@dot.gov>, "Harris, Jennifer" <jhharris1@ncdot.gov>, "pagej," <pagej@pbworld.com>

Subject Mid-Currituck Bridge: Final EIS

All,

The Final EIS has been approved and will be distributed next week. State agencies will receive their copies through the clearinghouse. We will send federal agencies their copies directly. The Final EIS will be provided in hard copy with an interactive CD in the back cover containing the technical reports and preliminary engineering drawings. The Final EIS, technical reports and preliminary engineering drawings are available on our website at http://www.ncdot.gov/projects/midcurrituckbridge/

We expect the Final EIS to be published in the February 10th edition of the Federal Register, with the mandatory 30-day waiting period closing on March 12.

During discussions on the Preferred Alternative, the agencies identified four potential issues of concern relating to dredging (no longer under consideration), stormwater management, a fisheries moratorium and submerged aquatic vegetation. NCTA held a series of meetings with several agencies over the period January through April 2011 to discuss these issues. We thought it would be helpful to summarize these coordination efforts in a single document, which is attached. The document contains meeting minutes, briefing papers and NCTA's understanding of where we stand on the four (now three) issues of concern. We hope you find it useful.

Please let me know if you have any questions.

Thanks
Tracy

****
Tracy Roberts, AICP
NC Turnpike Authority General Engineering Consultant
NCDOT Transportation Building
1 South Wilmington Street
Raleigh, NC 27601
(919) 707-2728

[attachment "Summary of Agency Coordination Efforts to Resolve Potential Issues of Concern (October 2011 final).pdf" deleted by Gary Jordan/R4/FWS/DOI]

North Carolina
Department of Administration

Beverly Eaves Perdue, Governor

Moses Carey, Jr., Secretary

March 19, 2012

Ms. Jennifer Harris
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, North Carolina 27699-1578

Re: SCH File # 12-E-4220-0182; FEIS for Mid-Currituck Bridge Study - STIP R-2576 - New two-lane toll bridge across Currituck Sound, with approach roads, in Currituck County

Dear Ms. Harris:

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are the comments made by agencies in the course of this review.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

William E. H. Creech

Attachments

cc: Region R

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail state.clearinghouse@doa.nc.gov

Location Address:
116 West Jones Street
Raleigh, North Carolina

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C-11

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

COUNTY: CURRITUCK
DARE

F02: HIGHWAY PROJECTS

RECEIVED
FEB 14 2012
HISTORIC PRESERVATION OFFICE

STATE NUMBER: 12-E-4220-0182
DATE RECEIVED: 02/02/2012
AGENCY RESPONSE: 02/29/2012
REVIEW CLOSED: 03/05/2012

MS RENEE GLEDHILL-EARLEY
CLEARINGHOUSE COORDINATOR
DEPT OF CULTURAL RESOURCES
STATE HISTORIC PRESERVATION OFFICE
MSC 4617 - ARCHIVES BUILDING
RALEIGH NC

CH 94-0809

A - LEA

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S - RSE

PROJECT INFORMATION

APPLICANT: N.C. Turnpike Authority
TYPE: National Environmental Policy Act
Final Environmental Impact Statement
DESC: FEIS for Mid-Currituck Bridge Study - STIP R-2576 - New two-lane toll bridge across Currituck Sound, with approach roads, in Currituck County

CROSS-REFERENCE NUMBER: 10-E-4220-0361

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED: [X] NO COMMENT [ ] COMMENTS ATTACHED

SIGNED BY: Renee Gledhill-Earley DATE: 2-17-12

North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

MEMORANDUM

TO: Zeke Creech
State Clearinghouse

FROM: Melba McGee
Project Review Coordinator

RE: 12-0182 Draft Environmental Impact Statement for the Proposed Mid-Currituck Bridge in Currituck County

DATE: March 12, 2012

The Department of Environment and Natural Resources has reviewed the proposed project.

The Department of Transportation is proposing a bridge to connect mainland Currituck County with Currituck County Outer Banks. This project is being planned as part of the Section 6002 Process. The Department of Transportation is encouraged to discuss and resolve review agency comments through the Section 6002 Project Coordination Plan, including Turnpike Environmental Agency Coordination meetings.

In response to the attached comments the preferred alternative could cause a variety of impacts. The department would like to continue to work with the Department of Transportation to ensure that all potential impacts have been identified. Avoiding impacts to the fullest extent possible and dealing effectively with the concerns of this project is an important part of its development and the timeliness of its permit review.

Thank you for the opportunity to comment on this project.

Attachments

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C-12

North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue
Governor

Braxton C. Davis
Director

Dee Freeman
Secretary

March 5, 2012

Melba McGee
Environmental Coordinator
N.C. Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

RE: SCH NO. 12-0182, Final Environmental Impact Assessment, Mid-Currituck Bridge Study, STIP. No. R-2576, Currituck and Dare Counties.

Dear Ms. McGee:

The N.C. Division of Coastal Management (DCM) appreciates the opportunity to comment on the Final Environmental Impact Assessment (FEIS) for the above referenced project. Attached please find detailed comments on the FEIS.

DCM is identified as a Participating Agency in the Section 6002 Coordination Plan for the Mid-Currituck Bridge Project STIP Project R-2576. As such, DCM has participated in periodic Turnpike Environmental Agency Coordination (TEAC) meetings from early 2007 to early 2011. It appears as though the information contained within the FEIS is consistent with the information that has been provided to DCM, and upon which we have commented, through the TEAC meetings and National Environmental Policy Act (NEPA) process.

A formal DCM review of the project to determine consistency with the state's Coastal Management Program will not occur until a Coastal Area Management Act (CAMA) major permit application is received. At that time, the CAMA major permit application will be circulated to the network of state agencies that comprise North Carolina's Coastal Management Program. The statutes, rules and policies of each of these agencies must be considered during the review of the CAMA major permit application. This process will also include a consistency review by the DCM District Planner of the relevant CAMA land use plans.

The consideration and incorporation by the N.C. Turnpike Authority (NCTA) of the comments received during the NEPA process and during the TEAC meetings into the final project design should help to expedite the CAMA major permit application review process. However, due to the complexity and magnitude of the project, NCTA is urged to submit the CAMA major permit application for this project to DCM a minimum of six months prior to the anticipated construction let date.

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During the CAMA major permit application review process, DCM may have additional comments after examining the more detailed environmental information that will be provided with the permit application.

DCM may also place conditions on any CAMA permit that is issued to further avoid, minimize and/or mitigate environmental impacts. The comments provided in this letter shall not preclude DCM from requesting additional information throughout the CAMA major permit application review process, and following normal permit processing procedures. Furthermore, nothing in this letter shall be interpreted as providing an opinion on the ultimate outcome of any CAMA permit decision.

Subsequent to the DEIS, NCTA incorporated substantial measures into the project design of the NCTA preferred alternative to avoid and minimize impacts to coastal resources. Therefore, at this time, DCM has not identified any Issues of Concern as defined by the Section 6002 Coordination Plan for the Mid-Currituck Bridge Project STIP Project R-2576.

Thank you for your consideration of the North Carolina Coastal Management Program. DCM looks forward to our continued involvement as a Participating Agency with this project. Please contact Cathy Brittingham at (919) 707-9149 or via e-mail at cathy.brittingham@ncdenr.gov if you have any questions or concerns, or require additional information.

Sincerely,

Doug Huggett

Doug Huggett
Major Permits and Consistency Coordinator

C-13

CC: Cathy Brittingham, DCM
Charlan Owens, DCM

attachments

400 Commerce Ave., Morehead City, NC 28557
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Comments by the N.C. Division of Coastal Management on the Final Environmental Impact Statement for the Mid-Currituck Bridge Study dated January 2012

1) DCM recommends that all of the Specific Project Commitments for the Preferred Alternative that are found throughout the FEIS be consolidated and included on the "Green Sheets" of the Record of Decision, such as the following:
   - Page 2-32. *"NCTA would ensure the stability of the sound would not be affected by erosion as a result of stormwater discharge from scuppers during, at minimum, an annual inspection."* and *"If the energy of the water exiting the scuppers is determined to be a problem, dissipation would be provided either at the pipe outlet or on the ground."* and *"A water quality monitoring program would be conducted as a part of bridge operations."*
   - Page 3-54, Page 3-60 and Page 3-67. Specific construction techniques to minimize impacts to aquatic habitats during the Mid-Currituck Bridge construction.
   - Page 3-57. No temporary impacts to wetlands or open waters.
   - Page 3-39. *"....the Preferred Alternative would bridge Maple Swamp."*
   - Page 2-31 and Page 3-67. *"Source control would be provided by frequent deck cleaning...."*

2) Please provide an update about the following two planning efforts undertaken by other entities, and how were they taken into consideration during the mid-Currituck Bridge Study: (1) the State of Virginia Barco Diversion Plan; (2) and the USACE Currituck Sound Restoration Study.

3) Page xviii and Page 3-58. The NCTA preferred alternative will impact the Public Trust Area, Estuarine Waters, Coastal Shoreline and CAMA Wetlands Areas of Environmental Concern (AEC's) at the Currituck Sound. Therefore, a CAMA major permit will be required for the entire project.

4) Page xxix and Page 2-22. *"NCTA will coordinate with the U.S. Coast Guard to determine appropriate horizontal and vertical navigation clearances for the Preferred Alternative."* During the TEAC meetings, NCTA proposed a vertical navigational clearance for the mid-Currituck Sound Bridge of 16 feet with a vertical clearance of 35 feet at the navigation span. Please include documentation of the currently proposed vertical navigational clearance for the mid-Currituck Sound Bridge. As DCM informed NCTA previously, please be reminded that the N.C. Administrative Code [15A NCAC 07H .0208(a)(2)(H)] requires that development shall not impede navigation or create undue interference with access to, or use of, public trust areas or estuarine waters. NCTA should continue to coordinate with DCM to ensure that navigational usage of the Currituck Sound is not adversely impacted.

5) Page 2-11. The mid-Currituck Bridge typical section depicts ten-foot paved shoulders on both sides of the bridge. Did the NCTA consider reducing impervious surface, shading impacts and cost by constructing a ten-foot paved shoulder on one side of the bridge only?

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6) Page xiv, Page 2-20 and Page 2-22. *"ER2 and MCB2 include an interchange at the intersection of US 158 and NC 12."* The US 158/NC12 interchange is included in the current NCDOT TIP as TIP No. R-4457. According to a scoping request recently received by DCM through the State Clearinghouse, TIP No. R-4457 is included in the 2012-2018 NCTIP and is scheduled for right of way acquisition in fiscal year 2016 and construction in fiscal year 2018. NCTA should distinguish what part of the cost and impact figures of ER2 and MCB2 is due to the US 158/NC 12 interchange.

7) Page 2-30 and Page 3-37. Please provide more information about any outfalls to Currituck Sound that would be associated with the NCTA preferred alternative, including size, number and location. The following statements within the FEIS were unclear: *"With the Preferred Alternative, there would be no outfalls from NC 12 to Currituck Sound or the Atlantic Ocean." "The preliminary designs for NC 12 with the detailed study alternatives, including the preferred alternative, generally use infiltration strategies for the majority of the project, along with a limited number of outfalls to Currituck Sound." "Along US 158, ditches would be used to transport water to existing outfalls."*

8) Page 2-32. *"NCTA would ensure the stability of the sound would not be affected by erosion as a result of stormwater discharge from scuppers during, at minimum, an annual inspection."* What mitigative measures would NCTA take if it was determined that erosion to the Currituck Sound bottom was occurring from scuppers?

9) Page 2-32. *"If the energy of the water exiting the scuppers is determined to be a problem, dissipation would be provided either at the pipe outlet or on the ground."* Previously on the same page, the document implies that bridge scuppers that are less than 25 feet above the ground have erosive force. Therefore, could it be inferred that scuppers 7 to 18 feet above the ground of Maple Swamp will have erosive force? If so, then NCTA should plan for this and update cost and impact figures accordingly.

C-14

10) Page 2-47. What is included in the "other" category, and why is the estimated construction cost for the Preferred Alternative in the "other" category so much less than the other alternatives except for ER2?

11) Page 2-47. *"Mitigation costs for the Preferred Alternative are higher than for the other alternatives because advanced mitigation planning has occurred for the Preferred Alternative."* Please explain what advanced mitigation planning has occurred for the Preferred Alternative.

12) Page 2-51. *"Remaining construction from small, low draft barges for approximately 20,000 feet or 3.8 miles."* NCTA is urged to exercise caution when using barges in the shallow waters of Currituck Sound. Kicking with boat propellers, dragging barges or sinking barges could be considered excavation in accordance with 15A NCAC 07J .0102(3) which defines an excavation project as *"any moving, digging, or exposing of bottom materials, marshland substrate or root or rhizome matter in the estuarine waters, tidelands, marshlands and state-owned lakes, regardless of the equipment or method used."*

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13) Page 2-51 and Page 3-60. More detail is needed about the Maple Swamp Bridge Construction. For example, have the TEAC agencies agreed with the use of wooden crane mats? What is the proposed pile installation technique?

14) Page 2-52. *"....the bridge corridor through Maple Swamp also may be used for access to the Narrow Shore Road area."* How would this occur, and when would it be implemented?

15) Page 2-55 and Page 3-15 to 3-17. *"The Preferred Alternative, as well as MCB2 and MCB4, are consistent with area land use plans in that they include a Mid-Currituck Bridge."* Please see the attached comments by the DCM District Planner dated March 5, 2012 regarding the project's consistency with CAMA land use plans for more information.

16) Page 3-35. *"Turbidity curtains would be in place to contain particles suspended during pile-driving in SAV habitat (including existing beds) as defined by NCMFC...and when necessary in potential SAV habitat areas of the sound 6 feet deep or less that have a suitable substrate."* NCTA should discuss further with the TEAC agencies when turbidity curtains would be used in potential SAV habitat areas of the sound 6 feet deep or less, and whether the use of turbidity curtains would be required in additional areas of the Sound.

17) Page 3-35. What sedimentation and erosion control measures are proposed for the bridge over Maple Swamp?

18) Page 3-42 and Page 3-57. For the Preferred Alternative, do the clearing impacts of 25.5 acres include any of the same areas as the shading impacts of 10.1 acres or fill impacts of 6.1 acres? Why are the piling impacts 0.0 acres?

19) Page 3-43, Page 3-57, Page 3-61 and Page 3-62. For the Preferred Alternative, why are the piling impacts over aquatic bottom only 0.1 acres and why are the piling impacts over existing SAV beds 0.0 acres?

20) Page 3-43 and Page 3-57. *"...This addition increased the wetland fill impacts associated with the Preferred Alternative by approximately 1.5 acres....The median acceleration lane also would be needed with the MCB2/A and MCB4/A, but was not included in the preliminary designs for these alternatives...."* Please provide updated information for all alternatives.

21) Page 3-55 and 3-57. *"....Therefore, these areas would remain wetlands and the impact would not be considered a permanent fill impact requiring mitigation under Section 404."* Did the TEAC agencies agree that cleared areas would not require mitigation?

22) Page 3-57. Please further identify the wetland impacts according to wetland type and quality. This will be important for determining compensatory mitigation requirements.

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23) Page 3-60. Compensatory Mitigation of Impacts. The Project Coordination Plan, item 11.2.1, states that *"the potential for on-site mitigation will be discussed in more detail for the Preferred Alternative in the FEIS."* Please provide more detail about on-site mitigation.

24) Page 3-61. *"NCTA currently proposes the Ballance Farm Wetlands Mitigation Site...."* Prior to the issuance of a CAMA permit, DCM will need confirmation that the EEP has accepted responsibility to provide appropriate off-site mitigation and that the TEAC agencies have agreed to the mitigation plan.

25) Page 3-66. DCM recommends that NCTA begin discussions with TEAC agencies and other appropriate entities to develop a detailed SAV mitigation plan. Prior to the issuance of a CAMA permit, DCM will need specific plans for any on-site mitigation and confirmation that the TEAC agencies have agreed to the mitigation plan.

C-15

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NCDENR

North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue, Governor | Braxton C. Davis, Director | Dee Freeman, Secretary

MEMORANDUM

TO: Cathy Brittingham, DCM Transportation Project Coordinator

FROM: Charlan Owens, AICP, NE DCM District Planner

SUBJECT: Review of the Administrative Action Final Environmental Impact Statement (FEIS) Mid-Currituck Bridge Study for transportation improvements to the Currituck Sound area that include a Preferred Alternative; a no bridge scenario with transportation improvements to US 158 and NC 12 (ER2); two (2) bridge scenarios with different improvements to NC 12 and US 158 (MCB2 and MCB4); two (2) bridge corridor options for its ending at the Currituck Outer Banks (C1 and C2); two (2) options for the bridge approach on mainland Currituck (Option A and Option B), and; two (2) hurricane evacuation options (a third outbound lane or a reverse center lane); within Currituck County, and the incorporated towns of Kitty Hawk, Southern Shores, and Duck, in Dare County.

Reference: State No. 10-E-4220-0361; STIP Project No. R-2576

Date: March 5, 2012

Consistency Determination: **The Preferred Alternative (a refinement of the MCB4/C1 study alternative and Option A) is consistent/not in conflict with the following Land Use Plans, as applicable:**

- **Currituck County 2006 LUP certified by the Coastal Resources Commission (CRC) on May 18, 2007 as amended on September 25, 2008 and June 24, 2009 (Attachment A);**
- **Town of Kitty Hawk 2004 LUP certified by the CRC on June 17, 2005 (Attachment B);**
- **Town of Southern Shores 1997 LUP certified by the CRC on September 25, 1998 (Attachment C), and;**
- **Town of Duck 2004 LUP certified by the CRC on April 8, 2005 (Attachment D)**

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Specific to Study Alternatives ER2, MCB2, and MCB4:

All study alternatives are consistent/not in conflict with the Currituck County 2006 LUP, the Town of Kitty Hawk 2004 LUP, and the Town of Southern Shores 1997 LUP.

Study alternative MCB4 is consistent/not in conflict with the Town of Duck 2004 LUP.

Study alternatives ER2 and MCB2 are not consistent with the Town of Duck 2004 LUP. (See "Basis for Determination", Attachment D)

Bridge corridor options "C1" and C2" are only applicable to Currituck County.

C1 and C2 are consistent with/not in conflict with the Currituck County 2006 LUP.

Mainland bridge approach alternatives "Option A" and "Option B" are only applicable to Currituck County.

Option A is consistent with/not in conflict with the Currituck County 2006 LUP.

Option B is not consistent with the Currituck County 2006 LUP. (See "Basis for Determination", Attachment A)

Overview: The proposed project calls for transportation improvements in the Currituck Sound area, with focus on the consideration of a Mid-Currituck Bridge over the Currituck Sound. The project area encompasses US 158 between its intersection with NC 168 in Currituck County and its intersection with NC 12 between the Town of Southern Shores and the Town of Kitty Hawk in Dare County, and NC 12 from its intersection with US 158 in the Town of Southern Shores and through the Town of Duck in Dare County, and into unincorporated Corolla within Currituck County.

The purpose of the project is to 1) substantially improve traffic flow on NC 12 and US 158; 2) substantially reduce travel time between the Currituck County mainland and the Currituck County Outer Banks, and; 3) substantially reduce hurricane clearance times during a coastal evacuation. The project is needed to address increasing congestion on NC 12 and US 158. The increased congestion is causing travel time between the Currituck County mainland and Currituck County Outer Banks to increase, especially during the summer. As a result of increasing congestion and development, hurricane evacuation clearance times far exceed the

C-16

state-designated standard of 18 hours. There are no public transportation services in the project area.

Four (4) types of Areas of Environmental Concern (AECs) occur within the project area: Coastal Wetlands, Estuarine Waters, Coastal Shorelines, and Public Trust Areas. Surface waters within the project area include the Currituck Sound, the Atlantic Intracoastal Waterway (AIWW), Jean Guite Creek; two (2) canals that connect to Maple Swamp and drain into Great Swamp and Deep Creek and two (2) modified natural streams that drain into the Currituck Sound, along US 158 on the mainland, and; one (1) small stream within the maritime swamp on the Outer Banks in Corolla. Approximately 4,781 acres of wetlands and waters jurisdictional under Section 404 of the Clean Water Act are found in the project area. The majority of this acreage (approximately 3,897 acres) is Currituck Sound. All waters in the project area are classified as SC waters. Suitable activities for this saltwater classification include "aquatic life propagation and survival, fishing, wildlife, and secondary recreation". Jean Guite Creek is a designated Primary Nursery Area (PNA). Maple Swamp Gordonia Forest and Great Swamp on the Currituck mainland and the Pine Island/Currituck Club Natural Area within the Currituck Sound are identified as Significant Natural Heritage Area. The Maple Swamp Gordonia Forest is assigned a "B" status, which indicates that it is a statewide significant site that is among the highest quality occurrences in North Carolina. The significant features associated with this site include an unusually extensive stand of loblolly bay forest, which may represent the largest stand in the state, and the most northern range of this community. The Great Swamp is also assigned a "B" status because of the extensive tidal freshwater marsh areas and what are thought to be natural and/or virgin stands of tidal cypress/gum swamp. The Pine Island/Currituck Club Natural Area is given a "C" status, which indicates it is an outstanding example of the marsh community, though the community may be represented by better examples in the state.

Land area within the proposed bridge corridors is located within Floodzone AE. Highway US 158 from US168 to just south of Maple Swamp is located within the AE Floodzone. South of Maple Swamp, along the remainder of the Currituck mainland, US 158 is located primarily outside of the Floodzone. On the Outer Banks, US 158 is located primarily in Zone AE, with some areas outside of the Floodzone. NC 12 on the Outer Banks from the US 158 intersection north to the proposed bridge corridors is located both outside the Floodzone and within Zone AE.

Preferred Alternative: The Preferred Alternative consists of a two-lane bridge across the Currituck Sound and some improvements to NC 12. The Preferred Alternative was selected based on cost and design considerations; travel benefits; community, natural resource, and other impacts; agency comments; and public involvement comments. It is a refinement of the MCB4/C1 study alternative and Option A mainland approach from the Draft Environmental Impact Statement (DEIS):

1. MCB4/C1 – Bridge from mainland between Aydlett Road (SR 1140) approximately 500 feet north of the power line that parallels Aydlett Road extending 4.7 miles to the Outer Banks at the southern end of Phase I of the Corolla Bay subdivision, connecting with NC 12 at an intersection approximately 2 miles north of the Albacore Street retail area; third outbound evacuation lane on US 158 between NC 168 and the Mid-Currituck Bridge or using the existing center turn lane as a third outbound evacuation lane; one inbound

lane on Wright Memorial Bridge, and; widening NC 12 to four lanes with a median from Seashell Lane to the NC 12 intersection with the Mid-Currituck Bridge.

2. Option A - Toll plaza within the US 158 interchange; mainland approach road to the bridge over Currituck Sound would include a bridge over Maple Swamp; continued use of Aydlett Road for local traffic. In Aydlett, the two-lane approach road would pass through Aydlett on fill (approximately 3 to 23 feet high) and bridge Narrow Shore Road.

Refinements to MCB4/C1 with Option A that are part of the Preferred Alternative include:

- Provision of a median acceleration lane at Waterlily Road. Bulb-outs for u-turning vehicles at the re-aligned US 158/Aydlett Road intersection and the US 158/Worth Guard Road intersection.

- Reducing the amount of four-lane widening along NC 12 from approximately 4 miles to 2.1 miles, plus left turn lanes at two (2) additional locations over approximately .5 mile. The 2.1 miles of NC 12 widening would be concentrated at three (3) locations: the bridge terminus, the commercial area surrounding Albacore Street, and Currituck Clubhouse Drive.

- Constructing roundabouts on NC12 instead of signalized intersections at the widened sections at the bridge terminus and Currituck Clubhouse Drive.

- Adjusted C1 bridge alignment to remove curves and thereby reduce its length across the Currituck Sound by approximately 250 feet.

- Provision of marked pedestrian crossings along NC12 where it would be widened; at locations identified by Currituck County plans (Albacore Street, Orion's Way, and Currituck Clubhouse Drive), as well as at North Harbor View Drive and the bridge terminus (one across NC12 and one across the bridge approach road).

- For hurricane evacuation, reversing the center turn lane on US 158 between the US 158/Mid-Currituck Bridge interchange and NC 168 on the mainland, and; adding approximately 1,600 feet of new third outbound lane to the west of the NC 12/US 158 intersection to provide additional road capacity during a hurricane evacuation.

Other Alternatives. Five (5) detailed study alternatives are also considered for implementation in the FEIS, as well as a No-Build Alternative. There are two (2) bridge scenarios that include different amounts of improvements to NC 12 and US 158, MCB2 and MCB4. There are also two (2) variations of the bridge corridor for its ending on the Outer Banks in Currituck County, C1 and C2. A no-bridge alternative, ER2, and combinations of the two (2) bridge scenarios and two (2) bridge corridors make up the five (5) alternatives under consideration:

1. ER2 – No bridge; third outbound evacuation lane on US 158 between NC 168 and the Wright Memorial Bridge or using existing center turn lane as a third outbound evacuation lane; one inbound lane on the Wright Memorial Bridge and on the Knapp Bridge as a third outbound lane; US 158 widened to a six-lane super-street between the Wright Memorial Bridge and Cypress Knee Trail that widens to eight lanes between Cypress

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Knee Trail and the Home Depot driveway; Interchange at US 158/NC 12 intersection and the Aycock Brown Welcome Center entrance, including six through lanes on US 158 starting at the Home Depot driveway and returning to four lanes just south of Grissom Street, and; widening of NC 12 to three lanes between US 158 and a point just north of Hunt Club Drive in Currituck, no change to the village area segment in Duck, and widening to four lanes with a median from just north of Hunt Club Drive to Albacore Street in Corolla.

2. MCB2/C1 – Bridge from mainland between Aydlett Road (SR 1140) and approximately 500 feet north of the power line that parallels Aydlett Road extending 4.7 miles to the Outer Banks at the southern end of Phase I of the Corolla Bay subdivision, connecting with NC 12 at an intersection approximately 2 miles north of the Albacore Street retail area; third outbound evacuation lane on US 158 between NC 168 and the Mid-Currituck Bridge or using the existing center turn lane as a third outbound evacuation lane; one inbound lane on Knapp Bridge; US 158 widened to a six-lane super street between the Wright Memorial Bridge and Cypress Knee Trial and an eight-lane super street between Cypress Knee Trial and the Home Depot driveway; Interchange at US 158/NC 12 intersection and the Aycock Brown Welcome Center entrance, including six through lanes on US 158 starting at the Home Depot driveway and returning to four lanes just south of Grissom Street, and; widening of NC 12 to three lanes between US 158 and a point just north of Hunt Club Drive in Currituck, no change to the village area segment in Duck, and widening to four lanes with a median from just north of Hunt Club Drive to the NC 12 intersection with the Mid-Currituck Bridge.

3. MCB2/C2 — Bridge from mainland between Aydlett Road (SR 1140) and approximately 500 feet north of the power line that parallels Aydlett Road, extending 5.3 miles to the Outer Banks near Albacore Street, connecting with NC 12 at an intersection approximately .5 mile south of the Albacore Street retail area; third outbound evacuation lane on US 158 between NC 168 and the Mid-Currituck Bridge or using the existing center turn lane as a third outbound evacuation lane; one inbound lane on Knapp Bridge; US 158 widened to a six-lane super street between the Wright Memorial Bridge and Cypress Knee Trial and an eight-lane super street between Cypress Knee Trial and the Home Depot driveway; Interchange at US 158/NC 12 intersection and the Aycock Brown Welcome Center entrance, including six through lanes on US 158 starting at the Home Depot driveway and returning to four lanes just south of Grissom Street, and; widening of NC 12 to three lanes between US 158 and a point just north of Hunt Club Drive in Currituck, no change to the village area segment in Duck, and widening to four lanes with a median from just north of Hunt Club Drive to the NC 12 intersection with the Mid-Currituck Bridge.

4. MCB4/C1 – Bridge from mainland between Aydlett Road (SR 1140) and approximately 500 feet north of the power line that parallels Aydlett Road extending 4.7 miles to the Outer Banks at the southern end of Phase I of the Corolla Bay subdivision, connecting with NC 12 at an intersection approximately 2 miles north of the Albacore Street retail area; third outbound evacuation lane on US 158 between NC 168 and the Mid-Currituck Bridge or using the existing center turn lane as a third outbound evacuation lane; one inbound lane on Wright Memorial Bridge, and; widening NC 12 to four lanes with a median from Seashell Lane to the NC 12 intersection with the Mid-Currituck Bridge.

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5. MCB4/C2 – Bridge from mainland between Aydlett Road (SR 1140) and approximately 500 feet north of the power line that parallels Aydlett Road, extending 5.3 miles to the Outer Banks near Albacore Street, connecting with NC 12 at an intersection approximately .5 mile south of the Albacore Street retail area; third outbound evacuation lane on US 158 between NC 168 and the Mid-Currituck Bridge or using the existing center turn lane as a third outbound evacuation lane; one inbound lane on Wright Memorial Bridge, and; widening NC 12 to four lanes with a median from Seashell Lane to the NC 12 intersection with the Mid-Currituck Bridge.

For the four (4) bridge alternatives, two (2) options are being considered for the mainland approach to the Currituck Sound, Option A and Option B.

Option A would place a toll plaza within the US 158 interchange. The mainland approach road to the bridge over Currituck Sound would include a bridge over Maple Swamp. Drivers traveling between US 158 and Aydlett would continue to use Aydlett Road. In Aydlett, the two-lane approach road would pass through Aydlett on fill (approximately 3 to 23 feet high) and bridge Narrow Shore Road.

Option B, the US 158 interchange would not include the toll plaza. The approach to the bridge over Currituck Sound would be a road placed on fill within Maple Swamp. Wildlife passages would be incorporated into the fill within Maple Swamp. Aydlett Road would be removed and its right-of-way restored as a wetland. Traffic traveling between US 158 and Aydlett would use the bridge approach. Within Aydlett, a local connection would be provided between the bridge approach road and the local Aydlett street system. The toll plaza would be placed in Aydlett east of the local road connection. No access to and from the Mid-Currituck Bridge would be provided in Aydlett.

Local Planning Jurisdictions within the Project Area. Proposed improvements under the Preferred Alternative and/or the five (5) study alternatives are located within Currituck County, and the Town of Kitty Hawk, Town of Southern Shores, and Town of Duck in Dare County.

Currituck County. The Preferred Alternative and the five (5) detailed study alternatives indicate improvements within Currituck County mainland, across the Currituck Sound, and on the Currituck Outer Banks.

MAINLAND

The project area in mainland Currituck consists of US 158 from south of the Barco community, across 1.9 acres of the Atlantic Intracoastal Waterway (AIWW) to the Wright Memorial Bridge, and land area east of US 158, in Aydlett, just north of Aydlett Road (SR 1440) from US 158 across Narrow Shore Road to the Currituck Sound. Existing improvements along US 158 consist of a five-lane highway that crosses the AIWW with residential and commercial development, farmland, and undeveloped areas along the corridor. There are no sidewalks or

bicycle trails along US 158 on the Currituck mainland. Aydlett is a shoreline development along Currituck Sound, approximately 2 miles east of US 158, where direct access is generally via just one road, Aydlett Road. Land area just north of Aydlett Road consists of the Maple Swamp, agricultural land and residential development. Narrow Shore Road in Aydlett runs parallel to the shoreline. A power substation is located in Aydlett. A major powerline is located just north of Aydlett Road and along US 158. There is a historic property located along Narrow Shore Road in Aydlett, just north of Aydlett Road. A number of historic properties are also located along US 158 in mainland Currituck. Numerous archaeological surveys have been conducted, and archaeological sites have been identified in the project area.

Under the Preferred Alternative, improvements along US 158 on Currituck mainland would be limited to an interchange and toll plaza intersecting with US 158 just north of Aydlett Road. MCB2 and MCB4 with Option A would also include a third outbound lane north of the toll plaza, across the AIWW to just south of the Barco community. With the Preferred Alternative, and MCB2 and MCB4 with Option A, a total of 37 acres of prime soils and 72 acres of state and locally important soils for farmland would be impacted. Under MCB2 and MCB4 with Option B, 76 acres of prime soils and 41 acres of state and locally important soils would be impacted. ER2 would impact less than 2 acres of prime soils and less than 2 acres of state and locally important soils. With the Preferred Alternative, power line towers at four (4) locations would be relocated in the US 158/Mid-Currituck Bridge interchange area without service disruption. Specific to highway corridor appearance, a landscaping plan would be developed for the interchange. For ER2, a third outbound lane along US 158 would extend south of the interchange to the Wright Memorial Bridge. Existing traffic signals on US 158 would generally be retained at all locations.

Maple Swamp and Great Swamp are located within the project area at the proposed bridge connection to US 158. All bridge alternatives would pass through Maple Swamp and all bridge alternatives would affect the eastern edge of the Great Swamp. Approximately 494 acres of Maple Swamp are considered Section 404 wetlands within the project area, and about 300 acres of that was logged beginning in 2008. Aydlett Road and a utility corridor currently bisect Maple Swamp. The Preferred Alternative, as well as MCB2 and MCB4 with Option A), would bridge over Section 404 wetlands in Maple Swamp. The bridge corridor was placed so that there would be no permanent loss or alteration of unique loblolly bay forest found within the swamp. The bridge crossing is located north of the bay forest area near the cleared and actively maintained utility corridor. The Preferred Alternative, ER2, and MCB2 and MCB4 with Option A would result in no impact on surface water and ground hydrology in Maple Swamp or on storm surge elevations. Approximately 11 acres of additional impervious surface would be associated with a bridge over Maple Swamp. Stormwater management on the Maple Swamp bridge would include frequent deck cleaning. Modern pavement sweeping and vacuuming technology is anticipated to remove effectively an upwards of 97.5 percent of materials that cause pollution. Additionally, the first 1.5 inches of stormwater would be captured for 500 feet on both ends of the Maple Swamp bridge and piped to infiltration basins for treatment. The remaining length of the bridge would have pre-treated discharge (from deck cleaning) exiting through scuppers located 7 to 8 feet above the swamp. Water quality monitoring would be conducted as part of bridge operations. MCB2/B and MCB4/B (Option B) would construct a road on fill with wildlife crossing structures through Maple Swamp, resulting in substantial Section 404 wetland impacts in northern Maple Swamp. With Option B, Aydlett Road would be removed and restored to a wetland to mitigate for the fill used to cross Maple Swamp. Fill in Maple Swamp associated with

MCB2 and MCB4 with Option B could obstruct or alter flood flows and elevations and would be considered a significant alteration to a water course. Under the Preferred Alternative, MCB2/A and MCB4/A (Option A) a less than 1 acre impact would occur on the Great Swamp at its eastern fringe bordering US 158 and a .6 acre impact would occur in the US 158/Waterlilly Road intersection area, just south of the AIWW. There would be no impacts to Great Swamp with the ER2 alternative. Both MCB2/B and MCB4/B (Option B) with a third outbound hurricane evacuation lane would result in an additional .1 acre of wetland impacts to Great Swamp. The NCTA will purchase land locked parcels north of Aydlett Road in Maple Swamp and west of US 158 in Great Swamp to be set aside as conservation area and allowed to retain or return to a natural state.

With the Preferred Alternative and Option A, the mainland approach for the Mid-Currituck Bridge would bridge Narrow Shore Road in Aydlett so that access between the northern and southern portions of the community would not be affected. With Option B, Narrow Shore Road would be relocated to pass over the toll plaza to be placed in Aydlett. With both options, access to the northern and southern portions of the community would be preserved, however, with Option B, pedestrians and bicyclists would have to walk or cycle to the top of the bridge over the toll plaza, a height of 25.5 feet above existing ground.

CURRITUCK SOUND

The project area includes approximately 3,900 acres of the Currituck Sound. Submerged Aquatic Vegetation (SAV) habitats are located within the open waters of the sound, on the eastern side of the sound, and along the immediate western shoreline, in water depths of 6 feet or less within the project area. An underwater power line is located within the project area. The existence of submerged archaeological resources is possible within the project area. A two-lane, 4.7 mile long bridge over the sound is proposed. Approximately 28 acres of additional impervious surface would be associated with bridge. Stormwater management on the bridge would include frequent deck cleaning. Modern pavement sweeping and vacuuming technology is anticipated to remove effectively an upwards of 97.5 percent of materials that cause pollution. Additionally, the first 1.5 inches of stormwater would be captured from the eastern end of the bridge for a distance of 4,000 feet to prevent direct discharge into existing SAV habitat (including beds) along the eastern shore of the sound. Runoff would be piped to the east end of the bridge for treatment to a wet detention basin. The remaining length of the bridge would have pre-treated discharge (from deck cleaning) exiting through scuppers approximately 22 feet above the Currituck Sound. Water quality monitoring would be conducted as part of bridge operations. The NCTA will coordinate with the US Coast Guard to determine the appropriate horizontal and vertical navigational clearances for the bridge. The typical section for all bridge alternatives shows a 10 foot wide shoulder and a bicycle safe rail to accommodate pedestrians and bicyclists. An exclusive lane for pedestrians and bicyclists on the bridge, with associated lighting on the bridge and road approach and a parking lot on the Outer Banks, is included in the cost estimate for the Preferred Alternative but could be eliminated if it proves to be cost-prohibitive given the substantial additional cost of these features, combined with limits on the availability of funds to finance the bridge.

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CURRITUCK OUTER BANKS

The project area on the Currituck Outer Banks consists of NC 12 from approximately 2 miles north of Albacore Street extending beyond the county limits to the south, and from NC 12 at the Timbuck II commercial center and Phases I and II of the Corolla Bay subdivision to the Currituck Sound. Existing improvements along NC 12 consist of a two-lane highway with sections of multi-use paths, residential and commercial development and some undeveloped areas along the corridor. The Timbuck II commercial center is developed, but is adjacent to undeveloped land. The Corolla Bay subdivision west of NC 12 consists of infrastructure improvements and a few residential structures, but is largely undeveloped. A residential development is currently under construction across NC 12 directly east of the Corolla Bay subdivision.

For the bridge approach to the Currituck Outer Banks, the revised C1 corridor with the Preferred Alternative would pass through Phase II of the Corolla Bay subdivision. No wetlands along the sound side of the Outer Banks would be affected. With MCB2/C1 and MCB4/C1 the Mid-Currituck Bridge would enter the Outer Banks through Phase I of the Corolla Bay subdivision, physically dividing Phase I from Phase II. With MCB2/C2 and MCB4/C2, the bridge would enter the Outer Banks south of the Timbuck II commercial area in an undeveloped location. With the C1 and C2 alternatives, wetlands along the sound side of the Outer Banks would be bridged.

Where the Mid-Currituck Bridge intersects with NC 12 on the Currituck Outer Banks, the Preferred Alternative provides a roundabout with no signal. With MCB2 and MCB4, traffic signals would be placed where the Mid-Currituck Bridge intersects with NC 12.

With the Preferred Alternative the NC 12/Currituck Clubhouse Drive signal would be replaced with a roundabout and no signal. All other traffic signals along NC 12 would be retained. With MCB2 and MCB4, all other traffic signals would be retained.

Local utilities along NC 12 would be relocated when widening with minimal or no service disruption. The area required to relocate utilities along NC12 is included as a permanent utility easement.

With the Preferred Alternative and all study alternatives, wider pavement and new drainage features would be introduced along NC 12. Roadside vegetation would be lost to provide for drainage features. Infiltration strips would be placed outside the NC 12 right-of-way in a permanent drainage easement with the right to maintain the strip purchased from the land owner.

The Preferred Alternative would not affect the Pine Island/Currituck Club Natural Area. Drainage improvements along NC 12 with ER2 and MCB2 would affect approximately 7.1 acres of the Pine Island/Currituck Club Natural Area along the fringe where it borders NC 12.

Widening of NC 12 would affect existing multi-use paths. With each alternative, NCTA would replace sections of existing multi-use paths that are displaced as a result of NC 12 widening, and would provide space in the NC 12 right-of-way widening areas and complete the grading for future multi-use paths to be provided by others. Currituck County could provide funds (or share in the cost per NCDOT pedestrian policy guidelines) to build future multi-use paths in the context of NC 12 widening or choose to build at a later date. Marked pedestrian crossings

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would also be provided along widened sections of NC 12 at locations identified by Currituck County.

See "Attachment A" for policy discussion.

Town of Kitty Hawk. The Preferred Alternative and the five (5) detailed study alternatives indicate improvements within Kitty Hawk along US 158. The Town of Kitty Hawk is located directly south of US 158 and extends to the Atlantic Ocean east of NC 12.

Existing improvements along US 158 include the four-lane Wright Memorial bridge approach extending east to a five-lane highway crossing Jean Guite Creek to Juniper Trail and a six-lane highway from Juniper Trail to the US 158/NC 12 intersection. A multi-use trail is located along the south side of the US 158 right-of-way from The Woods Road to Cypress Knee Trail.

Improvements proposed under the Preferred Alternative are limited to approximately 1,600 feet of third outbound lane for hurricane evacuation from Cypress Knee Trail to 450 feet west of Duck Woods Drive. Under MCB4, a third outbound lane would extend along US 158 from the Wright Memorial Bridge to the US 158/NC 12 intersection. Improvements indicated for ER2 and MCB2 include a six-lane super-street from Wright Memorial Bridge to the Home Depot driveway, an eight-lane super-street from Cypress Knee Trail to the Home Depot driveway, an interchange at the US 158/NC12 intersection, and widening to three lanes from NC 12 north beyond the town limit. The US 158/NC 12 interchange would be larger with ER2 than with MCB2.

Jean Guite Creek is located in both the Town of Kitty Hawk and the Town of Southern Shores and comprises approximately 0.5 acre of the project area. No alternations to the bridge over Jean Guite Creek are proposed with the Preferred Alternative. Jean Guite Creek, would be crossed by the widening of US 158 with ER2 and MCB2, as well as a third outbound lane hurricane evacuation improvement with MCB4. With ER2 and MCB2, the bridge over Jean Guite Creek would be widened by 36 feet for the widening of US 158. In terms of shading impacts on CAMA AEC, ER2 and MCB2 would shade 0.1 acre of Jean Guite Creek. With a third outbound lane for hurricane evacuation on US 158 over Jean Guite Creek with MCB4, a single piling would be installed in the creek, and the existing bridge over the creek would be widened by 18 feet. Although no specific calculations are provided for Jean Guite Creek, it is anticipated that AEC and possible wetland impacts would be associated with bridge widening over the creek.

Along US 158, ditches would be used to transport stormwater to existing outfalls.

Impacted sections of the multi-use path would be replaced.

The ER2 interchange would result in the loss of approximately 10% of the parking at the Home Depot site (40 spaces), creating a non-conformity with current parking requirements.

See "Attachment B" for policy discussion.

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Town of Southern Shores. The Preferred Alternative and the five (5) detailed study alternatives indicate improvements within The Town of Southern Shores along US 158. Study alternatives ER2 and MCB2 also indicate improvements along NC 12 within the Town. The Town of Southern Shores is located directly north of US 158 and extends to the Atlantic Ocean east of NC 12.

Existing improvements along US 158 include the four-lane Wright Memorial bridge approach extending east to a five-lane highway crossing Jean Guite Creek to Juniper Trail and a six-lane highway from Juniper Trail to the US 158/NC 12 intersection. A multi-use trail is located along the north side of the US 158 right-of-way from Martins Point Road, over Jean Guite Creek, to the US 158/NC 12 intersection. Existing improvements along NC 12 consist of a three-lane roadway from the US 158/NC 12 intersection to Skyline Drive and a two-lane roadway from Skyline Drive to the town limit. A multi-use path is located on the west side of NC 12 from the US 158 intersection to East Dogwood Trail, and on the east side of NC 12 from East Dogwood Trail to the town limit.

Improvements proposed under the Preferred Alternative are limited to approximately 1,600 feet of third outbound lane for hurricane evacuation from Cypress Knee Trail to 450 feet west of Duck Woods Drive. Under MCB4, a third outbound lane would extend along US 158 from the Wright Memorial Bridge to the US 158/NC 12 intersection. Improvements indicated for ER2 and MCB2 include a six-lane super-street from Wright Memorial Bridge to the Home Depot driveway, an eight-lane super-street from Cypress Knee Trail to the Home Depot driveway, an interchange at the US 158/NC12 intersection, and widening to three lanes from NC 12 north beyond the town limit. The US 158/NC 12 interchange would be larger with ER2 than with MCB2.

Jean Guite Creek is located in both the Town of Kitty Hawk and the Town of Southern Shores and comprises approximately 0.5 acre of the project area. No alternations to the bridge over Jean Guite Creek are proposed with the Preferred Alternative. Jean Guite Creek would be crossed by the widening of US 158 with ER2 and MCB2, as well as a third outbound lane hurricane evacuation improvement with MCB4. With ER2 and MCB2, the bridge over Jean Guite Creek would be widened by 36 feet for the widening of US 158. In terms of shading impacts on CAMA AEC, ER2 and MCB2 would shade 0.1 acre of Jean Guite Creek. With a third outbound lane for hurricane evacuation on US 158 over Jean Guite Creek with MCB4, a single piling would be installed in the creek, and the existing bridge over the creek would be widened by 18 feet. Although no specific calculations are provided for Jean Guite Creek, it is anticipated that AEC and possible wetland impacts would be associated with bridge widening over the creek.

Along US 158, ditches would be used to transport stormwater to existing outfalls.

Impacted sections of the multi-use path would be replaced.

See "Attachment C" for policy discussion.

1367 US 17 South, Elizabeth City, NC 27909
Phone: 252-264-3901 \ FAX: 252-264-3723 ; Internet: www.nccoastalmanagement.net

Town of Duck. The Preferred Alternative and MCB4 do not indicate improvements within the Town of Duck. Study alternatives ER2 and MCB2 indicate improvements along NC 12 within the Town north and south of the existing town center, extending beyond the Town limits. Existing improvements within the NC 12 right-of-way in this area consist of two-lane roadway with a multi-use path along the east side.

As proposed under E2 and MCB2, the existing two lane configuration would be widened to three-lanes. Displacement of homes and businesses would be expected where NC 12 has only a 60 foot right-of-way. Existing multi-use paths would be replaced in kind. Pedestrian crossing points would be marked as they are marked presently. Infiltration strips and ditches would transport water to dry infiltration basins to treat highway runoff along NC 12. Local utilities along NC 12 would be relocated when widening NC 12 with minimal or no service disruption.

See "Attachment D" for policy discussion.

Anticipated Impacts resulting from this project are expected to include, but not be limited to, the following:

As indicated in the FEIS, the greatest impact to CAMA resources, essential fish habitat, and SAV habitat (including existing beds) or potential SAV habitat (water depths 6 feet or less) would be associated with shading by a Mid-Currituck Bridge. The Preferred Alternative and MCB4/C1 alternatives would not affect CAMA wetlands. MCB2/C2 would have the greatest impact to CAMA wetlands, with 2.2 acres of CAMA wetlands affected by fill and clearing. MCB2/C2 also would have the greatest impact to CAMA AECs, with 2.5 acres of mainly fill and clearing impacts. ER2 and MCB4/C1 would result in a minimal effect (less than 1 acre of impacts) on CAMA resources. No CAMA wetlands would be affected by shading with ER2, MCB2/C1, MCB4/C1, or the Preferred Alternative. With bridge corridor C2 for both MCB2 and MCB4, 0.6 acre of CAMA wetland (also a CAMA AEC) would be shaded. This is part of the 1.4 acres indicated as cleared. In terms of shading impacts on CAMA AEC, ER2 and MCB2 would shade 0.1 acre of Jean Guite Creek, and MCB2, MCB4, and the Preferred Alternative would shade 27.8 to 29.1 acres of Currituck Sound.

All of the detailed study alternatives, including the Preferred Alternative, would result in placing fill in waters under the jurisdiction of the U. S. Army Corps of Engineers (USACE). Fill in jurisdictional areas would be the least for the Preferred Alternative, ER2, and MCB4/A/C2. The largest area of fill in jurisdictional areas would be with MCB2/B and MCB4/B, which include crossing Maple Swamp on fill. Clearing of jurisdictional areas would be greatest with MCB2, MCB4, and the Preferred Alternative because of the Mid-Currituck Bridge. Opportunities for mitigation are available. Efforts have already been made to avoid and minimize impacts to these resources, including project refinements incorporated into the Preferred Alternative.

The most notable temporary impact to water quality would be increased turbidity levels produced during construction of the Mid-Currituck Bridge with MCB2, MCB4, and the Preferred Alternative. Permanent impacts to water quality are primarily associated with increased levels of bridge and highway runoff. A stormwater management plan for minimizing the potential impact of project pollutants is proposed in the FEIS and would be finalized in association with

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NCDENR-DWQ and other state and federal environmental resource and regulatory agencies during final design of the alternative selected for implementation and in the process of obtaining related permits.

Shoreline stabilization and shoreline buffers have not been indicated.

There would be no hydraulic impacts to floodplains in the project area and no significant encroachment on those floodplains with ER2, MCB2/A, MCB4/A, and the Preferred Alternative. Such impacts would occur with MCB2/B and MCB4/B (Option B).

Primary visual impacts would be the introduction of Mid-Currituck Bridge features into views along US 158 and in Aydlett (including views of Currituck Sound) with MCB2, MCB4, and the Preferred Alternative. On the Outer Banks, a C1 bridge terminus (a refined location is included in the Preferred Alternative) would adversely affect views of Currituck Sound from the Corolla Bay subdivision and the northern part of Monteray Shores. A C2 bridge terminus would adversely affect views from the outdoor recreation area at Timbuck II. ER2 and MCB2 would introduce an interchange into views in Kitty Hawk. With all of the detailed study alternatives, wider pavement and new drainage features would be introduced along NC 12. This change would be the least with the Preferred Alternative. Roadside vegetation would be lost to provide for the drainage features. This change would be the least extensive with MCB4.

The relocation of utilities underground has not been indicated.

No adverse effect on historic properties would result from the detailed study alternatives, including the Preferred Alternative.

The potential exists for archaeological resources to be affected by the detailed study alternatives, including the Preferred Alternative. Additional studies would be conducted after selection of an alternative for implementation.

The greatest impact on farmland would be associated with the US 158/Mid-Currituck Bridge interchange with MCB2, MCB4, and the Preferred Alternative, but that effect would be less than 0.01 percent of all farmland soils in Currituck County.

Indirect and cumulative impacts resulting from a Mid-Currituck Bridge relative to the potential for increased development, increased day visitors to the Outer Banks, and increased use of Currituck County zoned RO2 and COBRA Floodzone areas (the off-road area of the northern Currituck Outer Banks), have been addressed in the FEIS. As a catalyst to stimulate development, the FEIS concludes that there would be a negligible to slight increase in permanent residents on the Outer Banks for the bridge alternatives and no increase under the ER2 alternative. For the non-road accessible Outer Banks, there would be no reasonably foreseeable change in the location, rate or type of development with the implementation of study alternatives. An economic study prepared by UNC and referenced in the FEIS indicated the potential for approximately thirty-four (34) businesses to shift to the Mid-Currituck bridge area, within an approximate radius of 1.5 miles around the end of the mainland terminus of the bridge, likely requiring approximately 68 acres near the US 158/Mid-Currituck Bridge interchange on what is currently agricultural land. The area of the induced commercial development zone would be adjacent to Great Swamp and Maple Swamp and near the Intracoastal Waterway. A

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primary threat to water quality would be additional loading from impervious surface run-off and on-site septic facilities at this location.

Currently, day visitors to the Currituck Outer Banks comprise a small minority of its visitors. Reduced travel times would increase the potential demand for day visitors. Concerning the potential for increase in the number of day trips to the Outer Banks, the FEIS finds that with the Preferred Alternative and MCB2 and MCB4 alternatives there would be some potential for increase over the No-Build alternative with the potential higher in the non- road accessible area. There would be no or a negligible increase with the ER2 alternative. The non-road accessible area provides a unique experience that would appeal to a specialized market of day visitors (beach drivers, sport fishermen, and surfers). While these beaches are only available to a subset of visitors, they are distinctive for unrestricted beach driving, wild horses, and free parking. Thus, the potential for increased day trips would be higher in this area than in the NC 12 accessible area. Currently the summer beaches on the non-road area are often congested. Induced beach driving would contribute to environmental degradation north of NC 12. Future restrictions by the county could regulate access to the non-road area, but none are planned at this time. Once the bridge termini are located, Currituck County Commissioners intend to appoint a task force to look at the broad implications of the Mid-Currituck Bridge and its potential impacts. The effort is expected to take approximately one year.

See ATTACHMENTS A, B, C, and D for policies currently relevant to this request.

Attachment A – Currituck County 2006 LUP
Attachment B – Town of Kitty Hawk 2004 LUP
Attachment C – Town of Southern Shores 1997 LUP
Attachment D – Town of Duck 2004 LUP

cc: John Thayer, AICP, Manager, DCM Planning and Access Programs
Mike Lopazanski, Policy Manager, DCM

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ATTACHMENT A

The Preferred Alternative and the five (5) detailed study alternatives indicate improvements within Currituck County.

Policy Review:

The **Currituck County 2006 Land Use Plan** Land Classification Map designates the project area as "Full Service Areas", "Limited Service Areas", and "Conservation Areas".

"Full Service Areas" are located along US 158 from the US 158/US 168 intersection to the AIWW, within the Grandy community, within the Powells Point community, and within the Point Harbor Community. The Corolla community and areas along NC 12 are also located within "Full Service Areas". As indicated on Page 11-3, these areas of the county are preferred for community centers.

"Limited Service Areas" are located along US 158 from the AIWW to just north of Grandy, south of Grandy to just north of Powells Point, south of Powells Point to just north of Point Harbor, and the southern portion of Point Harbor to the Wright Memorial Bridge. The community of Aydlett is also located within "Limited Service Areas". As indicated on Page 11-2, the purpose this designation is to provide for primarily residential development at low densities.

"Conservation Areas" are located along the west side of US 158 within southern Coinjock and extending south to an area between Coinjock and Grandy. The area between US 158 and the Aydlett community is also designated "Conservation Areas". Additionally, island areas and marsh shorelines within the Currituck Sound west of Corolla are designated "Conservation Areas". Areas of Environmental Concern (AECs) are also designated as "Conservation Areas" as indicated on Page 11-1. As indicated on Page 11-1, "(t)he purpose of the Conservation class is to provide for the long-term management and protection of significant, limited, or irreplaceable areas. Proper management is needed to conserve the natural, cultural, recreational, scenic, or biologically productive values of these areas. The Conservation class should be applied to areas that should not be developed at all (preserved) or if developed, done so in a very limited manner characterized by careful planning and cautious attention to the conservation of environmental features. *Infrastructure and services, public or private, should not be included in these areas as a catalyst that could stimulate development.*" (Emphasis added.)

The Future Land Use Map illustrates a "Proposed Mid-County Bridge" from US 158, across the Maple Swamp, Aydlett, and the Currituck Sound, to NC 12 on the Currituck Outer Banks.

The project area is also located within the "Intersection of Proposed Mid-County Bridge and US Highway 158", "Barco/Coinjock/Airport Area", "Aydlett and Waterlilly/Churches Island", "Grandy", "Jarvisburg", "Point Harbor", and "Corolla" subareas. At the proposed US 158/Mid-County Bridge intersection, US 158 runs along a relatively narrow, north-south ridge of higher ground and areas to the east and

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west consist of low-lying areas generally characterized as wetlands. Beyond the wetlands to the east is the community of Aydlett.

The policy emphasis for the "Intersection of Proposed Mid-County Bridge and US Highway 158" subarea is indicated on Page 11-7:

> "*The policy emphasis of this plan is for there to be no access from the bridge road into the Aydlett community*, thereby protecting the community from unwanted commercial development. Rather, commercial development spawned by the bridge should be clustered just off US 158 north and south of the new intersection with the bridge road. Further, it is expected that wetlands will block commercial development from occurring at locations removed from the US 158 corridor. For these reasons the area is identified on the Future Land Use Map as Limited Service. (Emphasis added.)
>
> At the same time, care should be taken to adequately control the location and design of commercial development so as not to compromise the traffic moving function of the new bridge and roads leading to it. Community aesthetics and image associated with new development along this major travel corridor should also receive strong consideration is setting standards for development approval here. While currently limited to 1 housing unit per acre, residential development densities in this area could be increased to 1.5 units per acre upon completion of the proposed Mid-County Bridge and availability of services."

C-23

The Aydlett community is the proposed mainland location of the bridge. As indicated on Page 11-7 "...Aydlett, Waterlilly and Churches Island offer some of the most attractive areas for development on the mainland of Currituck County. Situated atop an ancient, north-south running ridge of relatively high and dry ground, these areas directly abut the western shoreline of Currituck Sound, with very little intervening marsh. Home sites have panoramic views across the sound to the Outer Banks." As indicated on Page 11-8, policy emphasis, "*...there is to be no access from the bridge road into communities near the landfall for the bridge.*" (Emphasis added.)

The "Barco", "Grandy", "Jarvisburg", "Point Harbor" subareas are located along areas of US 158 proposed for an additional outbound lane. Transportation improvements are addressed within the "Grandy" and "Point Harbor" descriptions. Specific to the proposed Mid-Currituck Bridge (Mid-County Bridge), for the Barco community, as indicated on Page 11-7, "...once the proposed Mid-County Bridge is completed, it is quite likely that this will become a major new mainland service area for the Corolla and Carova areas of Currituck County. This means that that the area is apt to see a large number of residences built for workers commuting to construction and service jobs on the Outer Banks. Further, as the area comes into its own as a distinct community center, the reciprocal needs of homes and businesses will feed off each other, adding even more growth to the area...care should be taken to encourage quality development and the preservation of open space in conjunction with development approvals."
It is anticipated that the bridge will strengthen Grandy's position as a service area for the Outer Banks of Currituck County. On Page 11-1, in "Point Harbor" the need to coordinate with NCDOT for the placement of traffic signals along US 158 in the southern portion of mainland

Currituck is identified. The "Corolla" community is the proposed Outer Banks location for the bridge. The Corolla area is 85 to 90 percent developed. As the value of barrier island property has continued to escalate, the economic incentive for redevelopment of existing properties has increased. Due to redevelopment pressures, increases in service demand, impervious surface areas and greater traffic generation are anticipated.

Definitions of key words are provided on Page 9-2. The following definitions are intended to convey the meaning of these key words as used in the Land Use Plan Policy Statements:

adequate: sufficient to achieve the intended purpose or prevent harm allow/permit: authorize; official action to let something happen

control: to regulate or direct
discourage: to not favor; to dissuade

encourage: to favor or foster (also see support)

endorse: to approve of an action, often by another party

may: provides the option, but not required

preferred: among alternatives, the favored course

prohibit: not allowed, period

promote: to proactively encourage, to take positive steps

reasonable practical, even-handed, sensible, not extreme

require: to mandate something

shall: mandatory, not optional

should: ought to, if no valid reason not to

significant: important, as determined by quantity or relative impact

support: to shore up; may imply financial support

As of **March 5, 2011**, the following policies from the Currituck County 2006 LUP, certified by the Coastal Resources Commission (CRC) on May 18, 2007, and amended on September 25, 2008 and June 24, 2009, may be applicable to this request:

Public Access:

Policy PA1, Page 9-3.

"Public access to the sound and ocean waters of Currituck County is essential to the quality of life of residents and visitors, as well as the economy of the area. The County supports the establishment of ADDITIONAL PUBLIC AND PRIVATE ACCESS opportunities to the waters of Currituck County. (Also see Outer Banks Policy Section.)."

Policy PA2, Pages 9-3 and 9-4.

"The County supports MANY FORMS OF "ACCESS" to the water, including scenic outlooks and boardwalks, boat ramps, marinas and docks, fishing piers, canoe and kayak launches, and other means of access. Whenever possible, such facilities shall be designed to accommodate the needs of handicapped individuals."

Policy PA3, Page 9-4.

"Properties owned by the County, State or other cooperating public agencies shall be considered as special opportunities for public access sites. MULTIPLE USE OF APPROPRIATE SITES (e.g. utility station and public boat ramp site) shall be encouraged."

Policy PA4, Page 9-4.

"The LOCATION OF PUBLIC ACCESS SITES shall generally be determined by a rational examination of the sound and ocean resource, the distribution of existing access sites, and the availability of appropriate new sites. In addition to advanced planning, however, the County will remain open to any site that offers good shoreline access for the public, as unforeseen opportunities may arise."

Policy PA9, Page 9-4.

"Currituck County shall discourage developments which would have the effect of "WALLING OFF THE WATER", thereby eliminating views to the water from adjoining streets, roads, walkways and other public spaces."

Policy PA10, Page 9-4.

"Opportunities for protecting or creating public access shall be pursued when

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drafting and administering development standards for ocean front and sound front projects in the County."

Land Use Compatibility:

Policy ES1, Page 9-5.

"New development shall be permitted to locate only in areas with SUITABLE SOILS and where ADEQUATE INFRASTRUCTURE is available. For existing development located on poor soils, and where sewage treatment upgrades are necessary, engineering solutions may be supported, provided that environmental concerns are fully addressed."

Policy ES2, Page 9-5.

"NON-COASTAL WETLANDS, including FRESHWATER SWAMPS, AND INLAND, NON-TIDAL WETLANDS, shall be conserved for the important role they play in absorbing floodwaters, filtering pollutants from stormwater runoff, recharging the ground water table, and providing critical habitat for many plant and animals species. Currituck County supports the efforts of the U. S. Army Corps of Engineers in protecting such wetlands through the Section 404 permit program of the Clean Water Act, as well as Section 401 water quality certifications by the State of North Carolina."

Policy ES3, Page 9-5.

"COASTAL WETLANDS shall be conserved for the valuable functions they perform in protecting water quality and in providing critical habitat for the propagation and survival of important plant and animal species. CAMA use standards and policies for coastal wetlands shall be supported. Uses approved for location in a coastal wetland must be water dependent (i.e. utility easements, bridges, docks and piers) and be developed so as to minimize adverse impacts."

Policy ES4, Pages 9-5 and 9-6.

"In approving new developments, Currituck County shall support the retention or creation of vegetated buffer area along ESTUARINE SHORELINES as a simple, effective and low-cost means of preventing pollutants from entering estuarine waters. Exceptions to this requirement may include developments involving pre-existing man-made features such as hardened shorelines, drainage ditches, and canals...The County also supports CAMA use standards for all COASTAL SHORELINES, whether estuarine or otherwise."

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Phone: 252-264-3901 \ FAX: 252-264-3723 ; Internet: www.nccoastalmanagement.net

Policy ES5, Page 9-6.

"Uses allowed in ESTUARINE WATERS must be water dependent (public access, docks, piers, erosion control, and other CAMA-approved uses) and must not interfere with the proper function, cleanliness, salinity, and circulation of the resource..."

Policy ES8, Page 9-6.

"Areas of the County identified for significant future growth shall avoid NATURAL HERITAGE AREAS (e.g. Great Marsh on Knotts Island, Currituck Banks/Swan Island Natural Area, Currituck Banks Corolla Natural Area, Pine Island/Currituck Club Natural Area, Northwest River Marsh Game Land, and many other marsh areas on the mainland.)." (Emphasis Added.)

Policy AG1, Page 9-6.

"ACTIVE AGRICULTURAL LANDS having a high productive potential, and especially those removed from infrastructure and services, should be conserved for continued agricultural use."

Policy AG3, Page 9-6.

"Farms and woodlands shall be recognized as an integral part of the county's OPEN SPACE SYSTEM. Efforts to keep these areas viable as part of the area's resource-based economic sector, shall be encouraged."

Infrastructure Carrying Capacity:

Policy TR1, Page 9-10.

"Opportunities to enhance REGIONAL TRANSPORTATION CONNECTIONS between Currituck County and other parts of the state and region shall be supported. The County shall actively participate in regional transportation planning efforts."

Policy TR3, Page 9-10.

"A program of improvements and maintenance to maximize the FUNCTIONAL LIFE OF EXISTING ROADWAYS shall be endorsed as a cost effective and environmentally sound means of meeting area transportation needs."

1367 US 17 South, Elizabeth City, NC 27909
Phone: 252-264-3901 \ FAX: 252-264-3723 ; Internet: www.nccoastalmanagement.net

Policy TR9, Page 9-11.

"BIKEWAY FACILITIES shall be encouraged as energy-efficient, healthful, and environmentally sound alternatives to the automobile. The inclusion of bikeways, sidewalks, trails, and other alternatives to the automobile shall be encouraged in both public and private developments."

Policy TR10, Page 9-11.

"Designs for all future road construction and improvements shall consider opportunities for the inclusion of BIKE LANES within the project. Particular attention should be given to priority bikeway facility needs as submitted for inclusion in the State Transportation Improvement Program."

Policy TR13, Page 9-12.

"A new MID-COUNTY BRIDGE between the mainland and Corolla shall be supported to provide critical traffic relief to US 158, to improve emergency access to and evacuation from the Currituck Outer Banks, to promote economic development, and to provide better access to public and private services not readily available on the Outer Banks. To protect the character of communities near the bridge (e.g. Aydlett, Churches Island, Poplar Branch), the road leading to the bridge shall have no access points before its intersection with US 158."

Policy TR14, Page 9-12.

"Plans for IMPROVEMENTS TO NC 12 shall be an integral part of the planning for the management of traffic to and from the Currituck Outer Banks."

Action TR-1, Page 13-5.

"The County shall continue to be an active participant in lobbying efforts for planned roadway improvements to US 158, NC 168, NC 334, and NC 12."

Action TR-2, Page 13-5.

"...Identify the pros and cons of the proposed mid-county bridge, improvements to NC 12, enhanced ferry service, or a combination of all three."

Action TR-3, Page 13-5.

"Establish a task force to look at the broad implications of a mid county bridge and its potential impacts, such as growth in the RO2 COBRA zone, beach

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access and other infrastructure needs of increased number of day visitors, changes in county services such as law enforcement, economic impacts on the Mainland and Outer Banks, etc. The findings of such a task force should be made available well in advance of the construction of the bridge."

Policy TR18, Page 9-12.

"The operational success of existing and future TRANSIT SERVICES shall be supported through the encouragement of some compact, transit-sensitive developments. Recommendations for area transportation improvements shall recognize public and private transit as an integral part of the transportation system."

Policy PR4, Page 9-14.

"The County shall seek to identify, plan for and develop a system of OPEN SPACE GREENWAYS, HIKING and BIKING TRAILS as opportunities may allow. The use of (1) natural corridors such as streams and floodplains, and (2) man-made corridors such as utility and transportation rights-of-way and easements, shall be emphasized."

Natural Hazard Areas:

Policy NH3, Page 9-16.

"New PUBLIC FACILITIES AND STRUCTURES, as well as improvements to existing public facilities and structures, shall be located and designed to mitigate natural hazards. When placement in a natural hazard area is unavoidable, compliance with the National Flood Insurance Program and County Flood Damage Prevention Ordinance shall be required."

Action NH1, Page 13-9.

"Form an interagency task force whose purpose is to develop a plan for the RO-2 COBRA zone to address growth issues likely to come about as a result of the proposed mid-county bridge. Bring together personnel from the US Fish and Wildlife Service, the US Army Corps of Engineers, the State Division of Coastal Management, the Nature Conservancy, Currituck County, as well as area property owners, to prepare the plan."

1367 US 17 South, Elizabeth City, NC 27909
Phone: 252-264-3901 \ FAX: 252-264-3723 ; Internet: www.nccoastalmanagement.net

Policy NH6, Page 9-16.

"The County shall make EMERGENCY EVACUATION a priority in the development and approval of transportation plans and improvements included in the NC DOT Transportation Improvement Program."

Policy NH8, Page 9-16.

"Currituck County encourages owners of PROPERTIES ALONG ESTUARINE SHORELINES to employ the least hardened approach to shoreline stabilization (i.e. marsh grass favored over riprap favored over bulkheading, etc.), provided that reasonable access is available to install the technology available."

Water Quality:

Policy WQ3, Page 9-17.

"Currituck County supports policies, plans and actions that help protect the water quality of the county's estuarine system by preventing SOIL EROSION AND SEDIMENTATION, and by controlling the quantity and quality of STORMWATER RUNOFF entering the estuary."

Policy WQ4, Page 9-17.

"RUNOFF AND DRAINAGE from development, forestry and agricultural activities shall be of a quality and quantity as near to natural conditions as possible. Post-development runoff shall not exceed pre-development volumes."

Policy WQ6, Page 9-17.

"Currituck County supports the retention or preservation of VEGETATED BUFFERS along the edge of drainage ways, streams and other components of the estuarine system as an effective, low cost means of protecting water quality."

Policy WQ7, Page 9-18.

"The environmental benefits of properly designed, VEGETATED ROADSIDE DRAINAGE SWALES shall be recognized. Curb and gutter shall be reserved to developments that are urban in character (i.e. less than 10,000 square foot lot sizes) and that are served by adequate stormwater collection, retention and slow release facilities."

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Policy WQ8, Page 9-18.

"Currituck County shall support the development and maintenance of a countywide COMPREHENSIVE DRAINAGE AND FLOOD MANAGEMENT PLAN, including public and private actions in support of plan implementation. Currituck County shall support County, NCDOT and property owner cooperation in preventing and resolving stormwater problems."

Policy WQ10, Page 9-18.

"SEWAGE TREATMENT DISCHARGES shall not be permitted into the waters of Currituck County. WATER TREATMENT DISCHARGES may be allowed if such discharge would not cause significant degradation of water quality (e.g. negatively affecting the fisheries resource)."

Local Countywide Concerns:

Policy CA1, Page 9-19.

"The important economic, tourism, and community image benefits of attractive, functional MAJOR HIGHWAY CORRIDORS through Currituck County shall be recognized. Such highway corridors, beginning with US 158 and NC 168, shall receive priority attention for improved appearance and development standards, including driveway access, landscaping, buffering, signage, lighting, and tree preservation."

Policy CA2, Page 9-19.

"A CANOPY OF STREET TREES shall be encouraged along all major highways in the County. This canopy may be implemented through preservation of existing trees or the planting of trees that will reach substantial size and maturity. The preservation or planting of such trees shall be encouraged in the area immediately adjoining the right of way."

Policy CA6, Page 9-19.

"To foster an improved community appearance, promote public safety, and help prevent service outages, the placement of UTILITY WIRES UNDERGROUND shall be encouraged in all public and private developments."

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Policy HP1 Page 9-20.

"Local efforts to identify, designate and preserve SITES, BUILDINGS AND DISTRICTS OF PARTICULAR HISTORIC SIGNIFICANCE shall be supported."

Policy HP4 Page 9-20.

"The DESTRUCTION OF SIGNIFICANT ARCHITECTURAL, HISTORIC, AND ARCHAEOLOGICAL RESOURCES in the planning area shall be discouraged."

Subarea Concerns:

Policy ML3, Page 9-21.

"The interests of Mainland Area residents in having ACCESS TO THE AREA'S OCEAN AND ESTUARINE WATERS shall be fostered through County actions to increase the number of additional public access sites at a rate commensurate with the population growth of the Currituck County. Included in the actions taken to increase public access shall be a consideration given to transportation needs, including boat docks and ferry services."

Policy ML4, Page 9-21.

"Currituck County recognizes that the appearance and traffic moving functions of the NC 168/US 158 CORRIDOR is of exceptional importance to both the near term quality of life and long-term economic prospects for residents and property owners in the Mainland Area. The Transportation and Community Appearance policy sections of this plan shall be implemented to give priority to this issue."

Basis for Determination: For all bridge study alternatives, the Mid Currituck bridge corridor extends from US 158 on the Currituck mainland, through the Maple Swamp and into Aydlett where it crosses the Currituck Sound. This corridor is consistent with the "Proposed Mid-County Bridge" shown on the Currituck County Future Land Use Map which depicts the corridor crossing the "Limited Service" designation along US 158, the "Conservation" designation of the swamp, and the "Limited Service designation of the Aydlett community at the Currituck Sound. The proposed bridge location is consistent with the LUP.

At issue is the corridor location across Maple Swamp. The proposal highlights a potential inconsistency between the designated bridge corridor shown on the Future Land Use Map (FLUM) and the protections indicated for areas designated as "Conservation" on the FLUM and for Natural Heritage Areas in Policy Statement ES8. The "Conservation" areas designation indicates that development is allowed, if done so in a very limited manner characterized by

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careful planning and cautious attention to the conservation of environmental features; however it also states that infrastructure and services, public or private, should not be included in these areas as a catalyst that could stimulate development. Policy ES8 indicates that areas of the county identified for significant future growth shall avoid Natural Heritage Areas. The Preferred Alternative proposes bridging across the Maple Swamp through the corridor shown on the Future Land Use Map. It is recognized in the FEIS that development will be stimulated in this area on agricultural land near the mainland bridge approach. As stated in the sub area descriptions in the LUP, growth associated with the Mid-County/Mid Currituck bridge is anticipated for "Full Service Areas" located north of the AIWW and in the Grandy sub-area. "Limited Service" designated areas are located along US 158 at the mainland bridge approach. Proposed development within Maple Swamp is limited to the bridge and, given the "Conservation" designation and Significant Natural Heritage area classification, future growth is not necessarily to be stimulated within the swamp but in adjacent areas along US 158.

Under the Preferred Alternative and Option A, a bridge would be used within the swamp corridor. Under Option B, a road built on fill would be placed within the swamp. It is recognized in the FEIS that the road on fill would have a substantially greater impact on wetlands in the Maple Swamp than the bridge alternative. The fill would also result in a significant encroachment into the floodplain and would be considered a significant alternation to a water course. Option B is anticipated to have a more significant impact on natural resources in Maple Swamp than Option A.

Under Option B, traffic traveling between US 158 and Aydlett would use the bridge approach. Within Aydlett, a local connection would be provided between the bridge approach road and the local Aydlett street system. The toll plaza would be placed in Aydlett east of the local road connection. This proposal is in direct conflict with the Policy Emphasis for the "Intersection of Proposed Mid-County Bridge and US Highway 158" subarea designation on Page 11-7, the Policy Emphasis for "Aydlett and Waterlilly/Churches Island" sub area designation on Page 11-8, and Policy TR 13 on Page 9-12. These policies address protection of the Aydlett community character with no access to be provided from the bridge road.

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ATTACHMENT B

The Preferred Alternative and the five (5) detailed study alternatives indicate improvements within Kitty Hawk along US 158.

Policy Review:

The **Town of Kitty Hawk 2004 Land Use Plan** Land Classification Map designates the project area along the south side of US 158 and its intersection with NC 12 as primarily "Commercial, Shopping, and Working Areas", with some "Lower Density Residential Areas". Improvements to US 158 are proposed from the Wright Memorial Bridge to the intersection of US 158 and NC 12.

Action oriented terms are defined on Pages IX-4 to IX-6:

Should – An officially adopted course or method of action intended to be followed to implement goals. Though not as mandatory as "shall", it is still an obligatory course of action unless clear reasons can be identified that an exception is warranted. Elected, appointed, and administrative officials may be involved at all levels from planning to implementation.

Create – Bring about the desired goal, usually with elected and appointed officials and staff involved and actions, which may involve financial support, as appropriate at all levels from planning to implementation.

Continue – Follow past and present procedures and funding, if appropriate, to maintain desired goal, usually with elected and appointed officials and staff involvement and actions at all levels from planning to implementation.

Density – Quantity per unit area.

Encourage – Foster the desired goal through Town policies and actions, including financial support, if appropriate.

Enhance – Improve current goal to a desired state through the use of policies and actions at all levels of planning using external resources and Town financial support as appropriate.

Identify – Catalog and confirm issues, resource(s), and potential or desired actions.

Implement – Act to accomplish land use plan objectives.

Intensity – Magnitude of development per unit area.

Maintain – Keep in good condition the desired state of affairs through the use of Town policies and with elected and appointed officials and staff involvement, funding, and actions as appropriate.

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Prevent – Stop described event through the use of appropriate Town policies and regulations, as well as coordination with other local, State, and Federal planning and regulatory agencies and programs. Actions may involve Town financial support, if appropriate.

Promote – Advance the desired state through the use of Town policies and elected and appointed officials and staff involvement, and take action as appropriate.

Protect – Guard against a deterioration of the desired state through the use of Town policies, regulations, and funding, as appropriate, in concert with other local, State, and Federal programs and regulations. Enlist the cooperative efforts of elected and appointed officials, staff, and external resources including other local, State and Federal agency personnel.

Provide – Take the lead role in supplying the appropriate support to achieve the desired goal. The Town is typically involved in all aspects from planning to implementation to maintenance. Actions may involve Town financial support, if appropriate.

Strengthen – Improve and reinforce the desired goal through the use of Town policies and regulations in concert with other local, regional, statewide, or Federal programs and regulations. Elected and appointed officials and staff, as well as external resources may be involved and take action, including financial support, if appropriate.

Support – Adopt and pursue policies and take action to coordinate activities and supply necessary resources, as appropriate, to achieve desired goal.

Sustain – Uphold the desired state through Town policies and regulations, appropriate financial assistance, and elected and appointed official and staff involvement and actions to achieve the desired goal.

Work – Cooperate and act through the use of staff, Town officials, outside resources and volunteers to create the desired goal.

As of **March 5, 2012**, the following policies from the Town of Kitty Hawk 2004 LUP, certified by the Coastal Resources Commission (CRC) on June 17, 2005, may be applicable to this request:

Issue Area #6 Currituck Sound Shoreline, Kitty Hawk Bay, and Albemarle Sound:

Policy #6a, Page IX-10.

"...The Town supports applicable State and Federal laws and regulations regarding building, land uses, and development in areas of environmental concern."

Policy #6b, Page IX-10.

"Kitty Hawk supports continued management of the Currituck Sound, Kitty Hawk Bay, and Albemarle Sound shorelines to protect and preserve the natural resources of the water and shoreline, relying primarily on the CAMA permit program and the Areas of Environmental Concern (AEC) designated under the CAMA program."

Policy #6d, Page IX-10.

"Kitty Hawk supports the construction of properly permitted estuarine bulkheads. It is the policy of Kitty Hawk to support State rules regarding bulkheading. Alternative uses such as sills and marsh plantings and other more environmentally friendly erosion control measures will be welcomed and preferred to bulkheading when conditions are favorable to such use."

Issue Area #12 Natural Hazard Areas:

Policy #12b, Page IX-15.

"Kitty Hawk supports CAMA regulations as applicable and also the U. S. Army Corps of Engineers in its enforcement of regulations pertaining to '404 Wetlands' with the exception of Corps' allowance of mitigation measures to be undertaken on sites outside of Town when filling is allowed within the Town."

Policy #12e, Page IX-15.

"Kitty Hawk supports State and Federal policies that regulate the location and intensity of development in State designated areas of environmental concern."

Policy #12g, Page IX-15.

"Kitty Hawk will allow development and redevelopment within special flood hazard areas subject to the provisions and requirements of the National Flood Insurance Program, CAMA regulations, and the Town's zoning ordinance."

Policy #12j, Page IX-16.

"Kitty Hawk will take actions locally and in conjunction with NCDOT and adjacent jurisdictions to improve traffic safety and drainage to mitigate the impact of localized flooding and seek alternative methods of hazard avoidance."

Issue Area #13 Parking and Loading/Off-Loading Areas:

Policy #13a, Page IX-16.

"Kitty Hawk will utilize its zoning ordinance to require the provision of well-designed, properly marked and designated, and functional parking and loading/off-loading areas. "

Objective #13e, Page IX-17.

"Seek ways to provide and ensure a safe environment for pedestrians in commercial areas; to minimize pedestrian-vehicular conflicts in commercial areas; and, to improve circulation patterns in commercial areas."

Issue Area #15 Public Safety:

Policy #15a, Page IX-18.

"Kitty Hawk will continue to adopt, enforce, and amend as necessary ordinances and procedures to ensure public safety. The Town supports State and Federal laws and regulations and the enforcement of criminal statutes."

Objective #15i, Page IX-18.

"Seek ways to minimize conflicts between pedestrians and vehicles and improve safety along NC 12 and US 158, particularly at cross streets and parking area entrances and exits."

Issue Area #21 Stormwater Management:

Policy #21a, Page IX-22.

"Kitty Hawk is commited to minimizing and mitigating the effects of storm water drainage and to implementing a comprehensive approach to storm water management. The Town supports the concept of ocean outfalls as a means to remove stormwater from low lying areas during emergency situations. Kitty Hawk supports the concept that all stormwater should be contained on the property where it was generated, except in circumstances where rainfall exceeds that of a five-year storm."

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Objective #21b, Page IX-22.

"Ensure that North Carolina Department of Transportation provides appropriate and timely levels of service with respect to storm water drainage issues within Kitty Hawk."

Issue Area #22 Tourism:

Policy #22a, Page IX-23.

"Kitty Hawk recognizes the vital importance of tourism to the local economy and supports efforts to maintain its status as a desirable place to visit and vacation. The Town also recognizes the need to address the infrastructure and service demands of the seasonal populations that may occur."

Policy #22b, Page IX-23.

"Kitty Hawk supports the concept of combining natural resources and tourism to promote the area's ecological values, known as 'eco-tourism' and supports passive recreation activities such as biking and walking/jogging."

Issue Area #23 Transportation:

Policy #23a, Page IX-23.

"Kitty Hawk supports the construction of a mid-Currituck County bridge and the continued maintenance and protection of NC 12 through Kitty Hawk."

Objective #23b, Page IX-23.

"Support efforts to improve the intersection of US 158 and NC 12 (Duck Road) at the Kitty Hawk and Southern Shores."

Objective #23c, Page IX-24.

"Lobby for maintaining and protection NC 12 in its present configuration through Kitty Hawk."

Objective #23d, Page IX-24.

"Ensure that the North Carolina Department of Transportation provides appropriate and timely levels of service with respect to storm water drainage issues within Kitty Hawk."

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Objective #23i, Page IX-24.

"Maintain and enhance the multi-use trail system."

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ATTACHMENT C

The Preferred Alternative and the five (5) detailed study alternatives indicate improvements within The Town of Southern Shores along US 158. Study alternatives ER2, MCB2/C1 and MCB2/C2 also indicate improvements along NC 12 within the Town.

Policy Review:

The **Town of Southern Shores 1997 Land Use Plan** Land Classification Map designates the project area along the north side of US 158 and its intersection with NC 12 as primarily "Developed", with some "Conservation II" and "Conservation III" areas. Areas along NC 12 from its intersection within US 158 north to the town limits are primarily designated as "Developed" with some "Conservation II" areas. As indicated on Page 21, all AECs and other similar lands, including public trust areas, coastal wetlands, and areas regulated by the US Army Corps of Engineers as "404" wetlands are designated as "Conservation I". "Conservation II" includes all community open space owned by the Civic Association or the Chicahawk property association and "Conservation III" applies to the Duck Woods Country Club. Improvements to US 158 are proposed from the Wright Memorial Bridge to the intersection of US 158 and NC 12, and along NC 12 north to the Town of Duck.

As of **March 5, 2012** the following policies from the Town of Southern Shores 1997 LUP, certified by the Coastal Resources Commission (CRC) on September 25, 1998, may be applicable to this request:

Resource Protection Pages 16 and 17.

1. statement on community attitude toward resource protection – "The Town will rely on ....state regulations to deal with development within AECs (unless local regulations are more stringent) and Corps of Engineers regulations dealing with 404 Wetlands."

2. discussion on AECs – "Please note in constraints to development section earlier in the Plan – not duplicated here. The Town relies on CAMA regulations for AECs."

4. protection of wetlands – The Town relies on CAMA regulations to protect coastal wetland AECs to include primary nursery areas; The Town relies on the U. S. Army Corps of Engineers to regulate 404 Wetlands."

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Economic and Community Development

Pages 18 and 19.

5. commitment/state/federal programs (highways, bridges, CDBG, rural water systems, etc. – "The Town is opposed to the five laning of Hwy 12. The Town will continue to coordinate/cooperate with state, federal, county and other local governments on common issues, problems."

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ATTACHMENT D

The Preferred Alternative does not indicate improvements within the Town of Duck. Study alternatives ER2, MCB2/C1 and MCB2/C2 indicate improvements along NC 12 within the Town.

Policy Review:

The **Town of Duck 2004 Land Use Plan** Land Classification Map designates the project area along NC 12 as primarily "Residential Areas", with "In-fill and Growth Areas", "Conservation, Open Space, and Community Facilities Areas", "Village Commercial Area", "Transitional Area", and "General Commercial Area" also along NC 12. Improvements to NC 12 are proposed north and south of the village area.

Action oriented terms are defined on Pages IX-4 to IX-6:

Should – An officially adopted course or method of action intended to be followed to implement goals. Though not as mandatory as "shall", it is still an obligatory course of action unless clear reasons can be identified that an exception is warranted. Elected, appointed, and administrative officials may be involved at all levels from planning to implementation.

Create – Bring about the desired goal, usually with elected and appointed officials and staff involved and actions, which may involve financial support, as appropriate at all levels from planning to implementation.

Continue – Follow past and present procedures and funding, if appropriate, to maintain desired goal, usually with elected and appointed officials and staff involvement and actions at all levels from planning to implementation.

Encourage – Foster the desired goal through Town policies and actions, including financial support, if appropriate.

Enhance – Improve current goal to a desired state through the use of policies and actions at all levels of planning using external resources and Town financial support as appropriate.

Identify – Catalog and confirm issues, resource(s), and potential or desired actions.
Implement – Act to accomplish land use plan objectives.

Maintain – Keep in good condition the desired state of affairs through the use of Town policies and with elected and appointed officials and staff involvement, funding, and actions as appropriate.

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Prevent – Stop described event through the use of appropriate Town policies and regulations, as well as coordination with other local, State, and Federal planning and regulatory agencies and programs. Actions may involve Town financial support, if appropriate.

Promote – Advance the desired state through the use of Town policies and elected and appointed officials and staff involvement, and take action as appropriate.
Protect – Guard against a deterioration of the desired state through the use of Town policies, regulations, and funding, as appropriate, in concert with other local, State, and Federal programs and regulations. Enlist the cooperative efforts of elected and appointed officials, staff, and external resources including other local, State and Federal agency personnel.

Provide – Take the lead role in supplying the appropriate support to achieve the desired goal. The Town is typically involved in all aspects from planning to implementation to maintenance. Actions may involve Town financial support, if appropriate.

Strengthen – Improve and reinforce the desired goal through the use of Town policies and regulations in concert with other local, regional, statewide, or Federal programs and regulations. Elected and appointed officials and staff, as well as external resources may be involved and take action, including financial support, if appropriate.

Support – Adopt and pursue policies and take action to coordinate activities and supply necessary resources, as appropriate, to achieve desired goal.

Sustain – Uphold the desired state through Town policies and regulations, appropriate financial assistance, and elected and appointed official and staff involvement and actions to achieve the desired goal.

Work – Cooperate and act through the use of staff, Town officials, outside resources and volunteers to create the desired goal.

As of **March 5, 2012**, the following policies from the Town of Duck 2004 LUP, certified by the Coastal Resources Commission (CRC) on April 8, 2005, may be applicable to this request:

Issue Area #6 Currituck Sound Shoreline:

Policy #6a, Page IX-10.

"Duck supports continued management of the Currituck Sound shoreline to protect and preserve the natural resources of the water and the shoreline relying primarily on the CAMA permit program and the Areas of Environmental Concern (AEC) designated under the CAMA program..."

Policy #6b, Page IX-10.

"Duck will: provide clear direction to assist decision making and consistency findings for zoning, divisions of land, and public and private projects;..."

Issue Area #8 Duck Trail:

Policy #8a, Page IX-11.

"Duck supports the continued maintenance of the Duck Trail and efforts to enhance, improve, and expand the facility to provide a safe setting for recreation and as an alternative transportation route."

Objective #8b, Pages IX-11 and IX-12.

"Investigate additions and/or extensions to Duck Trail including alternative routes. An important aspect of Duck Trail additions and/or extensions would be locations along the west side of NC 12 and along the Currituck Sound shore line and shore front."

Objective #8e, Page IX-12.

"Seek ways to improve safety along Duck Trail, particularly at cross streets, cross walks, and parking area entrances and exits."

Objective #8f, Page IX-12.

"Support the addition or incorporation of appropriate landscaping to better define Duck Trail and improve user safety."

Objective #8g, Page IX-12.

"Support the placement of appropriate signage and marking(s) along Duck Trail and the installation of information kiosks to provide maps, safety and contact information, local events calendar(s), and information on the positive health and recreation benefits of biking and walking/jogging."

Objective #8h, Page IX-12.

"Support the creation of way stations/rest areas, the installation of bicycle racks, and incorporate fitness stations as appropriate at various points along Duck Trail."

Objective #8j, Page IX-12.

"Support efforts to enhance and improve the connectivity of Duck Trail facilities."

Issue Area #12 Land Use Compatibility:

Policy #12a, Page IX-15.

"Duck ...supports applicable State and Federal laws and regulations regarding land uses and development in areas of environmental concern."

Issue Area #13 Natural Hazard Areas:

Policy #13d, Page IX-16.

"Support State and Federal policies that regulate the location and intensity of development in State designated areas of environmental concern."

Policy #13i, Page IX-16.

"Take steps locally and in conjunction with NCDOT and adjacent jurisdictions to improve traffic safety and drainage to mitigate the impact of localized flooding and seek alternative methods of hazard avoidance such as construction of the mid-Currituck (County) Bridge."

Issue Area #14 Overhead Utility Lines:

Policy #14a, Page IX-17.

"Duck supports the placement or replacement of utility lines underground."

Issue Area #17 Public Safety:

Policy #17a, Page IX-19.

"Duck will ... support State and Federal laws and regulations to ensure public safety."

Objective #17g, Page IX-20.

"Seek ways to minimize conflicts between pedestrians and vehicles and improve safety along Duck Trail, particularly at cross streets and parking area entrances and exits."

Objective #17h, Page IX-20.

"Encourage the placement of appropriate signage and marking(s) along Duck Trail to improve safety."

Issue Area #23 Stormwater Management:

Policy #23a, Page IX-24.

"Duck supports the creation of plans and programs to minimize and mitigate the effects of storm water drainage and a comprehensive approach to storm water management."

Objective #23b, Page IX-25.

"Encourage the North Carolina Department of Transportation to provide appropriate and timely response to storm water drainage issues with Duck."

Issue Area #24 Tourism:

Policy #24a, Page IX-25.

"Duck supports and recognizes the vital importance of tourism to the local economy and supports efforts to maintain its status as a desirable place to visit and vacation. The Town also recognizes the need to address the infrastructure and service demands of the seasonal populations."

Policy #24b, Page IX-25.

"Duck supports the concept of combining natural resources and tourism to promote the area's ecological values, known as 'eco-tourism' and supports passive recreation activities such as biking and walking/jogging."

Issue Area #26 Transportation:

Policy #26a, Page IX-26.

"Duck supports the construction of a mid-Currituck County bridge and maintenance of the existing two-lane configuration of NC 12 with the Duck Trail along NC 12 through Duck." (Emphasis added.)

Objective #26a, Page IX-26.

"Lobby for construction of a mid-Currituck County bridge."

Objective #26b, Page IX-26.

"Lobby for maintaining NC 12 as a two-lane facility in its present configuration through Duck." (Emphasis added.)

Objective #26c, Page IX-26.

"Encourage the North Carolina Department of Transportation to provide appropriate and timely levels of service within Duck."

Objective #26d, Page IX-26.

"Encourage the provision of save, efficient transportation system given State and local finances, topography, geography, and natural systems and surrounding land uses and development."

Objective #26f, Page IX-26.

"Encourage high levels of maintenance of private and State roads."

Objective #26j, Page IX-27.

"Recognize the importance and significance of Duck Trail as a key transportation facility in and through Duck."

Basis for Determination: Under no bridge alternative E2 and bridge alternative MCB2, the entire NC 12 roadway through the Town of Duck would be widened to a three-lane roadway. Currently, only the Duck village area is a three-lane roadway. This is in direct conflict with Policy #26a, Page IX-26 and implementing Objective #26b, Page IX-26 to maintain the existing two-lane configuration of NC 12.

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NCDENR

North Carolina Department of Environment and Natural Resources
Division of Marine Fisheries

Beverly Eaves Perdue, Governor
Dr. Louis B. Daniel III, Director
Dee Freeman, Secretary

TO: Melba McGee
THROUGH: Anne Deaton
FROM: Kevin Hart KH
DATE: February 23, 2012
SUBJECT: FEIS- Mid-Currituck Bridge (Project Number 12-0182)

The following comments by the North Carolina Division of Marine Fisheries (NCDMF) on the subject project are offered pursuant to G.S. 113-131. The applicant is proposing to construct a 7 to 7.5 mile toll bridge to connect mainland Currituck County (Maple Swamp) with Currituck County Outer Banks. There are 5 alternatives designed for the subject project including a no-build alternative and alternatives that vary the number of lanes approaching the bridge. Eastern Currituck Sound is densely covered with submerged aquatic vegetation (SAV). Depending on the alternative chosen the bridge will shade or fill between 0.1 acres (no bridge alternative) to 13.3 acres (MCB4C2and MCB2C2) of SAV habitat and between 7.9 (preferred alternative) and 42.5 (MCB2/C2/B alternative) acres of wetlands.

The subject project has 2 proposed design alternatives that include construction of the Mid-Currituck Bridge (MCB2 and MCB4), and a third alternative that does not include the bridge (ER2). MCB2 will add a third "evacuation only" lane on US 158 between NC 168 and the Mid-Currituck Bridge or use an existing center turn lane as a third outbound evacuation lane. US 158 would be widened to a 6-lane street between the Wright Memorial Bridge and Cypress Knee Trial. Between Cypress Knee Trail and the Home Depot driveway, US 158 would be expanded to 8-lanes. NC 12 would be widened to 3-lanes between US 158 and a point just north of Hunt Club Drive. MCB4 would add an "evacuation only" third outbound lane between NC 168 and the bridge, a third outbound "evacuation only" lane would be added between the Wright Memorial Bridge and NC12, and NC 12 would be widened to 4-lanes from Seashell Lane to NC 12. ER2 would add a third "evacuation only" lane on US 158 between NC 168 and the Wright Memorial Bridge, US 158 would be widened to a 6-lane street between the Wright Memorial Bridge and Cypress Knee Trail, and US 158 would be widened to 8 lanes between Cypress Knee Trail and the Home Depot driveway. NC 12 would be widened to 3-lanes between US 158 and a point just north of Hunt Club Drive and to 4 lanes from just north of Hunt Club Drive to Albacore Street. All alternative designs have an interchange designed at the current intersection of US 158, NC 12, and the Aycock Brown Welcome Center entrance. The NCTA's recommended alternative is MCB4. Of the alternatives listed the least environmentally damaging alternative is ER2 as it will not shade important essential fish habitat. Because avoidance of habitat impacts to the greatest extent possible is preferred, DMF prefers ER2. ER2 will avoid all adverse impacts to SAV a critical habitat for all resident and migrating fishes and invertebrates.

With all of the proposed Mid-Currituck bridge construction designs there are 2 alternatives for the approach to the Mid-Currituck Bridge. The first alternative would be to construct a bridge to connect HWY 158 and the Mid-Currituck Bridge while leaving Aydlett Road. The second alternative would be to remove the existing Aydlett Road and fill and construct a new road with crossings and culverts. Although this alternative would keep the fill status quo, the fill essentially creates a dam and impairs water movement in Maple Swamp dividing the swamp in half. When constructing roads in wetlands, bridge construction is the NCDMF's preferred alternative, to minimize impacts to wetlands, hydrologic flow, and fish access. The NCTA preferred alternative is constructing a bridge through Maple Swamp while leaving Aydlett Road.

There are 2 alternatives (C1 and C2) proposed for where the Mid Currituck Bridge would make landfall on the Outer Banks. C1 will make landfall south of Corolla and C2 will make landfall further South at Albacore Street. The C1 alternative presents less shading of SAV compared to the C2 alternative by avoidance and minimization of important SAV habitat. The shading of SAV will cause significant adverse impacts in the subject project area. SAV

is important habitat that is utilized by fishes and invertebrates for foraging and protection from predators (Street et al. 2005). Although the subject project's Essential Fish Habitat Technical Report (pg 34) states that the pilings will create a habitat shift from SAV to hard bottom "reef" habitat, the current benthic and fish community are those that are suited for SAV. The NCDMF recommends C1 to minimize SAV and marsh impacts and the NCTA's preferred alternative is C1. The NCTA has proposed the use of turbidity curtains around the pilings in SAV habitat to minimize the impacts. In addition to the turbidity curtains the NCTA has stated they will follow a February 15 through September 30 in water work moratorium to minimize the impacts to SAV and the resident and migratory fishes that use this critical habitat.

Although the construction methods for the Mid Currituck Bridge have not been selected and will be discussed once the alternative has been selected several construction methods are possible including a temporary construction trestle (bridge), overhead gantry crane, and a launching truss. At this time the NCTA has agreed to no dredging in any part of Currituck Sound, no in water work in SAV habitat from February 15 to September 30, use of open temporary construction trestles to minimize shading, and the use of turbidity curtains during pile installation and removal in the SAV and SAV habitat.

The NCTA is proposing to use weekly (or other regulatory agency approved) deck cleanings during the summer in place of meeting the coastal stormwater rules. In addition to the deck cleanings the NCTA has proposed capturing the first 1.5" of rainfall over the SAV at the Eastern side of the bridge. This treatment will be treated in wet detention basins. In Maple Swamp the first 1.5" of stormwater will be captured for 500' on both ends of the Maple Swamp bridge and treated in basins. The remaining length of the bridge will be cleaned by deck cleaning and discharged through scuppers 7 to 18' above Maple Swamp. If scouring occurs the NCTA would correct the problem using a pipe outlet. The NCTA states that a water quality monitoring program will be conducted to ensure that the stormwater treatment measures are working as proposed. This monitoring program design has not been supplied at this time. This information should be reviewed by the regulatory and resource agencies.

The NCTA is proposing mitigation for the SAV impacts from the preferred alternative. The SAV mitigation options proposed by the NCTA include 2:1 in-kind SAV mitigation (if feasible), efforts to improve conditions for SAV propagation and survival within Currituck Sound, support for SAV research, or participation in the US Army Corps of Engineers' Currituck Sound Ecosystem Restoration project. After the applicant has shown all efforts to avoid and minimize impacts to SAV mitigation options can be further explored. The NCDMF's preferred method of SAV mitigation is in-kind SAV mitigation to ensure SAV functionality is not lost.

The NCTA is proposing mitigation for the wetland impacts from the preferred alternative. After wetland impacts have been avoided and minimized the NCDMF's preferred method of wetland mitigation is in-kind at a rate following the USEPA/USACE guidelines of restoration 2:1; enhancement at 2:1; preservation at 5:1 and creation at 3:1. The NCTA has proposed the use of the Balance Farm Mitigation site (5 miles southeast of Moyock).

The NCDMF appreciates the opportunity to provide input on this project. If you have any comments or questions, please call me at (252) 948-3878 or email me at Kevin.Hart@ncdenr.gov .

Street, M.W., A.S. Deaton, W.S. Chappell, and P.D. Mooreside. 2005. North Carolina Coastal Habitat Protection Plan. North Carolina Department of Environment and Natural Resources, Division of Marine Fisheries, Morehead City, NC. 656 pp.

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality
Charles Wakild, P.E
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

February 28, 2012

MEMORANDUM

To: Melba McGee, Environmental Coordinator, Office of Legislative and Intergovernmental Affairs

From: David Wainwright, Division of Water Quality, Central Office

Subject: Comments on the Draft Environmental Impact Statement related to the proposed Mid-Currituck Bridge, Currituck County, Federal Aid Project No. BRSTP-000S(494),TIP R-2576.

State Clearinghouse Project No. 12-0182

This office has reviewed the referenced document dated January 2012. The NC Division of Water Quality (NCDWQ) is responsible for the issuance of the Section 401 Water Quality Certification for activities that impact Waters of the U.S., including wetlands. It is our understanding that the project as presented will result in impacts to jurisdictional wetlands, streams, and other surface waters. NCDWQ offers the following comments based on review of the aforementioned document:

Project Specific Comments:

1. This project is being planned as part of the Section 6002 Process. As a participating team member, NCDWQ will continue to work with the team.

2. With respect to pollutants in bridge stormwater, it is stated at the bottom of page 2-32 that "…however, greater than 90 percent (possibly as high as 97.5 percent) would have already been removed (i.e. pre-treated) through frequent deck cleaning via sweeping and vacuuming." Based on discussions with the NCTA regarding this activity, it would seem that the bridge would have to be swept/vacuumed immediately prior to nearly every precipitation event to achieve the 90 percent reduction in pollutant loading from stormwater. Such cleaning activity seems aggressive and unrealistic.

General Comments:

3. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCDOT is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[h]), mitigation will be required for impacts to wetlands greater than 1 acre or greater than 150 linear feet to any single perennial or intermittent stream. In the event that mitigation is

Transportation and Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6492
Internet: www.ncwaterquality.org

required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as wetland mitigation.

4. The NCTA is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional wetlands, and streams, need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.

NCDWQ appreciates the opportunity to provide comments on your project. Should you have any questions or require any additional information, please contact David Wainwright at (919) 807-6405 or David.Wainwright@ncdenr.gov.

cc: Bill Biddlecome, US Army Corps of Engineers, Washington Field Office (electronic copy only)
George Hoops, Federal Highway Administration
Chris Militscher, Environmental Protection Agency (electronic copy only)
Travis Wilson, NC Wildlife Resources Commission (electronic copy only)
Cathy Brittingham, Division of Coastal Management
Garcy Ward, NCDWQ Washington Regional Office
File Copy

State of North Carolina
Department of Environment and Natural Resources

Reviewing Office: _____

INTERGOVERNMENTAL REVIEW - PROJECT COMMENTS

Project Number: 12-0182 Due Date: _____

After review of this project it has been determined that the ENR permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law. Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form. All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to construct & operate wastewater treatment facilities, sewer system extensions & sewer systems not discharging into state surface waters.	Application 90 days before begin construction or award of construction contracts. On-site inspection. Post-application technical conference usual.	30 days (90 days)
☐	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES. Reply time, 30 days after receipt of plans or issue of NPDES permit-whicheyer is later.	90-120 days (N/A)
☐	Water Use Permit	Pre-application technical conference usually necessary	30 days (N/A)
☐	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
☐	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
☐	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.0100 thru 2Q.0300)	Application must be submitted and permit received prior to construction and operation of the source. If a permit is required in an area without local zoning, then there are additional requirements and timelines (2Q.0113).	90 days
☐	Permit to construct & operate Transportation Facility as per 15 A NCAC (2D.0800, 2Q.0601)	Application must be submitted at least 90 days prior to construction or modification of the source.	90 days
☐	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900	N/A	60 days (90 days)
☐	Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 2D.1110 (a) (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-707-5950.		
☐	Complex Source Permit required under 15 A NCAC 2D.0800		
☐	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Section) At least 30 days before beginning activity. A fee of $65 for the first acre or any part of an acre. An express review option is available with additional fees.		20 days (30 days)
☒	Sedimentation and erosion control must be addressed in accordance with NCDOT's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable stormwater conveyances and outlets.		(30 days)
☐	Mining Permit	On-site inspection usual. Surety bond filed with ENR Bond amount varies with type mine and number of acres of affected land. Any arc mined greater than one acre must be permitted. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
☐	North Carolina Burning permit	On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days	1 day (N/A)
☐	Special Ground Clearance Burning Permit - 22 counties in coastal N.C. with organic soils	On-site inspection by N.C. Division Forest Resources required "if more than five acres of ground clearing activities are involved. Inspections should be requested at least ten days before actual burn is planned."	1 day (N/A)
☐	Oil Refining Facilities	N/A	90-120 days (N/A)
☐	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans, inspect construction. certify construction is according to ENR approved plans. May also require permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of $200.00 must accompany the application. An additional processing fee based on a percentage or the total project cost will be required upon completion.	30 days (60 days)

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
[ ]	Permit to drill exploratory oil or gas well	File surety bond of $5,000 with ENR running to State of NC conditional that any well opened by drill operator shall, upon abandonment, be plugged according to ENR rules and regulations.	10 days N/A
[ ]	Geophysical Exploration Permit	Application filed with ENR at least 10 days prior to issue of permit. Application by letter. No standard application form.	10 days N/A
[ ]	State Lakes Construction Permit	Application fees based on structure size are charged. Must include descriptions & drawings of structure & proof of ownership of riparian property.	15-20 days N/A
[X]	401 Water Quality Certification	N/A	60 days (130 days)
[ ]	CAMA Permit for MAJOR development	$250.00 fee must accompany application	55 days (150 days)
[ ]	CAMA Permit for MINOR development	$50.00 fee must accompany application	22 days (25 days)
[ ]	Several geodetic monuments are located in or near the project area. If any monument needs to be moved or destroyed, please notify: N.C. Geodetic Survey, Box 27687 Raleigh, NC 27611		
[ ]	Abandonment of any wells, if required must be in accordance with Title 15A, Subchapter 2C.0100.		
[ ]	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
[ ]	Compliance with 15A NCAC 2H 1000 (Coastal Stormwater Rules) is required.		45 days (N/A)
[ ]	Tar Pamlico or Neuse Riparian Buffer Rules required.		

* Other comments (attach additional pages as necessary, being certain to cite comment authority)

C-38

REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

☐ **Asheville Regional Office**
2090 US Highway 70
Swannanoa, NC 28778
(828) 296-4500

☐ **Fayetteville Regional Office**
225 North Green Street, Suite 714
Fayetteville, NC 28301-5043
(910) 433-3300

☐ **Mooresville Regional Office**
610 East Center Avenues, Suite 301
Mooresville, NC 28115
(704) 663-1699

☐ **Raleigh Regional Office**
3800 Barrett Drive, Suite 101
Raleigh, NC 27609
(919) 791-4200

☒ **Washington Regional Office**
943 Washington Square Mall
Washington, NC 27889
(252) 946-6481

☐ **Wilmington Regional Office**
127 Cardinal Drive Extension
Wilmington, NC 28405
(910) 796-7215

☐ **Winston-Salem Regional Office**
585 Waughtown Street
Winston-Salem, NC 27107
(336) 771-5000

North Carolina Wildlife Resources Commission

Gordon Myers, Executive Director

MEMORANDUM

TO: Melba McGee
Office of Legislative and Intergovernmental Affairs, DENR

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program

DATE: February 27, 2012

SUBJECT: North Carolina Department of Transportation (NCDOT) Final Environmental Impact Statement (FEIS) for the proposed Mid-Currituck Bridge in Currituck County, North Carolina. TIP No. R-2576 SCH Project No. 12-0182

Staff biologists with the N. C. Wildlife Resources Commission have reviewed the subject FEIS and are familiar with habitat values in the project area. The purpose of this review was to assess project impacts to fish and wildlife resources. Our comments are provided in accordance with certain provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

NCDOT is proposing transportation improvements in the Currituck Sound area, including the construction of a new bridge crossing of the Currituck Sound. WRC is a participating agency in the coordination and planning of this project and comments provided in conjunction with this process have been documented. However the impacts associated with the preferred alternative are substantial and continued efforts to avoid and minimize impacts are necessary. The following comments identify specific items of concern:

- Maple Swamp Crossing: The NCTA preferred alternative commits to bridging the majority of Maple Swamp. To further assure this structure will provide effective wildlife passage a minimum vertical clearance of 10 feet should be provided.

- Mitigation for impacts to Submerged Aquatic Vegetation (SAV): Generally in-kind mitigation for SAV impacts has been the preferred method to replace lost SAV functions. However, coordination of appropriate site selection, methodology, and success criteria

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 707-0220 • **Fax:** (919) 707-0028

are essential and often challenging; therefore as soon as it is feasible we recommend NCTA organize a meeting with appropriate agency representatives to begin discussions on this issue.

- WRC supports the implementation of avoidance and minimization measures included in the document, specifically:
  - No dredging in any part of Currituck Sound
  - No jetting of piles
  - Use of turbidity curtains for pile installation in SAV habitat
  - An in water work moratorium of February 15 to September 30 in SAV habitat as defined by NCDMF
  - Use of an open deck work trestle over SAV habitat

Thank you for the opportunity to comment. If we can be of further assistance please call me at (919) 528-9886

cc: Gary Jordan, USFWS
David Wainwright, DWQ
Bill Biddlecome, USACE
Chris Militscher, USEPA
Cathy Brittingham, DCM
Ron Sechler, NMFS
Kevin Hart, NCDMF

TOWN OF DUCK, NORTH CAROLINA

March 7, 2012

Ms. Jennifer Harris, P.E.
Director of Planning and Environmental Studies
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, North Carolina 27699-1578

Dear Ms. Harris:

I am writing on behalf of the Council, residents, property owners, businesses of, and the visitors to, the Town of Duck to support the Final Environmental Impact Statement of the Mid-Currituck Bridge Study and its determination of the preferred alternative for the project as MCB4/C1 with Option A along with its associated refinements.

The Council has long supported the MCB4/C1 alternative and strongly believes that it offers the best opportunity to alleviate summer traffic on NC12 while also providing a crucial evacuation point for the Currituck Outer Banks in the event of a hurricane or other natural disasters. The Council also believes that it offers the most balanced approach to solving the traffic issue in terms of cost and the environment.

Speaking for the Council and the other stakeholders in Duck, I want to thank the Turnpike Authority for its tenacious work on this project. We look forward to the completion of the Mid-Currituck Bridge.

Sincerely,

Don Kingston
Mayor

cc: Town of Southern Shores
Currituck County
BBPR
Senator Stan White
Representative Tim Spear

P. O. Box 8369 • Duck, North Carolina 27949
252-255-1234 • 252-255-1236 (fax) • www.townofduck.com

Town of Southern Shores
5375 N. Virginia Dare Trail, Southern Shores, NC 27949
Phone 252-261-2394 / Fax 252-255-0876
www.southernshores-nc.gov

March 6, 2012

Ms. Jennifer Harris, P.E.
Director of Planning and Environmental Studies
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, North Carolina 27699-1578

Dear Ms. Harris:

The Southern Shores Town Council enthusiastically supports the Final EIS determination of Corridor MCB4/C1 (the northern corridor) with Option A (a second bridge across Maple Swamp) as the preferred alternative for construction of the Mid-Currituck Bridge. This preferred alternative takes into account cost and design considerations, travel benefits, community and natural resource impacts, comments and suggestions from environmental regulatory and resource agencies, and public input. The Mid-Currituck Bridge will improve mobility and road capacity within the project study area by providing an alternative route to and from the Currituck County Outer Banks. This increased mobility and road capacity will positively affect safety issues for travelers to and from the northern Outer Banks, especially in times of natural disasters.

The Southern Shores Town Council commends the North Carolina Turnpike Authority for the thorough evaluation of all possible alternatives for access from mainland Currituck County to the northern Currituck Outer Banks.

Respectfully Yours,

Hal Denny, Mayor

John Wander, Town of Duck
Bill Cogger, Town of Southern Shores
Gene Gregory, Currituck County
Keith Hall, Currituck County
Robert Palombo, Town of Southern Shores
Alan Starr, Town of Duck
Geri Sullivan, Town of Southern Shores
Sam Taylor, Town of Duck
Southern Shores Town Council

February 27, 2012

Ms. Jennifer Harris, P.E.
Director of Planning and Environmental Studies
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, North Carolina 27699-1578

Dear Ms. Harris:

The Board of Directors of Build the Bridge, Preserve Our Roads, Inc. enthusiastically supports the Final EIS determination of Corridor MCB4/C1 (the northern corridor) with Option A (a second bridge across Maple S :p)
as the preferred alternative for construction of the Mid-Currituck Bridge. This preferred alternative takes into account cost and design considerations, travel benefits, community and natural resource impacts, comments and suggestions from environmental regulatory and resource agencies, and public input. The Mid-Currituck Bridge will improve mobility and road capacity within the project study area by providing an alternative route to and from the Currituck County Outer Banks. This increased mobility and road capacity will positively affect safety issues for travelers to and from the northern Outer Banks, especially in times of natural disasters.

The Board of Directors of Build the Bridge, Preserve Our Roads, Inc. commends the North Carolina Turnpike Authority for the thorough evaluation of all possible alternatives for access from mainland Currituck County to the northern Currituck Outer Banks.

Respectfully Yours,

Board of Directors, by RSP
BBPR (Build the Bridge, Preserve Our Roads, INC)
P.O. Box 2918
Kitty Hawk, NC 27949

John Wander, Town of Duck
Bill Cogger, Town of Southern Shores
Gene Gregory, Currituck County
Keith Hall, Currituck County
Robert Palombo, Town of Southern Shores
Alan Starr, Town of Duck
Geri Sullivan, Town of Southern Shores
Sam Taylor, Town of Duck

March 12, 2012

Ms. Jennifer Harris PE
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, NC 27699-1587
midcurrituck@ncdot.gov

Mr. John F. Sullivan PE
Federal Highway Administration
310 New Bern Avenue Suite 410
Raleigh, NC 27601-1414
john.sullivan@fhwa.dot.gov

No Mid-Currituck Bridge-Preserve the Wonder
www.NoMCB.com
Commenting on the Mid-Currituck Bridge FEIS

Dare County Commissioner, Warren Judge, On the Bonner Bridge Replacement and the Mid-Currituck Bridge

"To charge our residents as much as $50 per day to travel to and from their jobs or our visitors to visit the lighthouse in Buxton is offensive," commented Dare County Commission Chairman Warren Judge. "The mid-county bridge in Currituck is a matter of providing an optional route for the convenience of visitors to Corolla; whereas, we are concerned with maintaining the only safe transportation corridor for our residents' safety, health and welfare."

Proposed Bridge Project Timeline

TIMELINE AS REPORTED IN THE VIRGINIAN PILOT

* **1989** Bridge first placed on a state highway plan after years of discussion.
* **1996** State purchases land in Corolla for bridge landing. Bridge cost estimates range from $47 million to $71 million.
* **1998** Bridge plans and possible landing sites presented at public hearings. Aydlett residents oppose the project. Cost estimate is now $87 million.
* **2001** Bridge project stalls after state officials announce study that could take years. Officials say bridge's environmental impact may not be worth its effect on traffic flow. Cost estimate is now $97 million.
* **2002** North Carolina Turnpike Authority created to expedite construction of several state road projects.
* **2004** State unveils traffic study that says widening U.S. 158 and N.C. 12 would relieve traffic flow better than a mid-county bridge. Currituck and Duck officials and residents disagree with conclusions. Bridge cost estimate is $103 million.
* **2005** General Assembly passes bill authorizing Turnpike Authority to plan and build a toll bridge over Currituck Sound using private financing and construction. Cost estimate is $118 million.
* **2006** A study by a transportation institute at North Carolina State University estimates the cost at $156 million.
* **2007** Turnpike Authority releases study that shows tolls could be $8 to $12. Bridge costs estimates are adjusted to better reflect inflation and design to $296 to $795 million.
* **2009** ACS Infrastructure Development, a private company, to lead construction and operation of toll bridge. Estimate firmed up to $659 million.
* **Oct. 12, 2009** State puts forth option to let the bridge land in Aydlett rather than go overhead all the way to U.S. 158. Revision could save $60 million. Aydlett residents and Currituck commissioners oppose that option.

Lack of transparency from NCTA and Currituck County Commissioners.

I would like to point out that our GROUP, NO MID-CURRITUCK BRIDGE a.k.a. www.NoMCB.com was NOT included with the group comments in the Stake Holder Involvement Vol. 2 Public Comments section. Jennifer Harris, Steve DeWitt of the NCTA and John Page of Parsons Brinkerhoff, are, and have been, well aware of our group. During the DEIS hearings held in Corolla as well as The Cooperative Extension Building in Barco I introduced by self as the head of our group. This omission of being included in the groups section is a deliberate attempt to conceal groups in OPPOSITION to the proposed Mid-Currituck Bridge. The 2 groups listed happen to be advocates for the bridge. My e-mail correspondence regarding this omission to John Page is below. Mr. Page states that I indeed did, on 3 occasions, introduce myself as representing our group. Mr. Page tries to brush these oversights off as just that, oversights. I would be willing to accept this explanation if the oversight occurred once but not 3 times. Mr. Page goes on to say that the comments from the 2 groups included in the "groups section" are not viewed with any more importance then individual comments. If that is the case, then why have a groups section at all. Whether these are considered with the same weight as individual comments, does not negate the perceived impression that the comments in the groups section are indeed separate and carry their own weight as the comments represent the views of many. Therefore I do not accept Mr. Pages "oversight" argument for not including ALL groups, including ours, that strongly oppose the building of a Mid-Currituck Bridge in that section of the F.E.I.S.

RE: Stakeholder Involvement Vol 2 Mid-Currituck Bridge Public Comments Page 1 of 1

From: Page, John <PageJ@pbworld.com>
To: jenhsymonds <jenhsymonds@aol.com>
Subject: RE: Stakeholder Involvement Vol 2 Mid-Currituck Bridge Public Comments
Date: Wed, Feb 8, 2012 3:54 pm

Dear Ms. Symonds:

Your testimony at the Barco public hearing is included in the Barco transcript beginning on page E-118 of the Stakeholder Involvement Report. Public hearing comments are listed by the person that testified and not by the group they might represent. Your testimony at the May 19 Corolla Public Hearing begins on page E-74.

You also provided two much longer written comment submittals that did not essentially duplicate your hearing testimony. They begin on page D-379 and page D-389 of the Stakeholder Involvement Report. They are in Appendix D under your name as opposed to the group www.NoMCB.com. When my staff was organizing the letters in Appendix D, they assumed your comments represented those of an individual, although your submittal starting on page D-389 does indicate that you were representing www.NoMCB.com. The two groups placed at the back of Appendix A had a signature line indicating the comments were on behalf of a group as opposed to an individual. I apologize for the oversight and not including your submittals in the groups section.

Nevertheless, the purpose of Appendices D and E is solely to provide everyone who is interested an exact copy of the comments received. There was no intent or expectation that people would consider the comments from the two groups in the group section to be more important than those of any single individual in the section called "Comments from Individuals." We did not consider group comments as more important than individual comments when addressing concerns expressed. We tried to give all comments serious attention.

John Page
Parsons Brinckerhoff
Environmental Studies Project Manager

From: jenhsymonds@aol.com [mailto:jenhsymonds@aol.com]
Sent: Wednesday, February 08, 2012 11:31 AM
To: Jennifer.Harris@ncturnpike.org; Steve.Dewitt@ncturnpike.org; midcurrituck@ncdot.gov
Subject: Stakeholder Involvement Vol 2 Mid-Currituck Bridge Public Comments

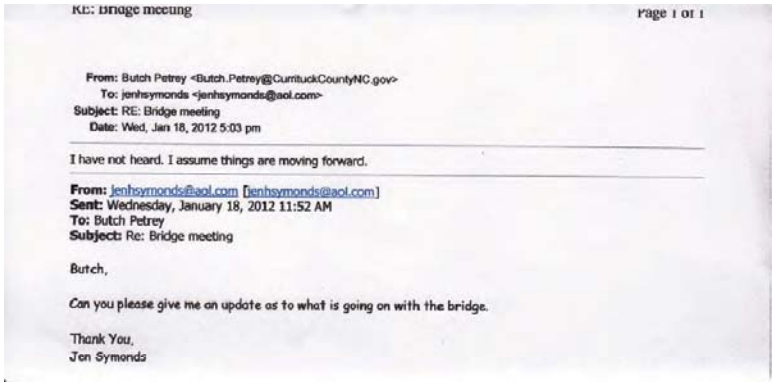
To Whom It May Concern,

I would like to know why the Stakeholder Involvement Vol 2 Public Comments for the Mid-Currituck Bridge project FEIS, did NOT include our GROUP www.NoMCB.com a.k.a. NO MID-CURRITUCK BRIDGE within the Groups comment section of the above mentioned document. You are all aware of our group, but only the groups that support the bridge were included in that section. I would also like to ask why our comments at the DEIS Hearing in Barco were not included in this document. I handed those comments to the stenographer after reading them into the record. See attached comments.

I look forward to hearing from you.

Sincerely,
Jennifer Symonds
Representing www.NoMCB.com a.k.a. NO MID-CURRITUCK BRIDGE

A mere hours before the F.E.I.S. was released, I asked our District 3 County Commissioner whose District includes the area of the proposed bridge, what was going on with the bridge. As you can see his response was he hadn't heard anything. Again, this was hours before the release of the F.E.I.S.



RE: Bridge meeting Page 1 of 1

From: Butch Petrey <Butch.Petrey@CurrituckCountyNC.gov>
To: jenhsymonds <jenhsymonds@aol.com>
Subject: RE: Bridge meeting
Date: Wed, Jan 18, 2012 5:03 pm

I have not heard. I assume things are moving forward.

From: jenhsymonds@aol.com [jenhsymonds@aol.com]
Sent: Wednesday, January 18, 2012 11:52 AM
To: Butch Petrey
Subject: Re: Bridge meeting

Butch,

Can you please give me an update as to what is going on with the bridge.

Thank You,
Jen Symonds

The following e-mails regard the posting of Turnpike Board Meeting Minutes and presentations in a timely fashion. As you can see I had to request that this information be posted on the T.A.'s web site numerous times. It is the responsibility of the T.A. to have meeting minutes and associated documents available to ensure a transparent process. Please note that the included e-mails are not all of the requests for information that I have asked for but a sampling.

To: jenhsymonds@aol.com <jenhsymonds@aol.com>
Cc: Johnson, Kristen M <kristen.johnson@ncturnpike.org>
Sent: Mon, Mar 8, 2010 9:43 am
Subject: NC Turnpike Board minutes

Ms. Symonds,
Thank you for your email concerning the Board minutes.

I apologize that we are not current with our postings. The November 2009 and the January 2010 minutes with presentations will be posted by the end of business today. There was no meeting held in December 2009, and there is no meeting scheduled for March 2010. The February minutes will be posted after they are approved at our April 1, 2010 Board meeting.

Beginning in April, our Board will meet every other month, and minutes will be posted after they are approved.

We appreciate your interest in our activities. Please let us know if you have other questions.

NORTH CAROLINA Turnpike Authority

Beth Wise
Special Assistant to Executive Director

Main: 919.571.3000
Direct: 919.571.3002
Fax: 919.571.3015
beth.wise@ncturnpike.org
www.ncturnpike.org

Beth Wise

From: jenhsymonds@aol.com [mailto:jenhsymonds@aol.com]
Sent: Thursday, September 22, 2011 1:47 PM
To: Wise, Beth
Subject: NCTA Board meeting minutes for May & July 2011

Ms. Wise,

May I have a copy of the NCTA Board meeting minutes for the May and July 2011 meetings. These will also need to be put on your website as well.

Thank you for your attention to this matter.

Sincerely,
Jennifer Symonds

From: Wise, Beth <ahwise@ncdot.gov>
To: jenhsymonds <jenhsymonds@aol.com>
Cc: Johnson, Kristen M <kmjohnson4@ncdot.gov>
Subject: RE: Meeting Minutes for Turnpike Authortiy Board
Date: Fri, Mar 4, 2011 11:34 am
Attachments: Minutes_1-6-11.pdf (16K), Garden_schedule.pdf (33K), Mid-Currituck_Schedule.pdf (31K), 1_Monroe_-_Financing_Plans_12-14-2010.pdf (138K)

Ms. Symonds,
Attached are the minutes and presentations for the January NCTA Board meeting. The minutes for the March meeting held yesterday have not been prepared.

Beth Wise

From: jenhsymonds@aol.com [mailto:jenhsymonds@aol.com]
Sent: Friday, March 04, 2011 11:07 AM
To: Wise, Beth
Subject: Meeting Minutes for Turnpike Authortiy Board

Ms Wise,

I would like copies of the meeting minutes for January 2011 and March 2011 of the NCTA Board meetings.

Thank You.

Respectfully,
Jennifer Symonds

Special Assistant to the Executive Director
NC Turnpike Authority
919-707-2702

From: jenhsymonds@aol.com [mailto:jenhsymonds@aol.com]
Sent: Friday, June 24, 2011 5:36 PM
To: Wise, Beth
Subject: NCTA Board Meeting Minutes

Ms. Wise,

Can you please send me the NCTA Board meeting minutes since January 2011. There is no new information on the web site after the January 2011 minutes, these need to be posted a.s.a.p.

Thank you for your time.

Sincerely,
Jennifer Symonds

From: Roberts, Tracy <teroberts1@ncdot.gov>
To: jenhsymonds <jenhsymonds@aol.com>
Cc: Harris, Jennifer <jhharris1@ncdot.gov>; Wise, Beth <ehwise@ncdot.gov>
Subject: RE: 2011 Concurrence Meeting Agendas & Minutes
Date: Tue, Jan 31, 2012 11:52 am
Attachments: TA_Board_Meeting_Minutes_-_DRAFT_-_01.05.2012.pdf (606K)

Ms. Symonds,

The minutes of the January 2012 Turnpike Authority board meeting are attached. Please note that these are in *draft* form and won't be finalized until the board's next meeting on March 8.

It is my understanding that Christie Murphy with NCDOT has provided you with the 2011 Concurrence Meeting agendas.

Regards,
Tracy

****

Tracy Roberts, AICP
NC Turnpike Authority General Engineering Consultant
NCDOT Transportation Building
1 South Wilmington Street
Raleigh, NC 27601
(919) 707-2728

From: jenhsymonds@aol.com [mailto:jenhsymonds@aol.com]
Sent: Friday, January 27, 2012 12:44 PM
To: Murphy, Christie
Subject: 2011 Concurrence Meeting Agendas & Minutes

Hello,

I have been trying to view the 2011 Concurrence Meeting agendas and am receiving a page not found error.

I also would like a copy of the January 2012 NCTA Board meeting minutes, I understand that they are draft minutes.

Thank You,
Jennifer Symonds

Secrecy of Turnpike Authority meeting not in public interest

Wednesday, September 28, 2011 The Daily Advance

We've long supported construction of the mid-Currituck bridge as a fix for the transportation hurdles between the mainland and Outer Banks. But what we don't support is holding secret "idea gathering" meetings about the project among officials without the public being invited.

Recently, the N.C. Turnpike Authority hosted such a meeting in Currituck, inviting commissioners from three counties, two state legislators and several other business and county leaders.

The meeting, which sought ideas on how the bridge should be designed, was not advertised to the public.

That didn't sit well with some residents, who have been following the bridge process for several years.

"I imagine all the pro-bridge folks were there giving their input on what Aydlett, Coinjock and Corolla will be forced to look at every single day if — and that's a big if — this bridge gets built," resident Jen Symonds told us. "What sense does it make to have others, not affected by the visual impacts, give input on aesthetics of the bridge?"

Symonds rightly questioned why the Turnpike Authority would want to be secretive — intentionally or not — about the meeting. Certainly, adequate public notice would have been easy to do.

But that didn't happen. Because the group is not a decision-making body, and a majority of commissioners from each county was not present, a quorum did not exist that would have required public notification, according to Amanda Martin, attorney for the N.C. Press Association.

Currituck Commissioner Paul O'Neal said he would have welcomed the public to the meeting, but since the state — not the county — set up the session, he was not aware of who would be attending until he got there.

State Rep. Bill Owens, D-Pasquotank, said he didn't know the meeting had not been advertised.

Greer Beaty, communications director for the N.C. Department of Transportation, the agency that oversees the Turnpike Authority, said nothing was decided at the meeting.

"It really was not a meeting intended to come up with long-term decisions that would be set in stone," she told us. "It was just a starting point to get some ideas."

The $600 million bridge has been in the planning and discussion stages for more than 10 years. Legislation to build the bridge passed in the General Assembly in 1996.

The bridge will cross the Currituck Sound by connecting Aydlett on mainland Currituck with Corolla on the Outer Banks. It will give northern vacationers a quicker route to the beaches, and provide an extra hurricane evacuation route.

Despite the hefty price tag, the project is still alive, thanks to the controversial votes of Reps. Owens, Tim Spear, D-Washington, and three other House Democrats who gave Republicans enough votes to override Democratic Gov. Bev Perdue's budget veto in June in exchange for support of keeping the bridge and other projects in the budget.

The project still needs final approval from DOT. The Turnpike Authority is expected to release its environmental impact statement this month and make its final decision this fall. If those steps are successful, construction would start by next fall, and the span would be scheduled to open by late 2017.

Meanwhile, we implore the Turnpike Authority and local officials to make sure all future meetings about the bridge allow for public input or at least a public presence. Though some meetings may not be legally required to be made public, with a project this size and affecting so many local residents, it is the right thing to do.

The following is a recent news article in which the Currituck County Commissioners are crying foul over increased tolls on the Chesapeake Expressway. The new tolls range from $3 to $5. I find that extremely hypocritical considering the extremely high toll rates for this bridge project. The Currituck Tourism instructed vacationers on how to bypass that toll. I wonder if they will enlighten vacationers of the $28 toll on Summer Saturdays when the majority of the vacationers arrive.

Currituck, Dare say toll increase would hurt OBX

By Jeff Hampton
The Virginian-Pilot
© January 2, 2011

Currituck and Dare counties oppose toll hikes proposed for the Chesapeake Expressway, saying it could damage the Outer Banks tourism economy and burden North Carolina commuters with extra expenses.

Chesapeake plans to raise car tolls on its expressway to $3 from $2 on weekdays and to $5 on the 15 summer weekends when traffic is heaviest.

Currituck County Board of Commissioners Chairman Vance Aydlett sent a letter to Chesapeake Mayor Alan Krasnoff last week citing the effects of rising costs to commercial traffic, to Outer Banks visitors and to Currituck's 2,500 commuters.

"Increasing the toll for a crucial aspect of the Hampton Roads workforce would seem counterproductive to its sustained growth," Aydlett wrote.

Traffic could turn more to other routes, such as Chesapeake's Battlefield Boulevard and Interstate 95, he wrote.

Aydlett also has expressed concern that expressway revenues would go to other road projects. The letter was supported by the Board of Commissioners.

Chesapeake officials expect to decide on new toll rates by the end of March, said Mary Ann Saunders, assistant to Chesapeake City Manager William Harrell.

Since the expressway opened in 2001, expenses have gained on revenues until they matched at $6.6 million last year, according to a study conducted for Chesapeake.

Without toll increases, expenses are expected to pass $12 million by 2020, about $2 million more per year than expected revenues.

"Something has to happen," Saunders said. "By law we have to cover our expenses."

With toll increases, revenues would rise to $16.1 million by 2020, according to the study. Tolls would rise to $9 for a peak weekend by 2020, the study recommended. All toll revenues will go toward maintenance, operation and debt service of the expressway and not to other road projects, Saunders said.

In 2008, 2,500 Currituck County residents commuted to Hampton Roads for work, according to the North Carolina Employment Security Commission. The expressway study showed 2,432 from Currituck were part of the toll road's discount program, more residents than from any Hampton Roads city. Dare County had just over 1,000 using the discount program.

The Dare County Tourism Board sent to Chesapeake a resolution opposing the toll hikes.

Toll increases would place an "unfair financial liability on people by increasing travel fees that are already overburdened by rising fuel costs" on workers who reside in North Carolina, the resolution said.

Higher tolls would be "unfairly targeting visitors to the Outer Banks" requiring them to "shoulder much of the increased toll fee," according to the resolution.

Other Dare County organizations have sent letters opposing toll hikes, including the Chamber of Commerce and the towns of Nags Head and Kill Devil Hills.

Under the current rate, discount tolls are 50 cents for two-axle vehicles. With the proposed toll increases, discount rates would go up to $1.50 on week days and $2.50 on peak weekends. Currituck officials predict many commuters will switch to Battlefield Boulevard.

"It's just going to clog that up," said Paul O'Neal, Currituck County commissioner. "They'll change their behavior."

The expressway is used for two primary purposes - as a route for commuters from North Carolina and southern Chesapeake and for vacationers to the Outer Banks. On a Saturday in July and August, traffic can reach up to 40,000 vehicles per day.

Peak summer traffic accounts for 25 percent of the total toll revenue. Chesapeake borrowed approximately $110 million of the expressway's $116 million total cost. So far, $11.9 million has been repaid, according to the study.

Comment: So if the $5.00 toll on the Chesapeake Expressway is too expensive, how does Currituck and Dare Counties justify the enormous toll of $28 to use the Mid-Currituck Bridge?

THE TURNPIKE AUTHORITY HAS PROBLEMS FOLLOWING LEGISLATIVE STATUES

STATE OF NORTH CAROLINA
TURNPIKE AUTHORITY

BEVERLY E. PERDUE, GOVERNOR | 1578 MAIL SERVICE CENTER, RALEIGH, N.C. 27699-1578 | DAVID W. JOYNER, EXECUTIVE DIRECTOR

January 5, 2012

The Honorable Phillip E. Berger
President Pro-Tem, NC Senate
The Honorable Thomas Tillis
Speaker of the NC House
16 W. Jones St.
Raleigh, NC 27601

Subject: GS 136-89.183 (a)(5) Turnpike Toll or Fee Report

Dear President ProTem Berger and Speaker Tillis:

Pursuant to the requirements of the above-cited statute, this letter is to provide notification to the Joint Legislative Commission on Governmental Operations of the toll rates that went into effect on January 3, 2012, at 12:01 am on the first phase of the Triangle Expressway. The Turnpike Authority recognizes that we failed to provide proper notification as required by statute, and we apologize for this error. We overlooked this important requirement in preparations for the opening of the road.

STATE OF NORTH CAROLINA
TURNPIKE AUTHORITY

BEVERLY E. PERDUE, GOVERNOR | 1578 MAIL SERVICE CENTER, RALEIGH, N.C. 27699-1578 | DAVID W. JOYNER, EXECUTIVE DIRECTOR

January 5, 2012

The Honorable Phillip E. Berger
President Pro-Tem, NC Senate
The Honorable Thomas Tillis
Speaker of the NC House
16 W. Jones St.
Raleigh, NC 27601

Subject: GS 136-89.193 (d) Report Prior to Let of Contracts

Dear President ProTem Berger and Speaker Tillis:

Pursuant to the requirements of the above-cited statute, this letter is to provide notification to the Joint Legislative Commission on Governmental Operations of the letting of the Monroe Connector/Bypass Turnpike Project on November 21, 2011. The North Carolina Turnpike Authority recognizes that we failed to provide proper notification as required by statute, and we apologize for this error. In our efforts to move the project to financing as quickly as possible upon a favorable decision on the Southern Environmental Center (SELC) lawsuit, we overlooked this important requirement.

Study after study have concluded that building a bridge is not the answer to the areas traffic concerns. That was until the "Build the bridge, save our roads" commissioned their own study.

Another bridge study in the works in Currituck County

Posted to: Military Transportation and Traffic
© April 21, 2006
By JEFFREY S. HAMPTON
The Virginian-Pilot

The North Carolina Turnpike Authority has hired a national transportation firm to study traffic and tolls on the proposed Currituck County mid county bridge, a project already studied several times and delayed for at least 17 years.

The study by Wilbur Smith Associates is expected to be finished by late summer or early fall , said Julia Jarema, spokeswoman for the North Carolina Turnpike Authority.

The bridge is one of the longest-running and most debated highway projects in state history. Dozens of state and federal agencies and elected officials have wrestled over the viability of the project since at least the 1970s. An early projected cost estimate was $39 million, with a projection in 1998 putting it at $87 million.

The Turnpike Authority now estimates the cost at $132 million for a bridge about 7 miles long. The current transportation improvement plan for 2006 to 2012 on the North Carolina Department of Transportation's Web site estimates a 10-mile-long bridge at a cost of about $118 million.

A report from the Institute for Transportation Research and Education at North Carolina State University recently estimated the cost of a 7-mile-long bridge at $156 million based on state estimates.

The bridge would connect the Currituck mainland to the county's Outer Banks, relieving traffic tie-ups along U.S. 158 and N.C. 12 and quickening hurricane evacuation, supporters say. The sound and nearby swamps could be damaged and neighborhoods degraded, opponents say, and the intersection of the bridge and N.C. 12 on the Outer Banks could create more traffic jams.

The state conducted a multi year study on the travel corridor from Barco to Corolla. Last year, in preliminary results, the state determined that widening U.S. 158 and N.C. 12 would relieve traffic better than a bridge would. But a local grass-roots group, Build the Bridge - Preserve Our Roads, paid for a study that determined that the bridge would be better and cheaper.

East Carolina University is conducting another study using $2 million from a federal grant.

A bill passed in August authorized the state's Turnpike Authority to plan and build a toll bridge over the Currituck Sound using private financing and contracting .

A quick estimate indicates that tolls would generate millions, but how long it would take to pay for a bridge would depend on how much motorists would pay. An average daily count of traffic crossing the Wright Memorial Bridge, allowing for all days and seasons, is 21,000, according to state figures. About one-third of that traffic turns north toward the Currituck Outer Banks and would probably use a bridge from the mainland to Corolla, reducing travel time by nearly an hour. If 7,000 vehicles, or a third of the average daily count, each paid $5, for example, that would generate $12.8 million annually. Some of the toll money would pay for maintenance and debt services.

The Wilbur Smith study will be much more involved. As part of the contract, the cost of the study will be determined when more detail is known, Jarema said.

The North Carolina Department of Transportation has turned the project and its prior studies over to the Turnpike Authority, Jarema said.

Regarding Traffic & Revenue Forecasts Conducted By Wilbur Smith Associates

TOLLROADSnews 2012-01-27 ENLARGED 2012-01-31

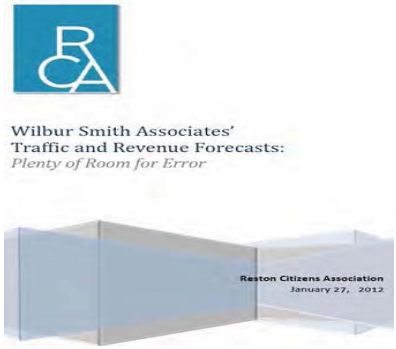
Wilbur Smith Assoc forecasting record slammed in report for Reston VA group

Posted on Fri, 2012-01-27 15:30

Wilbur Smith Associates (WSA) record of traffic and revenue forecasting is blasted in a study done by a retired federal government economist Terry Maynard for the Reston Citizens Association (CRA) in northern Virginia. The report supports a call for an independent review of the WSA/CDM Smith traffic and revenue forecast of the Dulles Toll Road.

The analysis titled Traffic and Revenue Forecasts: Plenty of Room for Error by Terry Maynard finds that forecasts of revenue by WSA as it then was (just recently merged to form CDM Smith) are on average 2.27 times - or 127% too high - as compared with subsequently realized toll revenues.

This is based on the first five years of 12 toll projects forecast.



In addition Maynard finds that WSA had a pattern of understating the sensitive profit maximizing toll initially, then subsequently raising those estimates.

Maynard says that WSA routinely uses the highest population and employment forecasts for forecasting traffic.

Despite poor forecasts tollroads stuck with WSA.

WSA estimates for Dulles Toll Road revenues are suspect, Maynard writes, because they are already using numbers overstating Fairfax County employment by 25%.

What it calls the "pattern of overestimates" in WSA forecasting suggests a "substantial risk" in proceeding with the MWAA financial plan, Maynard writes.

Risks are:

- lenders won't fund the project without state guarantees or at investment grade rates

- tolls much higher than those forecast will emerge

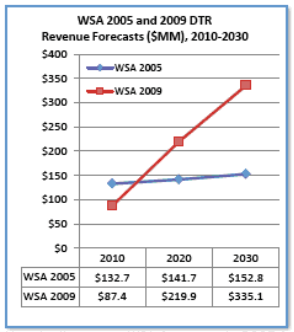
- corridor economic growth will be hampered by the high costs

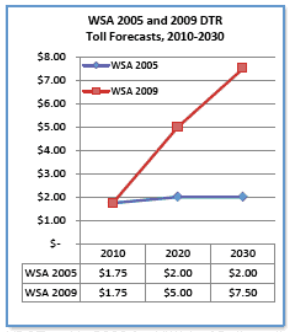
- MWAA may default and face much higher costs than cited

Terry Maynard: "RCA has long been enthusiastic about Metrorail to Dulles via Reston, but we do not want a rail line at any price, especially one that forces Dulles Toll Road users to absorb most of the financial burden and area communities to absorb added traffic on already crowded local roads. The prospects are even worse if the WSA forecasts overestimate revenues as much as our research suggests. We hope that an independent forecast, combined with 'value engineering' for Phase 2 and restructuring the financial arrangements will lead to a better outcome for everyone."

2nd stage of Dulles Rail at stake

Future Dulles toll road revenues are being used as the security for selling the debt needed to fund a $5 billion Dulles Metrorail branch line from West Falls Church through Reston County to Dulles Airport and out into Loudoun County. Over half the capital cost is proposed to be covered by toll revenue bonds of the Dulles Toll Road issued by the Metropolitan Washington Airports Authority (MWAA) that has a 50 year franchise on the tollroad and is building the rail line.





Hugely discrepant WSA forecasts in 2005 for VDOT and in 2009 for MWAA of Dulles tolls

Half of the rail line is a done deal, financed and under construction but the second half remains to be approved and financed. The WSA/CDMSmith investment grade traffic and revenue study to be released any week now will be key to whether the project proceeds.

A cover letter addressed to Governor Bob McDonnell, FHWA administrator Victor Mendez and top officials of MWAA and the two local counties charges that "WSA has made many very large errors in its forecasts that have been costly to investors, bondholders, governments, and toll road users who have relied on them to approve construction of major toll road projects."

It continues: "we believe that it is imperative that a second, independent T&R forecast be completed by another forecasting group before any decision is made to move forward with the construction of Phase 2 of the Silver (Dulles Rail) Line."

The citizens association says that given Wilbur Smith's record of overestimating revenues and the unexplained discrepancies between the first two WSA studies the various parties to the Dulles project - FHWA, MWAA, the two counties Fairfax and Loudoun as well as Virginia DOT - should defer any further commitments until Wilbur Smith's forecasts have been checked against those of an independent forecaster.

VDOT is called to take the lead in having WSA's results checked out.

It calls on FHWA to develop a process of 'best practices' for traffic and revenue forecasts given that the problem of gross exaggeration of traffic and revenue (T&R) prospects is seen across the whole T&R forecasting business.

Maynard devastating about track record of forecasting

A key finding of the Maynard Report (named after principal author Terry Maynard) is that "optimism bias" is endemic in the toll forecasting business, and that Wilbur Smith which does about half the industry's forecasts is typical of the industry - driven by sponsors to produce the exaggerated forecasts they want. It cites work by Robert Bain, Bent Flyvbjerg, NHCRP, and ourselves but goes into several forecasts with original work.

Bain using work he started at Standard and Poors found that of 100 tollroad forecasts worldwide the average actual traffic was 77% of forecast or an overestimate of about 30% for year 1 and only minor improvement after that.

<u>NCHRP looked at 26 toll road forecasts in the US over the first five years and found worse results.</u>

Writes Maynard: "The atrocious overestimates of revenue by all the forecasters reflected in this data highlight the difficulty in forecasting demand in the 'ramp-up' period of a new toll road. They are inadequate for planning future revenues, financing, and toll rates."

And there is little indication forecasts improve much over time.

On the Dulles Toll Road forecasting WSA starts with an inflated number for current employment in the major county served (900k vs 700k) and then inflates that faster than others with a higher growth rate (see graph nearby). Similarly on the Knik Arm bridge in Alaska WSA used exaggerated population and employment data, claiming to base them on numbers from a local University institute, which has denied its numbers are used.

Maynard picks up on what we reported (2011-04-11) as huge inconsistency in Dulles forecasting between WSA's modest projections of traffic and revenue for VDOT in 2005 and their highly bullish projections in 2009 for the new concessionaire MWAA. (see graphing of the inconsistency nearby)

Growth prospects declined in that period, and forecasts should have been lowered, not raised. WSA has never explained the basis for their large upward revisions.

"Our examination of vital population and employment input data used by WSA in its forecasts indicates it has almost always used the most optimistic data available to make its forecasts.

Appendix A: Revenue Forecast Error in NHCRP Data, WSA and Non-WSA, in Percent

Wilbur Smith Associates	Year Opened	Revenue Forecast Error Year 1	Year 2	Year 3	Year 4	Year 5	Average Error
Harris County Toll Road Authority (Texas)/Hardy (6)	1988	242%	261%	320%	339%	348%	302%
Harris County Toll Road Authority (Texas)/Sam Houston (6)	1988	0%	25%	23%	20%	28%	30%
Orlando–Orange Expressway Authority/Central Florida Greenway North Segment	1989	3%	17%	23%	44%	30%	23%
Orlando-Orange Expressway Authority/Central Florida Greenway South	1990	193%	176%	178%	100%		162%
Oklahoma Turnpike Authority/ John Kilpatrick (3)	1991	456%	279%	241%	218%	188%	276%
Oklahoma Turnpike Authority/ Creek (3)	1992	104%	82%	70%	69%	94%	77%
Transportation Corridor Agencies (California)/Foothill North (3)	1995	16%	8%	1%			8%
Transportation Corridor Agencies (California)/San Joaquin Hills (3)	1996	216%	111%	94%	89%	85%	119%
North Texas Tollway Authority/ George Bush Expressway (3)	1998	-34%	9%				-13%
Transportation Corridor Agencies (California)/Foothill Eastern (3)	1999	-16%	27%	26%			12%
Connector 2000 Association (South Carolina)/Greenville Connector (3)	2001	238%					238%
Pocahontas Parkway Association (Virginia)/Pocahontas Parkway (44,45)	2002	140%	148%	97%			128%
	Average Error	134%	104%	108%	126%	122%	118%

Non-WSA Forecasts	Year Opened	Year 1	Year 2	Year 3	Year 4	Year 5	Average Error
Florida's Turnpike Enterprise/Sawgrass Expressway (6)	1986	462%	327%	213%	170%	160%	266%
North Texas Tollway Authority/Dallas North Tollway (6)	1986	35%	10%	6%	1%	1%	10%
Mid-Bay Bridge Authority (Florida)/ Choctawhatchee Bay Bridge (38,39)	1993	25%	5%	-8%	-12%	-14%	-1%
Orlando-Orange Expressway Authority/Central Florida Greenway Southern Connector	1993	264%	173%				218%
Florida's Turnpike Enterprise/ Veteran's Expressway (3)	1994	100%	89%	60%	54%	76%	76%
Florida's Turnpike Enterprise/ Seminole Expressway (3)	1994	119%	72%	41%	28%	43%	61%
Osceola County (Florida)/Osceola County Parkway (3)	1995	669%	97%	160%	148%		268%
Toll Road Investment Partnership (Virginia)/Dulles Greenway (3)	1995	398%	302%	324%	288%	182%	299%
E-470 Public Highway Authority (Colorado)/E-470 (3)	1999	62%	60%		95%		72%
Florida's Turnpike Enterprise/Polk (3)	1999	23%	48%				36%
Santa Rosa Bay Bridge Authority (Florida)/Garcon Point Bridge (42,43)	1999	207%	82%	98%	112%	105%	121%
Northwest Parkway Public Highway Authority (Colorado)/Northwest Parkway	2004	65%	79%				72%
	Average Error	202%	112%	112%	98%	79%	127%

Annual performance within 10% of forecast is in bold.

Revenue Forecast Error = 1/(Revenues/Forecast) - 1 as presented in NHCRP 364 in Table 1 which reports (Revenues/Forecast).

"This includes its 2005 and 2009 forecasts for the Dulles Toll Road. In its 2005 study, it utilized population and employment forecasts provided by GMU CRA which characterized official MWCOG forecasts as understating the area's growth potential. Then, in 2009, it discarded the conclusions of the contractor it hired to do its socio-economic forecast, Linden Street Associates, Inc., of Alexandria, which had discounted the official MWCOG forecasts as overreaching.

"Instead, it used forecast data provided by Woods & Poole, Inc., another local demographic analysis shop, which was much more aggressive. As we have noted, in the one data point from those two studies we were able to check for Fairfax County—data from the US Census Bureau in 2010—the 2005 WSA forecast over-stated county employment by 25% and the 2009 study overstated it by 52%. In both cases, all the population forecasts we examined were within a reasonable five percentage points of the US Census 2010 count."

Detroit

In Detroit Michigan Maynard writes that an independent study by Halcrow found that WSA had used population and employment projections that were "far too high" and traffic was likely to be "about half" of WSA forecasts. He has an appendix commenting on the Detroit-Windsor DRIC/NITC bridge project.

Maynard says some of WSA's numbers are wrong, and that Halcrow's modeling is more convincing because it performs well in backward testing - not attempted by WSA.

Maynard is contactable at:

terrymayn@yahoo.com

NOTE: we're fully open to any response from WSA or any other forecasters. So far no response from WSA to the invitation to defend their work.

ACTUAL REVENUE AS PERCENTAGE OF PROJECTED RESULTS OF OPERATION

Authority/Facility	Year of Opening	Year 1	Year 2	Year 3	Year 4	Year 5
Florida's Turnpike Enterprise/Sawgrass Expressway (6)	1986	17.8%	23.4%	32.0%	37.1%	38.4%
North Texas Tollway Authority/Dallas North Tollway (6)	1986, 1987	73.9%	**91.3%**	**94.7%**	**99.3%**	**99.0%**
Harris County Toll Road Authority (Texas)/Hardy (6)	1988	29.2%	27.7%	23.8%	22.8%	22.3%
Harris County Toll Road Authority (Texas)/Sam Houston (6)	1988, 1990	64.9%	79.7%	81.0%	83.2%	78.0%
Illinois State Toll Highway Authority/ Illinois North South Tollway (6)	1989	**94.7%**	**104.3%**	112.5%	116.9%	115.3%
Orlando–Orange Expressway Authority/ Central Florida Greenway North Segment (6)	1989	**96.8%**	85.7%	81.4%	69.6%	77.1%
Orlando-Orange Expressway Authority/ Central Florida Greenway South Segment (6)	1990	34.1%	36.2%	36.0%	50.0%	NA
Oklahoma Turnpike Authority/ John Kilpatrick (3)	1991	18.0%	26.4%	29.3%	31.4%	34.7%
Oklahoma Turnpike Authority/ Creek (3)	1992	49.0%	55.0%	56.8%	59.2%	65.5%
Mid-Bay Bridge Authority (Florida)/ Choctawhatchee Bay Bridge (38,39)	1993	79.8%	**95.5%**	**108.9%**	113.2%	116.7%
Orlando-Orange Expressway Authority/ Central Florida Greenway Southern Connector (6)	1993	27.5%	36.6%	NA	NA	NA
State Road and Tollway Authority (Georgia)/GA 400 (3)	1993	117.0%	133.1%	139.8%	145.8%	141.8%
Florida's Turnpike Enterprise/ Veteran's Expressway (3)	1994	50.1%	52.9%	62.5%	65.0%	56.8%
Florida's Turnpike Enterprise/ Seminole Expressway (3)	1994	45.6%	58.0%	70.7%	78.4%	70.1%
Transportation Corridor Agencies (California)/Foothill North (3)	1995	86.5%	**92.3%**	**99.3%**	NA[1]	NA[1]
Osceola County (Florida)/Osceola County Parkway (3)	1995	13.0%	50.7%	38.5%	40.4%	NA
Toll Road Investment Partnership (Virginia)/Dulles Greenway (3)	1995	20.1%	24.9%	23.6%	25.8%	35.4%
Transportation Corridor Agencies (California)/San Joaquin Hills (3)	1996	31.6%	47.5%	51.5%	52.9%	54.1%
North Texas Tollway Authority/ George Bush Expressway (3)	1998	152.2%	**91.8%**	NA	NA	NA
Transportation Corridor Agencies (California)/Foothill Eastern (3)	1999	119.1%	79.0%	79.2%	NA[1]	NA[1]
E-470 Public Highway Authority (Colorado)/E-470 (3)	1999	61.8%	59.6%	NA	**95.4%**[2]	NA[3]
Florida's Turnpike Enterprise/Polk (3)	1999	81.0%	67.5%	NA	NA	NA
Santa Rosa Bay Bridge Authority (Florida)/Garcon Point Bridge (42,43)	1999	32.6%	54.8%	50.5%	47.1%	48.7%
Connector 2000 Association (South Carolina)/Greenville Connector (3)	2001	29.6%	NA	NA	NA	NA
Pocahontas Parkway Association (Virginia)/Pocahontas Parkway (44,45)	2002	41.6%[4]	40.4%	50.8%	NA	NA
Northwest Parkway Public Highway Authority (Colorado)/Northwest Parkway (46,47)	2004	60.5%	56%[5]	NA	NA	NA

Sources are cited in parentheses.
Notes: Bold type reflects actual within 10% of projected. NA = traffic and revenue report not available or not provided.

FROM THE BOARD OF TRANSPORTATION MEETING July 10, 2003
Board O.K.'s Another Study

DIVISION 1

1) Project:	R-2576 (6.049002T) 34470.1.1 Regional Hurricane Evacuation Study for Mid-Currituck Transportation Study and other area projects
County:	Currituck
Firm:	Post, Buckley, Schuh & Jernigan, Inc. Tallahassee, Florida
Maximum Fee:	$75,000.00

FROM THE BOARD OF TRANSPORTATION MEETING MINUTES 10.5. 2006
YET ANOTHER STUDY COSTING MILLIONS OF DOLLARS

Trust Funds - Intrastate System

Town/ County Division	Project Description	Estimated Cost
Currituck Co. Div. 1 R-2576	Project WBS 34470.1.1 $1,877,042.00 has previously been approved for preliminary engineering on Mid-Currituck Bridge from Coinjock to Corolla. Additional funds are needed to cover the overdraft.	$1,347,000.00

Grant to fund ECU bridge study

By JEFFREY S. HAMPTON, The Virginian-Pilot
August 2, 2005

CURRITUCK — The federal government has awarded East Carolina University a $2 million grant to study the feasibility of building a 10-mile bridge over the Currituck Sound from the mainland to the Outer Banks.

The study could begin in the fall, said Al Delia, director of federal relations for the university.

A local grass-roots group, Build the Bridge – Preserve Our Roads, has lobbied federal and state representatives since last year to get the federal grant.

Local officials and representatives from the Build the Bridge group and ECU plan to meet in about a month, said Gwenn Cruickshanks, president of the

group. State highway officials will not be present, she said.

"We're extremely pleased our yearlong efforts to secure this grant were successful," Cruickshanks said.

The study will evaluate former studies, including one by the state that favored widening U.S. 158 over building the bridge, and another done by the local group that concluded the bridge was the best option, Delia said.

The state is in the midst of a multiyear study on how to best move traffic – as many as 60,000 vehicles on a summer Saturday – through Currituck and Dare counties to the northern Outer Banks.

The General Assembly is expected to pass a bill this week that would empower the North Carolina Turnpike Authority to plan and build the bridge using a private contractor. The cost is estimated to be more than $100 million. The project would be financed with bonds and repaid with tolls.

Using a private builder and tolls is expected to speed up the project.

If successful, the mid county bridge could set a standard for future highway projects, state and local officials have said.

The Turnpike Authority was authorized by the General Assembly in 2002 to build and operate toll roads in the state.

This week's bill would expand the number of toll projects from three to nine and would include language pinpointing one of the projects as the midcounty bridge.

The bill also calls for the Herbert C. Bonner Bridge over Oregon Inlet in Dare County to be built by private contractors. But the Bonner Bridge would not be a toll bridge.

The Currituck mid county bridge has been discussed since the 1970s and listed as a state highway project since 1989, but money shortages and environmental permitting have bogged it down.

The bridge would relieve heavy traffic on U.S. 158 at the south end of the county and N.C. 12 in Duck and Southern Shores, supporters say.

Opponents think the bridge would only attract more development and traffic.

North Carolina State University Institute for Transportation Research

Project Title: Outer Banks Transportation Study
PI Name(s) and Dept. Affil.: Thomas Cook
Funding Source: NCDOT/USDOT
Amount: $72,877
Duration: 11/04/2004 to 2/28/06
Description: Develop a task force and gather public input to improve mobility and to alleviate highway congestion, perform case study analysis, develop solutions towards improved public policy decision-making in transportation.

FEBRUARY 2006 REPORT OBX TRANSPORTATION

Traffic Solutions

The traffic breakout sessions were well attended. The discussions were lively and many people participated. Overall, the reaction to the ideas presented by the team was positive. Many people during the breakout sessions were asking for clarification on the ideas presented, particularly the Superstreet. During the sessions there seemed to be roughly equal interest in NC-12 through Duck, the US-158 and SR-1493 intersection, and US-158 corridor, while there was likely less interest in the Midway intersection. The summary below begins with the ideas offered for short term improvements and then presents the ideas offered for each of the four emphasis areas.

Short-Term Ideas

- A median on US-158 seems very popular.
- Provide better incident management.
- Provide stronger access management to minimize the number of full access side streets and driveways on major streets.
- Require exclusive left turn lanes on all new driveways and side streets on US-158.
- Stage all construction to avoid the Outer Banks' heavy tourist season if possible.

NC-12 Through Duck

- Roundabouts on either end of town could be attractive and functional for the next ten years or so.
- Bulb-outs to accommodate left-turning traffic could be placed on NC-12 through the Southern Shores area as well.
- The NCDOT will need a good set of traffic control devices to educate motorists on how to use a Superstreet (applies to other Superstreet ideas as well).

US-158, SR-1493, and NC-12 Intersection Ideas

- SR-1493 should bridge over US-158 to better fit the terrain and to allow easier crossing of US-158 by pedestrians and bicyclists.
- A cul-de-sac could be installed on NC-12 south of its intersection with SR-1493.
- The right turn from SB SR-1493 to WB US-158 should be made as far to the east as possible, since some of that traffic weaves quickly across US-158 to get to the Home Depot and other developments.

• A signal at Byrd Street (serving the Medical Center just south of the SR-1493 intersection) could provide good access from US-158 to and from NC-12 south of the main intersection.

US-158 Corridor Ideas

• Drainage will be an issue as US-158 is rebuilt.

• Many people in Nags Head prefer US-158 to have a more rural cross-section, with shoulders instead of curbs.

• Three stages were proposed: 1) install median with some one-way openings, 2) convert most of corridor to four-lane Superstreet using bulb-outs to keep median smaller, and 3) full six-lane Superstreet.

Midway Intersection Ideas

• Provide better warning devices (signs, flashers, etc.) on eastbound US-64 at end of new bridge approaching Midway intersection.

Transportation Demand Management (TDM)

Transportation Management Association (TMA)

• A TMA-type of organization is needed to promote cooperative efforts and to coordinate among various stakeholders.

• TMA members might be better chosen not as representatives from local municipalities, but to represent various areas of public and private interests.

• Determining how to fund a TMA will be a challenge.

• Care needs to be taken to see that new people are included on such an organization, and that only the "same old people" who have been/are active in the Outer Banks aren't put on as members of that type of organization. Service organizations need to be involved in addition to/instead of local government representatives.

• The area needs to look into the future, and consider how a transportation authority at either the county level or at a regional level could help change transportation in the Outer Banks.

• There is a need for a full-time agency and staff to look at and to work with traffic statistics.

Mobility

• Foreign guest workers are a necessary component of the local economy, but can't easily get around the area. Many guest workers come from places in which good public transportation is operated, and is taken for granted. They are very surprised when they get to the Outer Banks and discover how difficult it is to get around without a car.

How to Restrict Demand

• Place a premium on bringing cars.

• Allow only some predetermined number of cars per rental unit, and require procurement (purchase?) of a permit for any additional vehicles.

• Reduce the number of parking spaces available at rental houses, and publicize the number of available spaces, so visitors will know in advance of their trip what is expected. However, any limits to the number of vehicles should be phrased in a positive manner, to avoid discouraging visitors from choosing the Outer Banks as their destination. Perhaps a reduction in cars could be phrased as part of a message emphasizing the environmental friendliness of the Outer Banks, and that would promote the area as being "green."

Shifting the Rental Turnover Schedule

• Arrival/departure dates/times and rain are the biggest causes of transportation problems. Since the private sector is largely responsible for establishing turnover dates/times, the private sector should share responsibility for solving the ensuing transportation problems, and should be actively involved in a Transportation Management Association.

• Incentives are needed to help shift rental turnovers from Saturday to Friday and Sunday. Without some form of incentives, turnover will continue at current levels on Saturdays. Incentives could also be used to hasten the shift.

• Information needs to be compiled on turnover days in order to better understand visitors' abilities/desires to change their arrival/departure schedules.

Shared Use Parking

• It is a good idea, and can help to reduce the total number of parking spaces.

• If it is implemented, it will require effective local enforcement of regulations, to avoid problems with use of parking facilities by "outsiders" such as renters who need additional parking spaces to those available at their rental unit, and who are not patronizing the businesses.

• Shared-use parking should be encouraged, but will require agreements to be signed by all participating business owners/developers. Nags Head has had an example of this at Satterfield Landing, where offices and a bowling alley share parking. It has worked well at that location. Education on the mechanics of shared-use parking is needed.

Limiting Parking at Beach Accesses

• Use of shuttles from park-and-ride lots is a better solution than imposing parking restrictions at beach access parking areas.

• Conduct surveys at beach access lots to determine who is using the lots, from where they came, how they got there, etc. to better understand parking patterns.

• More beach access points are needed.

• Limiting parking by imposing a charge for parking at beach access lots would be cost prohibitive to many local residents (and to some visitors, particularly day-trippers from the area), who park in those lots to fish.

Mixed-Use Development

• Mixed-use development has been used in some areas, and could be applied to the area, but likely on a parcel-by-parcel basis due to the high level of development already in place.

• Mixed-use development will be difficult to apply in the Outer Banks due to local geographic conditions. The islands are linear, and development will likely occupy a linear space, not a more square space, which would lend itself more easily to mixed-use development.

Traveler Information:

• Travel tips should be available via the Internet.

• Duck has travel information available via radio at 530 am.

• Visitors need education, both before making their trip and once they are at the Outer Banks.

Incident Management

• An incident management program is needed to help clear vehicle accidents/incidents more quickly, particularly on turnover days, to alleviate traffic congestion. An accident on the Wright Memorial Bridge quickly ties up all traffic and adds greatly to turnover day backups.

Mid-County Bridge

The Mid-County Bridge will have a huge influence on development patterns throughout much of Currituck County:
· Approaches north and south of the intersection of the proposed bridge landing and US 158 will come under intense pressure for commercial development.
· US 158 south of the new bridge intersection will likely become a bypass for those headed to Carova from the south who wish to avoid the more congested areas of NC 12 through Duck and Corolla. This bypass function will add even more pressure for commercial development along 158.
· Demand for additional residential development in the Grandy area will intensify. Commercial services will follow.
· The Barco/Coinjock/Airport area will likely become the main community center for the mid-section of Mainland Currituck County. It will likely assume a role similar to the role that Point Harbor plays for Dare County's Outer Banks.
· Pressure for additional development in Corolla and especially Carova will increase dramatically with improved access to these two areas.

Comment: The last sentence above is in direct contrast to the effect of development due to the bridge presented in both the DEIS and FEIS. Why have these studies been ignored? It seems if you throw something at the wall long enough eventually it might stick.

FUNDING ISSUES

FHWA 2012 T.I.F.I.A. LETTERS OF INTEREST

North Carolina DOT and North Carolina Turnpike Authority (NCTA)	Mid Currituck Bridge (Currituck County, NC)	FY 2012 (12/30/2011)	**$778**	$120	15%	Direct Loan

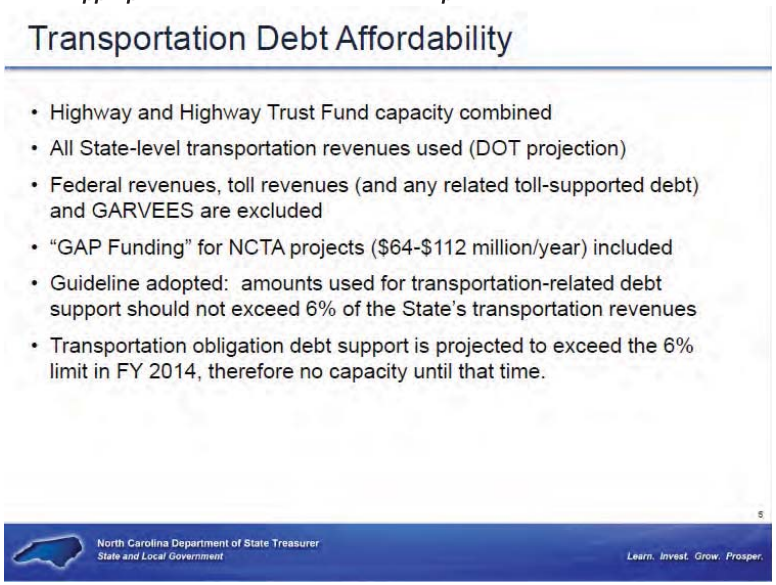
Comment: The $778 million cost of the project in the T.I.F.I.A. L.O.I. is $200 million more than the cost of the Preferred Alternative in the FEIS. Please explain the huge difference.

From the February 2012 Fiscal Brief on Transportation:

Target Funding to Maintenance Needs
In order to direct maintenance funds to roadways with the greatest needs, the Transportation Subcommittee reduced funding to programs that dictate the type of roadway to be maintained and shifted those funds to more flexible programs. Two specific maintenance programs were targeted – system preservation and contract resurfacing. The Subcommittee increased system preservation funds by $135.9 million in FY 2011-12 and directed DOT to utilize all system preservation funds, totaling $214.4 million in FY 2011-12, to improve structurally deficient bridges. In addition, contract resurfacing funding was increased by $132.4 million to lessen future maintenance demands and to avoid more costly repairs due to delayed maintenance. The Subcommittee also increased funding for the general maintenance reserve by $78.2 million, affording DOT additional flexibility to prioritize maintenance expenditures according to need.

Prioritizing Construction Funding
The Transportation Subcommittee frequently discussed the construction progress of the intrastate, urban loop, and secondary road systems since the inception of the Highway Trust Fund in 1989. Based on presentations which indicated lagging completion rates for urban loops relative to secondary roads and the intrastate system, the Transportation Subcommittee made several changes within the Highway Trust Fund to accelerate urban loop construction. By notwithstanding G.S. 136-176(b)(4) and G.S. 136-176(b), the Subcommittee overrode statutory formulas dictating the amount of funds dedicated to secondary roads and administration of Highway Trust Fund activities. Funds associated with the projected increases for secondary roads and administration, per statutory formulas and revenue projections, were redirected to urban loop projects. In addition, $17.5 million in funding for secondary road projects was redirected to urban loops, along with $25 million from an accumulated unencumbered fund balance previously allocated for administration. The Subcommittee also removed specific urban loop projects from statute and directed DOT to designate and prioritize urban loop funding.
Debt service and related financing costs for the Garden Parkway were delayed by one year and reduced by $17.5 million in FY 2012-13. Due to project delays, the Transportation Subcommittee also reallocated unencumbered prior year funding for the Garden Parkway and Mid-Currituck Bridge projects, totaling $50 million. The Garden Parkway and Mid-Currituck Bridge projects are toll projects managed by the North Carolina Turnpike Authority. Prior year funding for the Mid-Currituck Bridge was transferred to the General Fund to purchase replacement school buses for local school systems, and funding for the Garden Parkway project was reallocated to urban loops.

The slide below was part of a presentation by the State Treasurers Office to the House Appropriations Subcommittee on Transportation dated 3-8-2012



THE DAILY CLIPS
May 25, 2011
News, commentary, and opinion compiled by the East Carolina University News Bureau

Proposed toll road projects would be eliminated for the Garden Parkway — going through Gaston County over the Catawba River to the Charlotte airport — and the Mid-Currituck Bridge connecting the northern Outer Banks to mainland Currituck County.

New Gaston County Sen. Kathy Harrington is opposed to the Garden Parkway. **The Mid-Currituck Bridge is too expensive given the likely ridership, said Senate leader Phil Berger, R-Rockingham. The transportation budget would focus more upon road and bridge maintenance.**

Comment: Evidence that the political backing in the State is waining for such an expensive and environmentally damaging project.

Mistakes in the DEIS are brushed off as typographical and rounding errors.

What need would the project meet, and what is the project's purpose?
The proposed project responds to three project area needs:
 The need to substantially improve traffic flow on the project area's (US 158 and NC 12);
 The need to substantially reduce travel time for persons traveling between the Currituck County mainland and the Currituck County Outer Banks; and
 The need to reduce substantially evacuation times from the Outer Banks for residents and visitors who use US 158 and NC 168 as an evacuation route.
Given the needs described above, the purposes of the proposed project are:
 To substantially improve traffic flow on the project area's thoroughfares. Thoroughfares in the project area are NC 12 and US 158;
 To substantially reduce travel time for persons traveling between the Currituck County mainland and the Currituck County Outer Banks; and
 To reduce substantially hurricane clearance time for residents and visitors who use US 158 and NC 168 during a coastal evacuation.

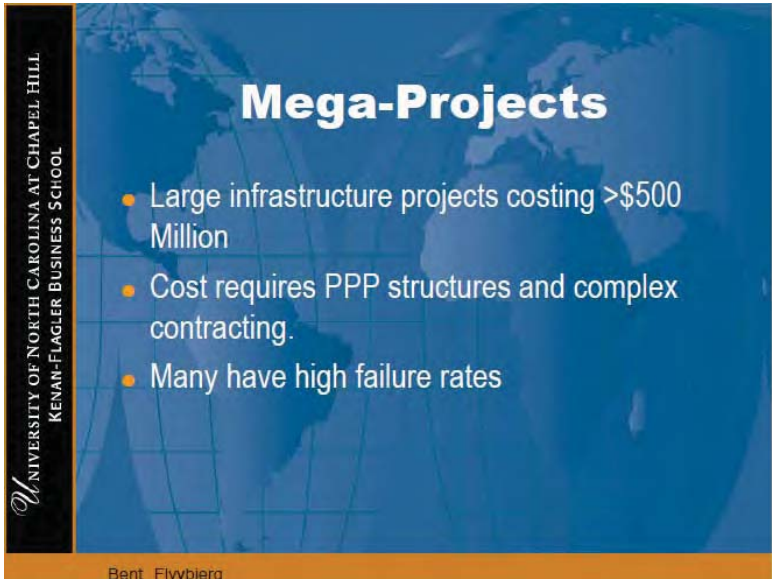
PLEASE TELL ME HOW NC12 TRAFFIC WILL IMPROVE DURING THE WEEK AFTER THE MASSES ARRIVE?

80% OF REVENUE TO COME DURING THE SUMMER SEASON PER DAVID JOYNER.

HIGH TOLL RATES, UPWARDS OF $28 PER CROSSING.

TRAFFIC WILL NOW BACKUP FROM MCB NORTH DUE TO THE BOTTLENECK OF A SINGLE LANE TRAVELING EAST.

PPP FAILURE RATES IN MEGA TRANSPORTATION PROJECTS (See Jason Jolley Presentation below 12.12.2011



STATE FUNDING NOT GUARANTEED.

WHAT HAPPENS IF PROJECT GOES BANKRUPT?

WHAT HAPPENS TO PROPERTIES TAKEN BY EMINANT DOMAIN IF PROJECT DOES NOT GET BUILT DUE TO FINANCING?

NEED FOR AN INTERCHANGE AT 158 AND 12 WHY NO FUNDING BUT NCDOT HAS THE MONEY TO REPAVE 24 MILES OF 158 FROM BARCO TO THE WRIGHT MEMORIAL BRIDGE WHICH IS NOT NECESSARY AT THIS TIME. THE PAVEMENT IS STILL IN GOOD CONDITION AND IS ONLY 10 YEARS OLD.

R-4457 Convert the existing at-grade intersection of US 158 and NC 12 at Southern Shores to an interchange. The planning and design for this project are currently underway. The project, however, is not funded for either right-of-way acquisition or construction.
Mid-Currituck Bridge Study page xiv Final Environmental Impact Statement.
R-2545 Widen US 64 to multi-lanes east of Columbia to east of the Alligator River.

Planning and design for the project are currently underway, and right-of-way acquisition, mitigation, and structures related work are scheduled for Federal Fiscal Year (FFY) 2012. **Construction is unfunded**.
R-2544 Widen US 64 to multi-lanes east of the Alligator River to US 264. Right-of way acquisition is scheduled for FFY 2012**. Construction is unfunded.**
Planning and design are underway.
R-2574 Widen US 158 to multi-lanes east of NC 34 at Belcross in Camden County to NC 168 in Currituck County. **The project is not funded for right-of-way acquisition or construction.**
R-4429 Upgrade SR 1222 from NC 168 to north of SR 1232 and from SR 1213 to SR 1216. This project is partially complete, and construction is underway for the rest of the project.
Except for R-4457, all of these projects are included in the No-Build Alternative described in Section 2.1.2.6 and shown on Figure 2-13 in Chapter 2. The interchange proposed as R-4457 is not a part of the No-Build Alternative because the interchange is included as a component of detailed study alternatives ER2 and MCB2. <u>The interchange is included in ER2 and MCB2 because an interchange is needed to reach a desirable level of service (LOS) on the summer weekday in 2035.</u> All of these projects are in the 2012 to 2018 Draft STIP except for R-4429, for which construction is now complete.

LONGEST BRIDGE IN NC HISTORY.

SHORTCUT ROAD WIDENING WILL TAKE 10 YEARS, AFFECTS HURRICANE EVACUATION – BOTTLENECK.

WHY ARE WE USING A SPAINISH FIRM PRIMARILY ON THIS PROJECT?

What are the major differences between the alternatives that are considered important to selecting an alternative for implementation? Page xiv

Four factors are important to the selection of an alternative for implementation. In order of priority, they are:

1. Effectiveness in meeting the project's purpose and need;
2. Cost and affordability;
3. The ability to meet a variety of state and federal regulatory requirements; and
4. Minimizing impacts to communities, cultural resources, and natural resources.

This section compares the detailed study alternatives, including the Preferred Alternative, from the perspective of these four factors.

 MCB2, MCB4, and the Preferred Alternative with the Mid-Currituck Bridge would offer substantial travel time savings for many travelers between the Currituck County mainland and the Outer Banks. MCB2 would offer the best summer travel

time savings overall for those using US 158 and NC 12 via the Wright Memorial Bridge. Even without improvements to existing roads, MCB4 and the Preferred Alternative would offer better travel time savings for those using the Wright Memorial Bridge than ER2 by reducing traffic on US 158 and NC 12 in Dare County.

COMMENT: NOT DURING THE WEEKDAY SUMMER MONTHS. LITTLE TRAFFIC AFTER LABOR DAY.

The construction of a third outbound lane on US 158 would offer the greatest reductions in hurricane evacuation clearance time with any alternative, bringing the projected 2035 clearance time (in 2035 with 75 percent tourist occupancy) down to 22 hours from 36 hours with the No-Build Alternative. The 22-hour clearance time is 4 hours above the state clearance time standard of 18 hours. Times are also substantially reduced (to 27 hours) when reversing the center lane to serve outbound traffic during the evacuation; however, this reduction is not as much as with a third outbound lane because traffic would also continue to use the lane as a turn lane, thereby slowing travel. A third outbound lane and the associated clearance time reduction could be achieved with any of the detailed study alternatives. Reversing the center turn lane would be practical only with MCB2, MCB4, and the Preferred Alternative. ******HOW ABOUT SENDING PEOPLE ON RT12 NORTH OF 158 SOUTH FOR HURRICANE EVAC*****

The interchange proposed as R-4457 is not a part of the No-Build Alternative because the interchange is included as a component of detailed study alternatives ER2 and MCB2. The interchange is included in ER2 and MCB2 because an interchange is needed to reach a desirable level of service (LOS) on the summer weekday in 2035

funded?

The total cost (in year of expenditure dollars) for the detailed study alternatives, including the cost of construction, environmental mitigation, bridge drainage treatment, pedestrian and bicycle features (lighted path and parking lots at bridge ends on the Mid-Currituck Bridge, right-of-way, and utility relocation would be:

- ER2: $416.1 to $523.4 million;
- MCB2/A/C1: $884.2 to $1,062.4 million;
- MCB2/B/C1: $800.1 to $970.2 million;
- MCB2/A/C2: $888.1 to $1,065.1 million;
- MCB2/B/C2: $802.4 to $973.5 million;
- **MCB4/A/C1: $685.3 to $816.2 million;**
- MCB4/B/C1: $600.7 to $724.1 million;
- MCB4/A/C2: $680.3 to $808.6 million;
- MCB4/B/C2: $595.5 to $716.4 million; and
- **Preferred Alternative: $502.4 to $594.1 million. *******

Comment: HOW IS THIS DIFFERENT THAN MCB4/A/C1 AREN'T THEY THE SAME WITH SLIGHT MODIFICATIONS? HOW IS THIS COST SO MUCH LOWER? PARTICULARLY WITH THE MITIGATION REQUIRED. ACCORDING TO JENNIFER HARRIS OF THE N.C.T.A. BRIDGING MAPLE SWAMP COST $90 MILLION. TIFIA LOAN APPLICATIONS STATED $778 MILLION AND FIXED TOLLS?

Section 2.3 page 2-46 states "Mainland approach road Option B would cost approximately $84 to $92 million less than Option A. Since the Preferred Alternative must bridge the swamp (Option A) this should have been reflected in the costs of the Preferred Alternative.

ER2 would be the least expensive alternative.

Page xvi

NCTA has identified two funding sources available for the Preferred Alternative. The two funding sources are state appropriations from highway user taxes and toll revenues. Using these two funding sources, three financing techniques would be used in combination if the Preferred Alternative is selected for implementation. These techniques are:

1. State appropriation bonds;
2. Toll revenue bonds; and
3. Private equity from the PPP private concessionaire.

If ER2 were selected for implementation, the project would have to be built by NCDOT with traditional highway financing methods rather than by the NCTA financing techniques described above since ER2 has no component that could be funded by these financing techniques. If MCB2 were selected for implementation, the project would need to be built as a joint effort of NCTA and NCDOT, with NCDOT providing funds for components that could not be funded by the financing techniques described above.

Based on state law (Session Law 2011-145), state appropriations, or "gap funding," cannot be used to fund ER2 or other significant non-bridge portions of alternatives because the state appropriation funds that could back state appropriation bonds that are allocated to NCTA can only be used to pay financing expenses for a Mid-Currituck Bridge. If these funds were allocated to NCDOT, they would be subject to the equity formula, which would dilute the effectiveness of the funding.

Comment: THE LEGISLATION CAN BE CHANGED AS IT WAS TO CREATE THE PROJECT, AND ALLOW FOR THE GAP FUNDING, OR REMOVE IT, AS THIS HAPPENED IN 2011-2012 LEGISLATIVE SESSION. FUNDING AND THE ABILITY TO CONTINUE STUDY ON THE MID-CURRITUCK BRIDGE WAS VERY CLOSE TO BEING REMOVED ---SAVE FOR THE GOP NEEDING 5 DEMOCRATES TO VOTE WITH THE GOP FOR A VETO OF GOVERNOR PERDUES BUDGET.

WITH REGARD TO HURRICANE EVACUATION:

N.C. officials concerned about traffic along evacuation route

Posted to: News Storms Traffic and Transportation North Carolina

Currituck and Dare County officials are worried about a forced hurricane evacuation route from five-lane U.S. 158 to two-lane 158 in Barco. (Chris Curry | The Virginian-Pilot)

By Jeff Hampton
The Virginian-Pilot
© June 23, 2008

CURRITUCK COUNTY, N.C.

If a large hurricane approaches, tourists and residents from the Outer Banks and Currituck County may be turned away from Hampton Roads.

Emergency planners want to close N.C. 168 in Barco and divert traffic west on U.S. 158.

But U.S. 158 shrinks from five lanes to two there and could create a major traffic jam.

"It could be a mess," Currituck County manager Dan Scanlon said.

The so-called Barco diversionary plan was debated June 12 when emergency officials from both states met in Currituck County. Officials are expected to reconvene in July, said Mike Sprayberry, deputy director and operations chief for the North Carolina Division of Emergency Management.

With a large hurricane approaching, it would take 30 hours to get 95 percent of the traffic to safety through the Barco intersection, according to a 2005 study by the state highway department.

"It's going to be tough," said Sandy Casey, chief deputy for the Currituck County Sheriff's Office. "I'd say it would take not hours, but days."

Between 200,000 and 300,000 people may need to evacuate the Outer Banks, while Virginia could have to move two or three times as many people.

It would not make sense to allow the Outer Banks traffic into Hampton Roads during an evacuation, said Bob Spieldenner, spokesman for the Virginia Department of Emergency Management.

"The goal is to get them west," Spieldenner said.

But most Outer Banks tourists would be from Virginia, countered Ron Wall, natural hazards program manager for the N. C. Division of Emergency Management.

"The people coming there will be people from Virginia and they'll probably want to go back that way," Wall said. "I would argue with the Virginia plan. I can't see them closing the road to Virginia residents."

The Barco diversionary plan calls for traffic to follow U.S. 158 by turning west from the five-lane highway onto Shortcut Road, a two-lane stretch of U.S. 158. Traffic would continue into Camden County and turn right onto N.C. 343, also a two-lane road, and pass through South Mills and briefly turn onto U.S. 17 before returning to U.S. 158 toward Gates County.

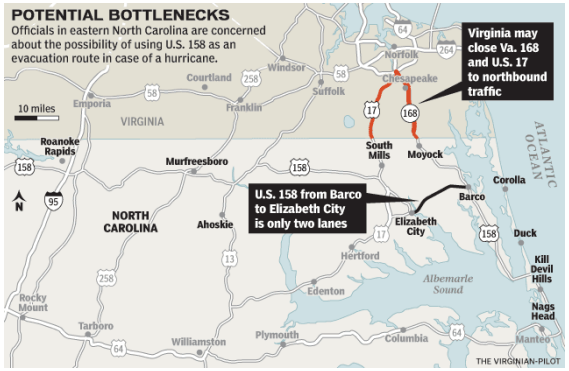
Another option would be to send traffic through Elizabeth City to southbound U.S. 17, a five-lane highway. But the route would pass through low-lying areas that have flooded in past hurricanes.

The nearest shelter would be in Rocky Mount, Scanlon said. Dare County might have to alter evacuation plans and direct more people west on U.S. 64, a four-lane highway through Columbia, he said.

North Carolina and Virginia officials will communicate closely through the emergency, Sprayberry said.

"We're moving into something like this as well ordered as possible," Sprayberry said. "No matter how well you plan and coordinate some of this, it's still going to be ugly."

Jeff Hampton, (252) 338-0159, jeff.hampton@pilotonline.com



"• *The construction of a third outbound lane on US 158 would offer the greatest reduction in hurricane evacuation clearance times with any alternative.*"

COMMENT: The first draft EIS done in January 1998 was rescinded as HURRICANE EVACUATION WAS A MAJOR OBSTICLE IN REACHING AN AGREEMENT ON THE STATED PURPOSE AND NEED IN THE DEIS. THIS CURRENT FEIS REAFFIRMS THAT CONCLUSION.

The meeting minutes found below are from an August 19, 2010 meeting with local emergency management services which again concluded that the Mid-Currituck Bridge will NOT substantially reduce hurricane evacuation times as stated in the purpose and need for the project. It was determined that the bottleneck at the 158/168 interchange through to Elizabeth City will compound the problem of hurricane evacuation.

NORTH CAROLINA
Turnpike Authority

Meeting with Local Emergency Management Officials Regarding Selection of Preferred Hurricane Evacuation Treatments

Meeting Minutes (Draft)

Date: August 19, 2010
1:30 PM to 4:15 PM
Currituck County Center, Barco, North Carolina

Project: STIP R-2576 Mid-Currituck Bridge Study - BRS-OOOS(35)

Attendees:

Dan Scanlon, Currituck County
James Mims, Currituck County
Rob Glover, Currituck County
Mary Beth Newns, Currituck County
Rebecca Christenbury, Currituck County
Peter Bishop, Currituck County
Bill Jones, Lower Currituck Fire Department
Sandy Sanderson, Dare County
Bill Biddlecome, US Army Corps of Engineers
Chris Gwin, NC Div. of Emergency Management
Jerry Jennings, NCDOT–Division 1
Chad Edge, NCDOT–Division 1
Meredith McDiarmid, NCDOT–Mobility and Safety
Jennifer Harris, NCTA
Tracy Roberts, HNTB
Bradley Reynolds, HNTB
Spencer Franklin, HNTB
Jose Luque, Currituck Development Group
Mike Fendrick, PB
Eric Misak, PB
Bobby Norburn, PB

Presentation Materials

- Meeting Agenda
- Handout 1 – Discussion Questions
- Handout 2 – Verify Preferred Hurricane Evacuation Treatment
- Handout 3 – Detailed Breakdown of Agenda Items & Additional Tables
- Mid-Currituck Bridge Study Citizens Summary
- PowerPoint Presentation on Project Status and Background
- PowerPoint Presentation on Hurricane Evacuation Option Input Needed from Local EMOs

Purpose

The purpose of the meeting was to solicit input from local Emergency Management Officials (EMOs) on the hurricane evacuation options presented in the Draft Environmental Impact Statement (DEIS). This was accomplished in the form of asking nine key questions (see below) to the meeting attendees to identify their preferred options for hurricane evacuation improvements depending on the Preferred Alternative that is chosen, as well as to get their input on public and agency comments on the DEIS related to hurricane evacuation.

Introduction

Mike Fendrick opened the meeting and asked the attendees to introduce themselves. He then gave an overview of the meeting handouts. Mike went through the PowerPoint presentation on the project status and background (see attached printout of slides), including giving an overview of the detailed study alternatives presented in the DEIS.

Jerry Jennings asked if any consideration was given for hurricane evacuation improvements to US 158 between Barco and Belcross. Mike responded that the US 158/NC 168 intersection was the critical point on US 158 since three northbound lanes are provided from US 158 and this splits into two lanes north on NC 168 and one lane west on US 158. In effect, there are already three evacuation lanes in place north and west of this intersection.

1. Bridge Pros and Cons Page 2-3 Meeting with Local EMOs to Discuss Hurricane Evacuation

Sandy Sanderson asked if the Mid-Currituck Bridge (MCB) would promote additional evacuation time (i.e., will it extend the time it takes to evacuate). Mike Fendrick responded that the bridge would not increase and should reduce the time it takes for an individual vehicle to evacuate, even in the 2035 design year, because the bottleneck for evacuating traffic would be shorter. The clearance time itself (the amount of time from the start of evacuation to the last vehicle being evacuated) would remain the same with or without the bridge because US 158 would be the controlling link in both cases. (Note that this assumes that three evacuation lanes would be provided for evacuation with or without the bridge.)

Dan Scanlon said the MCB would allow the Currituck Outer Banks to control its own economic destiny with respect to evacuations rather than being at the mercy of Dare County decisions, including decisions with respect to when to re-open the Outer Banks after an evacuation. Currently Currituck County is at the mercy of Dare County decisions related to re-opening the Wright Memorial Bridge (WMB). He added that because of the geography of the coastline (i.e., the Dare Outer Banks jut out further to the east), the Currituck Outer Banks often get less damage than Dare County, but Currituck County still cannot open until after Dare County does because the only access is through Dare County.

Dan said the discussion of the MCB serving as a solution to the area's hurricane evacuation challenges does not make sense until US 158 is widened to four lanes between Barco and Elizabeth City. Until that section of US 158 is widened, the MCB just moves the evacuation bottleneck into Currituck County at the Knapp Bridge.

James Mims said in the 1980s there were times when US 158 was closed to eastbound traffic at the NCDOT rest area south of Aydlett Road because of problems in Dare County even though there was no damage on the Currituck Outer Banks.

Dan and James discussed that the MCB would allow easier egress from the Currituck Outer Banks after other events (e.g., heavy rainfall events) in addition to hurricane evacuations.

Jennifer Harris asked for input from the local officials on any other Outer Banks issues that the MCB would impact. Jerry Jennings responded that the MCB would simplify problems with hurricane evacuation operations at the US 158/NC 12 intersection. This intersection has problems now and will be much worse in the future.

Dan asked where the increase in traffic is coming from that results in the tripling of evacuating traffic volumes for Links F and G in Table 2 of Handout 3 (i.e., from 22,863 vehicles for 2007 to 64,974 vehicles in 2035). Mike responded that much of this growth is coming from the south on US 158 (i.e., Kitty Hawk and Kill Devil Hills) because there will be less future growth on NC 12 to the north of US 158.

Spencer Franklin also noted that the future 2035 analysis assumes a Category 3 storm and 75 percent tourist occupancy (which is mandated by the North Carolina legislature), whereas recent evacuations have reflected lower tourist occupancy since these evacuations occurred after the peak tourist season ended. Therefore, the low tourist occupancy scenario traffic volumes (shown in Table 2 of Handout 3) are likely more reflective of traffic evacuated in recent evacuations. In comparison, the existing peak season (75 percent occupancy) would be approximately twice the recent evacuations, and the 2035 peak season (75 percent occupancy) would be approximately three times the recent evacuation volumes.

Sandy said he thinks the area to the south on US 158 is also just about built-out. Spencer re-iterated that much of the growth in evacuating traffic is because recent storms did not occur during high tourist occupancy periods. Sandy said even when comparing the existing and future 2035 evacuating volumes for 75 percent tourist occupancy in Table 2 (i.e., 43,327 versus 64,974), there is still more growth in evacuating volumes than he would expect because the Currituck and Dare Outer Banks are already relatively built-out in the project area.

It was discussed that the MCB would be a substantial benefit to the local transportation network because it would provide an alternative evacuation and/or access route after a hurricane if a portion of NC 12 was washed out north of Southern Shores. The MCB would also divert a lot of traffic from NC 12 and it would allow Currituck County officials to reopen their portions of the Outer Banks without waiting for Dare County to allow return access.

Comment: The emergency management personnel at the meeting have agreed that the hurricane evacuation clearance times will NOT be substantially reduced with the bridge. Therefore the bridge fails to meet its stated purpose and need for the project.

The FEIS states:

The interchange proposed as R-4457 is not a part of the No-Build Alternative because the interchange is included as a component of detailed study alternatives ER2 and MCB2. The

interchange is included in ER2 and MCB2 because an interchange is needed to reach a desirable level of service (LOS) on the summer weekday in 2035.

Regarding the Bonner Bridge Replacement:

Dare County Commission Chairman Warren Judge. **"The mid-county bridge in Currituck is a matter of providing an optional route for the convenience of visitors to Corolla; whereas, we are concerned with maintaining the only safe transportation corridor for our residents' safety, health and welfare."**

Regarding Political Influence On This Project.

Jul. 9, 2009 from the Daily Advance. http://www.dailyadvance.com/news/dot-to-take-over-turnpike-authority-705643.html
Marc Basnight was a chief proponent of giving the Turnpike Authority control of the long-delayed mid-county bridge project. Johnson, the Basnight spokesman, said "The Mid-Currituck Bridge is one of his top priorities.

Comment: As Senate Pro-Tempore for many years, Marc Basnight used his political influence to garner state funding for this project. In 2010 the House version of the budget removed the "gap" funding for the bridge. When the bill came to the Senate, Marc Basnight had the "gap" funding put back in place and then increased the funding from $15 million/year to $28 million/year for 50 years. The increase was due to the fact that this project was not likely to receive a federal T.I.F.I.A. loan, NOT because it is a viable project.

Transportation Spending
Potential Items for Consideration

- What are the transportation funding priorities?
- Are there areas where funds can be reprogrammed for other purposes and there areas where efficiencies can be made?
- Should transfers made to other State agencies be examined?
- Can cost savings be achieve through greater privatization or outsourcing?
- Should the prioritization process be applied to areas in which projects are currently selected by the General Assembly, such as Turnpike projects, Intrastate Systems, and Urban Loops?

G.S. 136-89.183A
Stipulates that the Mid-Currituck Bridge shall preserve the water quality of Currituck Sound and mitigate the environmental impact of the bridge on the Currituck County mainland and the Outer Banks.

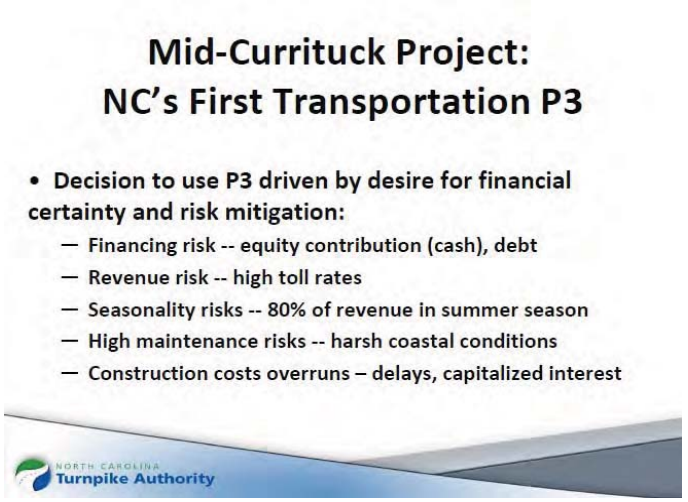
Comment: The stipulation in legislation does NOT say "to the extent that is practicable" as is often stated in the FEIS.

According to the Traffic and Revenue Forecasts Final July 2011 page 6

Table ES5 Proportion of MCB Revenue by User Type

2015 – Optimal Toll Scenario	% Revenue from Visitors	% Revenue from Residents	% Revenue from Trucks	Total	% Revenue by Season
Peak	82%	15%	3%	100%	52%
Shoulder Peak	77%	18%	5%	100%	17%
Off Peak	58%	39%	3%	100%	31%

This does not jive with the Turnpike Authority's presentation regarding P3 and the Mid-Currituck Bridge. This presentation states that 80% of the expected toll revenue will come during the summer season, not 52% as indicated above.



This slide below is what many feel perfectly describes this proposed project.

§ 136-89.183A. Accelerated Pilot Toll Bridge Project.

(a) Findings. – The General Assembly finds that there is a need for a bridge connecting the Currituck County mainland to the Currituck County Outer Banks; that the bridge should be implemented as a toll bridge; that the bridge should be implemented in a manner that protects the natural environment and quality of life on the Outer Banks; and that the character of the existing road system in Currituck County and Dare County Outer Banks should be preserved.

(b) Contract to Construct Accelerated Pilot Toll Bridge Project. – The Authority shall contract with a single private firm to design, obtain all necessary permits for, and construct the toll bridge described in G.S. 136-89.183(a)(2), known as the Mid-Currituck Bridge, in order to provide accelerated, efficient, and cost-effective completion of the project.

(c) Preconstruction Participation. – In addition to the authority granted by G.S. 136-89.191, the Department shall participate in the cost of preconstruction activities related to the project described in this section, if requested by the Authority.

(d) **Environmental Protection. – The Authority shall ensure that the Mid-Currituck Bridge is implemented in a manner that accomplishes all of the following:**

(1) Ensures the preservation of water quality in Currituck Sound.

(2) Mitigates the environmental impact of the bridge on the Currituck County mainland and the Outer Banks.

(3) Reduces traffic congestion and vehicle miles traveled, and preserves the character of the existing road system, in Dare County and Currituck County on the Outer Banks.

(e) Report on Project. – The Authority shall report to the Joint Legislative Transportation Oversight Committee on December 1, 2005, and each December 1 thereafter until completion, on the progress of the accelerated pilot toll bridge project described in this section. (2005-275, s. 3; 2008-225, s. 11.)

Comment: How will back-ups on the bridge be handled? Will there be signage to divert traffic? Will the toll prices show on signage on US158 before motorists exit for the bridge?

LEGISLATIVE STUDY COMMISSION ON P3'S JANUARY 2011 MEETING MINUTES

With the Mid-Currituck Bridge project, Mr. Foster said the Department of Transportation is learning quite a bit about delivering large-scale P3s as well as pre-development agreements. To discuss the Mid-Currituck Bridge in more detail, he introduced Mr. David Joyner, the Executive Director of the North Carolina Turnpike Authority.

Mr. Joyner's PowerPoint presentation is in the 1-13-2011 folder at the Commission website: http://www.ncleg.net/gascripts/documentsites/browsedocsite.asp?nid=121.

Mr. Joyner said he would get into the Mid-Currituck Project because DOT thinks it is important for this Commission to have a good understanding of what they have learned, what their guiding principles were, and what some of their recommendations are to the Commission with regard to a transportation P3.

Mr. Joyner said when he first came to the Turnpike Authority (TA) about five years ago, a public-private partnership, as they were experiencing in Texas at that time with the Trans Texas Corridor, was viewed by a lot of people as a panacea. Unfortunately, higher costs of capital and all these other things come into play, and it really is not a panacea at all. He said it is a very valuable tool, but it takes the right project to make it work.

Mr. Joyner said the Mid-Currituck Bridge is located in the northeast corner of the state, and it will run from the small Town of Aydlett on 158 across the sound, and they have just about selected the northern route seen on the handout map as the preferred alternative. He said the project is seven miles long, and will be the longest bridge project in the history of the state—actually a little longer than the Virginia Dare Bridge. The cost estimate is $550 million to $625 million. He said DOT began environmental studies on this project back in 1995, and the Turnpike Authority took over the project when he joined the Authority in 2005. He said they expect construction to begin in approximately one year and open to traffic in 2015.

Mr. Joyner said the decision to use a P3 on this bridge came from three or four places. One, there was a statute fostered by the Legislature, which was the enabling legislation for the Turnpike Authority, that requested the Turnpike Authority to look at this project with the private sector. Therefore, they did that automatically. But when they began to think about the project they decided what they were looking for. He said they were very fortunate in being able to retain some the best attorneys in the country who had done more P3 deals than any law firm in the country. They advised the TA that the financing would not be the secret to the project. They said risk mitigation would be where the Authority would benefit. They asked if it were not a benefit

financially, did they really want to do it? They decided they needed to take advantage of the opportunity to learn something, so they went forward.

After getting into the project whole hog, Mr. Joyner said there are some very unique features about the project that make a P3 very attractive. One is the financing risk. As Mr. Holloman talked about, when you go to the markets you've got to have the best grade credit rating. You can't finance a project without it. **Mr. Joyner said there was a lot of doubt about whether this project would get an investment grade credit rating: 1) Because of the high toll rates that would have to be put on a project of this size. 2) Because of the seasonality risk. Eighty percent of the revenue from this project is generated in the summer months, which is a serious risk. 3) High maintenance cost because of where this project is, and it has to survive 40-50 years**.

4) Because of construction cost overruns. All of those factors made a P3 a good tool to look at.

As Mr. Joyner said, one of the things they wanted to do was learn something; so they asked their advisors and attorneys the best way to learn how to do a P3. They came up with a term that the Authority was not familiar with: PDAs—pre-development agreement with a contractor. A PDA allows the Authority to establish a contractual relationship with a potential builder of the project from day one, which means that contractor (developer) went through the legal process, the preliminary design and engineering, the traffic and revenue studies, and all the technology inputs that went into the project for the last three years. He said they did that PDA through a competitive bid process. They issued a request for qualifications, short listed it, and it was a state procurement competitively bid. Mr. Joyner said they picked a firm called ACS Dragados from Spain. (Dragados means bridge in Spanish.) He said it is the largest bridge building company in the world, and they think they got the best partner possible.

Mr. Joyner said they did the PDA, and the partnership provided opportunities for the TA to develop innovative ideas and fine tune the project. For example, one of the ideas that ACS Dragados brought to the table was that the first mile of the project on 158 until you get to the sound is over a dried-up swamp or wetland, and they said if you berm that one-mile section rather than bridge it, you can save $40 million. And, if you build, use a construction method called "top- down construction" on the bridge, you can save $80 million. Mr. Joyner said that was the kind of innovation they were looking for, and they found it in this firm. He said he was not saying they would be able to get the resource agencies to allow them to do that because they are still fighting over that, but nevertheless those kinds of ideas are being brought to the table, they are very valuable, and they are saving a lot of time and money with ACS as their partner.

Mr. Joyner said project feasibility is very real with a PDA and a public-private partnership. He said they won't know if this project is financially feasible for yet another month, but they are very close. <u>If it is not feasible as a P3, then the TA is free to go out and rebid the project as a municipal financing or not build it at all.</u>

Mr. Joyner said the TA is 45 to 50 days away from determining whether the project is financially feasible. After 15-16 years, the environment approvals are expected to be complete in just a few months. He said next week they expect to have a LEDPA, which is the Least Environmentally Damaging and Practical Alternative; and they will begin negotiations, if the project is financially feasible, with their partner, who won the first right to negotiate the project back three years ago. He said they would sit down with them and begin drawing up a concession agreement. At that point, they will come to a determination as to whether the project is better as a P3 or whether it is better as a traditional municipal finance.

Mr. Joyner said the guiding principle that they have developed and learned is that the partner in your P3 has to put cash on the table. The state is putting up its share, and the equity partner is bringing approximately 20 percent or $100 million in cash to the deal. He said that was very important to understand. In addition, he said they would negotiate the risk mitigation. He said it is hard to conceptually grasp because what risk do you have with a highway project? You have the money, you bid it, you build it, you maintain it. What's the risk? There is a lot of risk to a start-up toll project. It is purely business from start to finish. You go out and borrow the money, you build the business, you generate the revenue, you pay your debt. He said there are toll projects that are on the edge. A start-up toll project is risky. This deal will bring financial certainty to the table and allow them to offlay the risk of this project.

At the same time, Mr. Joyner said they have to protect the public interest. Therefore, they will retain a very meaningful role throughout the life of the concession. They will make sure the toll policies and rates are adhered to, that the construction standards are built to AASHTO and Federal Highway Administration standards, and the system integration system will work not only in that project but will work in all the projects they build throughout the state. He said there must be transparency in all operations of everything they are doing throughout the life of the project.

What is the public interest? Mr. Joyner said first it has to be a project that is of value to the locals. It's got to be of value to the citizens of North Carolina. Second, he said they have to offer excellent customer service and be able to provide that service at a reasonable rate. He said there will be some questions about whether the rate is reasonable, but this is an expensive project. The customer, however, is getting over an hour of time savings in the peak seasons, and most of the people who are using this service are going to a place on the Outer Banks that they are paying an awful lot of money to go to. Mr. Joyner said they do value of time analyses, and their toll is expected to be approximately one-fifth of what they estimate the value of time for people who will be staying on the Outer Banks. He said they think they have a good product and a good service to offer with no risk.

<u>Mr. Joyner said they had to construct the most cost-effective project available, and they have to maintain transparency</u> of the procurement and the operation records throughout the concession period. The process must be transparent, and all accounting and pricing has to be open book. The terms and conditions have to be fair and reasonable for the concessionaire. The final decision, however, of whether they go forward with the project, again, rests with the state, the Turnpike Authority, and DOT. And, the final concession agreement, which will take about 120 days to negotiate, must be approved by the Attorney General.

Mr. Joyner said the concession agreement will be a very large document that will address all the terms and conditions, which they will live with during the life of the project. He said to try to imagine a lease deal for a $500 million asset that is going to be 40 to 50 years in length. He said it is very hard to see out that far. He said you had better get it right, and they think they have the best team available because the people sitting on the other side of the table are going to have the best talent that they can hire. He said it has to be a rock solid concession agreement.

Mr. Joyner went over a few myths about P3s. One is that there is a sentiment that if a project doesn't work as a municipal finance, you can take to the private sector, and they can make it work. He said that is not true. As Mr. Holloman said, the cost of capital is just too high. You can't make a good project out of a bad project financially.

Mr. Joyner said the optimal approach to project delivery depends on the public sector's risk tolerance. Early and sustained local teaming is critical. He said they have made numerous trips to Aydlett and Currituck County not just from environmental hearings, but to talk to the people about what they are doing to make sure that they understand why they are doing what they are doing. He said there is a huge sign down there near the Sanderling Inn that says, BUILD THE MID-CURRITUCK BRIDGE. He said they are real proud of that because it shows a lot of support for the project. <u>He said, in his opinion, you could not build any P3 without strong local support.</u>

Comment: Mr. Joyner did not mention that there is strong local opposition to the bridge. We have a large billboard at the corner of 158 and Aydlett Road that says: Because <u>IT IS</u>

Remote…..IT IS Worth the Drive! The local opposition on both sides of the water are very proud of our 10 x 30 foot billboard. See billboard below.

Comments on F.E.I.S. Details

Section 106 Historic Resource Impacts pg. xvii

"Following the receipt of comments on this FEIS and the finalization of the selection of a preferred Alternative, additional archaeological surveys would be conducted on both land and water to identify the presence or absence of additional resources. Also, an assessment would be conducted of the NRHP eligibility of archaeological sites within the APE of the Preferred Alternative if they would be jeopardized by impacts from project construction."

Comment: Why were these studies not completed prior to the issuance of the FEIS as the archaeological findings could affect the Preferred Alternative?

Section 404 Jurisdictional Waters Impacts pg. xvii

"Of the detailed study alternatives considered, the Preferred Alternative would have the least fill in wetlands based on the area within the slope-stake line (edge of earthwork) plus an additional 25-foot buffer (7.9 acres). ***Of the alternatives with a Mid-Currituck Bridge, it would involve the least clearing of wetlands at 25.5 acres and the least shading of open water 6 feet deep or less at 8.7 acres. The Preferred Alternative would place no fill in streams."***

Comment: How does this compare with the ER2 Alternative? Isn't ER2 one of the detailed study alternatives? The N.C.T.A. is only comparing bridge alternatives to each other.

Coastal Area Management Act Areas of Environmental Concern Impacts Page xviii

*"The North Carolina Coastal Resources Commission….*issues CAMA permits for development in Areas of Environmental Concern (AEC). Four types of AEC occur within the project area: coastal wetlands, estuarine waters, coastal shorelines, and public trust waters. The shorelines and waters of Currituck Sound, as well as the wetland freshwater marsh communities found within the project area, are all considered AEC under CAMA. This also includes Jean Guite Creek, which is a Primary Nursery Areas (PNA)."

Comment: To build an unnecessary bridge affecting 4 Areas of Environmental Concern is astounding. How many AEC's are affected with the ER2 or No Build alternatives?

What environmental impacts are expected with each alternative, and how do the alternatives compare? Page xxi

"Changes in this table since the DEIS reflect changes made in response to comments, as well correction of some compiling, rounding, and typographical errors found in the process of preparing this FEIS. The latter changes did not affect the conclusions of the impact evaluation and they were not a factor in the selection of the Preferred Alternative.

Comment: So to be clear, the table S-1 in the DEIS was incorrect due to sloppy work including: typographical errors, rounding and compilation of data.

Table S-1 continued pg. xxvi under the bridge alternatives

"Existing roads would be affected by sea level rise including in the Waterlily Road area of the US 158 interchange. A Mid-Currituck Bridge would be a useful asset in reducing the impact of sea level rise on the project area's road system. Under all sea level rise scenarios considered, the entire barrier island would be inundated at the Dare/Currituck County line, ***creating a breach in the island and making a Mid-Currituck Bridge the only way off the Currituck County Outer Banks."***

Comment: Again, sloppy work. If you look at a map, the Currituck Outer Banks is NOT an island; it is a barrier peninsula. It is well known locally that the False Cape and Back Bay parks are opened for passage through to Sandbridge, VA in times of emergency. Therefore, if a breach occurred at the county line, the proposed bridge would NOT be the only way off. In fact the Currituck Mainland south of the ICW IS an island, so the evacuees from the Currituck Outer Banks are evacuating onto an island. Map below.

Table S-1 Continued pg. xxvii

"Forecast development would be the predominant contributor to cumulative impacts, irrespective of whether a detailed study alternative is built. The improved accessibility to Currituck County Outer Banks with the bridge would cause the order of future development to change such that development occurs first in Currituck County and later in Dare County. MCB2, MCB4, and the Preferred Alternative do not increase the demand for development but do accommodate the forecast demand for new development of 86 percent build-out in 2035. In contrast, the No-Build Alternative would result in congestion that could act to constrain practical development on the Outer Banks to 70 percent of maximum build-out. In addition, in terms of indirect impacts, the presence of the bridge could result in business development in proximity to the bridge's interchange with US 158 and associated use of farmland and visual change. This development, however, is desired by Currituck County. With MCB2, MCB4, and the Preferred Alternative, day visitor potential demand would increase, which could have some affect in the NC 12 area but likely would have more impact in the unregulated beach-driving area."

Comment: As of December 2011, Corolla is 80% built out, without the convenience of a bridge (Source Currituck Planning Board). The limiting factor for full build out of the 4x4 area is due to the lack of a paved road through the area, which will never happen.

Impact on the 4 Wheel Drive Area

Panel: Limit beach traffic

By Cindy Beamon
The Daily Advance
Thursday, September 22, 2011

CURRITUCK — **A dangerous mix of heavy traffic and pedestrians has persuaded a panel looking at safety issues on Currituck's four-wheel drive beaches to suggest limiting the number of vehicles accessing the beaches during the peak summer months.**

The Beach Driving Committee asked Currituck commissioners Monday to study the possibility of issuing permits as a way to limit traffic to numbers that the 11-mile, off-road beaches can safely handle.

A road survey in 2007 counted 3,500 cars crossing the ramp onto northern beaches on Saturdays in July. An estimated 2,000 weekend motorists are reportedly "day-trippers," visitors who do not live, rent vacation homes, or work on the off-road area. A permit

system would focus on limiting the number of day-trippers — be they vacationers to the south or commuters visiting for the day.

"Clearly this much traffic volume is just not sustainable. It is too much traffic," said committee member Kimberlee Hoey.

The problem will only get worse in future years, said Hoey.

Traffic is projected to keep climbing as more vacationers flock to Currituck beaches. If N.C. Highway 12 is widened or a mid-county bridge built, the numbers will increase even more, she predicted.

A feasibility study would determine how much traffic is too much and how to control the volume, she said.

But the idea has already drawn opposition.

Commissioner Butch Petrey said permits would deny day-trippers access to off-road beaches, which would result in angry tourists, less money spent at local businesses and fewer tax dollars.

Petrey said he would never vote to require permits for day-trippers. He said the county needs to remember that residents benefit from Currituck's opening its beaches to tourists. Income from occupancy taxes and sales taxes keeps the county tax rate low, he said.

"I don't want to kill the goose that lays the golden egg," Petrey said.

Hoey said the committee wants to encourage the tax benefits "without merely witnessing the overuse of a valuable resource."

She said the permit system would only be necessary during peak summer weeks.

The committee has made other suggestions to relieve beach traffic problems as well. Road signs directing motorists to parking areas in Corolla could divert traffic away from off-road beaches, said committee member Karen Ish. Motorists often drive past beach access points at the lighthouse, Corolla Bay and Whalehead because they are unaware parking is available, she said.

"They drive past the crowded beach access at the Currituck Club and just stay on N.C. 12 until it ends, never seeing another place to park," Ish said.

The committee also suggested the county set up portable toilets, water and trash cans at access sites to the south to make those beaches more attractive to visitors. Building bathrooms at the sites was suggested for the long-term.

Traffic patterns on the beach road were also examined.

Currently, vehicles can drive on the beach's foreshore or in front of the dune line, with parked cars and beach-goers in between.

Commissioner Paul O'Neal suggested that travel on a stretch of beach, possibly a mile, be redirected to avoid a situation similar to "Frogger," a one-time popular video game.

He suggested that parked cars be shifted closer to the beach, so that beach traffic can drive behind pedestrians and their cars. That way, beachgoers would not have to cross traffic to access the beach, he said.

One committee member said relocating the road could pose problems for motorists who might get stuck in the soft sand. Many of today's four-wheel drive vehicles are not equipped to drive on soft sand and easily get stuck, said committee member Edward Ponton. The problem is already evident during high tide, when vehicles are forced to drive close to the dunes, and many get stuck, said Ponton.

The committee also recommended the county set up stations where motorists can deflate and inflate tires before and after driving on the off-road areas. Motorists are advised to air down tires to protect the beach roads from becoming like washboards.

Comment: Aydeltt, Corolla, Coinjock, and the North Beach area do not desire this development. Currituck County does not have any incorporated towns to express dissent against the bridge.
Earlier in the FEIS, it was assumed that the bridge would not contribute to development.

- **Page xvii it states that *"The Preferred Alternative would not create a significant risk beyond risks associated with development on the Outer Banks and the mainland that exist today."***

- **Page xxvii Tabel S-1, Comparison of Key Impacts, it states *"Forecast development would be the predominant contributor to cumulative impacts, irrespective of whether a detailed study alternative is implemented."***

Project Commitments Page xxix

6. *A Design Noise Study will be prepared to update the FEIS noise analysis based upon the most recent FHWA regulations and NCDOT noise policies and guidance, traffic forecasts, and the final design (see Section 3.4.1.5).*

Comment: Why was this noise analysis not included in this FEIS if it was known prior to printing that this information needed to be up-dated.

1.2 What needs is the project trying to meet? Page 1-3

The proposed action responds to three underlying needs in the project area:

- *The need to substantially improve traffic flow on the project area's thoroughfares (US 158 and NC 12);*

Comment: The traffic congestion experienced on 158 on the Currituck mainland is due to an insufficient intersection at NC12/158 in Dare County, 2 lane traffic with insufficient ROW in the town of DUCK (60 feet) which creates a bottleneck, and not enough travel lanes on NC12.

- *The need to reduce substantially hurricane evacuation times from the Outer Banks for residents and visitors who use US 158 and NC 168 as an evacuation route.*

Comment: more people on the northern OBX due to access negates any benefit the additional crossing would provide particularly as evacuees merge with traffic heading north on 158 on the Currituck mainland, only then to be sent to another bottleneck, (158 west through Elizabeth City).

Page 1-5
Hurricane evacuation times for residents and visitors who use US 158 and NC 168 as a hurricane evacuation route far exceed the state-designated standard of 18 hours.

Comment: The State needs to re-evaluate the hurricane evacuation strategy and send more people south to RT 64 west. This is often pointed out by news crews covering approaching hurricanes. They note people are not using the uncongested route to 64 west, and instead are using US 158 north to travel through Elizabeth City adding further congestion during evacuations.

2.1.2.1 ER2 page 2-5
ER2 was developed to achieve maximum transportation benefits using the existing roadways, while minimizing impacts to communities along those roads.
The basic features of ER2 are:
◎ *Adding for evacuation use only, a third outbound evacuation lane (Figure 2-3) on US 158 between NC 168 and the Wright Memorial Bridge as a hurricane evacuation improvement or using the existing center turn lane as a third outbound evacuation lane; in either case one inbound lane on the Wright Memorial Bridge and on the Knapp (Intracoastal Waterway) Bridge would be used as a third outbound evacuation lane;*

Comment: ER2 presents the least impacts while achieving maximum travel benefits. Therefore it is the only alternative that should be considered for the LEDPA.

- *Widening NC 12 to three lanes (two travel lanes and a center lane for left turns; Figure 2-5) between US 158 and a point just north of Hunt Club Drive in Currituck County (except for the existing three-lane section in Duck, which will be unchanged) and to four lanes with a median from just north of Hunt Club Drive to Albacore Street (Figure 2-6).*

Comment: Increasing the road carrying capacity of RT 12, which is the primary north/south route, should be the only logical choice to alleviate traffic experienced on the northern OBX during the summer weekday. The bridge will do nothing to address the weekday traffic.

FIGURE 2-5 NC 12 3-Lane Widening (60-Foot Right of Way) page 2-8

Comment: NC 12 widening to 3 lanes would be suitable for 3 lanes through Duck which only has a 60 foot ROW. Duck says they don't want to lose their neighborhood feel due to 3 lanes. Aydlett, which will have substantial impacts due to the proposed bridge, would also like to keep its' neighborhood feel. Why is Duck being catered to?

Page 2-17
MCB4, which includes only limited improvements to NC 12, also would not eliminate congestion on NC 12 on the summer weekday.

Comment: Then why are we spending $700 million for a bridge that you admit will not alleviate the most traffic? Though none of the options will alleviate all of the summer time congestion, ER2 is the least environmentally damaging and least expensive of the alternatives, save the No build alternative. Give me 1 instance of a popular vacation destination that does NOT experience congestion. Your excuse for not addressing other options then the bridge, are based on the FALSE idea that there is no funding for these necessary projects. The state created funding for the bridge, the state can remove funding for the bridge as it did for years 2009-2010 and 2010-2011 and reprogrammed that money to replace needed school buses. Other projects within the STIP which need to be addressed in the bridge project area, include widening of US158 east of the Wright Memorial Bridge and construction of an interchange at US158 and NC12. With limited transportation funding to address the state's needs, we need to use that money for the most practical solutions. If these other projects will need to be addressed with or without the bridge, then why not fund those projects, and save the State of North Carolina $28 million/year?

Page 2-17
Traffic improvements are seldom designed to eliminate completely the worst hours of congestion. Thus, except for the second exception noted above, the detailed study alternatives, including the Preferred Alternative, were not designed to handle all

summer weekend congestion in 2035, ***which will occur only 26 days a year on the 13 summer weekends.***

Comment: So this massive project which will place un-do burden on a very sensitive environmental area (Maple Swamp which is a naturally significant heritage area), the Currituck Sound and the northern OBX will NOT alleviate the 26 days of traffic experienced on the Currituck Mainland and the OBX during the times the vacationers arrive/depart. Again, why is the state spending $28 million/year for 50+ years (1.361 BILLION DOLLARS +) to subsidize a project that will not address the main issue of traffic on the summer weekends?

2.1.10 Why are hurricane evacuation improvements needed on US 158, and how would they work? Page 2-36

The only way to reduce hurricane evacuation clearance times in the project area is to add additional evacuation capacity on US 158.

Comment: Has using the US 158 Bypass south to US 64 west been examined to ease the congestion experienced on US 158 north to Elizabeth City? Was this possibility factored into your deduction that added capacity is necessary on US 158 north? If not, then not all possibilities have been fully examined to reduce this congestion during evacuation events.

Page 2-37

ER2 includes 27 miles of new pavement for a third outbound hurricane evacuation lane or use of the center turn lane (including the Knapp Bridge and Wright Memorial Bridge);

Comment: Operative word is OR. Additional lanes are not required under the ER2 alternative as the existing center lane can be used to facilitate evacuation from WMB north. If this reversing of the center turn lane is feasible if a bridge were in place, then it should be equally feasible without the bridge.

Page 2-37

Reversing the existing center turn lane would require an investment in additional personnel during an evacuation and additional equipment to facilitate the evacuation. An estimate of required equipment and police squads with the two options for ER2, MCB2, MCB4, and the Preferred Alternative is shown in Table 2-2.

Table 2-2. Equipment and Highway Patrol Squads

Alternative	Addition of Third Outbound Lane				Reversing Lane Operations			
	Cones	Drums	Changeable Message Signs	Highway Patrol Person-Hours	Cones	Drums	Changeable Message Signs	Highway Patrol Person-Hours
ER2	123	3,923	12	717	123	4,268	13	840
MCB2	167	519	5	57	167	864	6	180
MCB4	167	1,835	12	507	167	2,180	13	630
Preferred Alternative	NA	NA	NA	NA	167	2,180	13	630

NA=Not Applicable

Comment: Why does the preferred Alternative, which is a modification of MCB4 have different values in the table above for the addition of third outbound lane? That makes no sense. By reversing the center turn lane, you would achieve the same benefit, which, by the way, is only necessary once every 9 years or so, on average. The money saved by not building the bridge and not adding a third outbound lane for hurricane evacuation is enormous. According to the table under reversing lane operations, the highway parole person-hours for the ER2 alternative and the preferred alternative is relatively negligible in comparison to costs associated with the bridge.

Page 2-40

Thus, reversing lanes for 27 miles is not a realistic option, leaving for ER2 only adding a third outbound lane as a reasonable strategy for reducing hurricane evacuation times by increasing road capacity along US 158.

Comment: Again US 158 South in Dare County is under-utilized for hurricane evacuation. If this route was used to handle the evacuation of the Northern OBX then there would be no need for a third outbound lane on US 158 North on the Currituck Mainland.

2.1.12 How would tolls be collected with a Currituck Sound bridge?

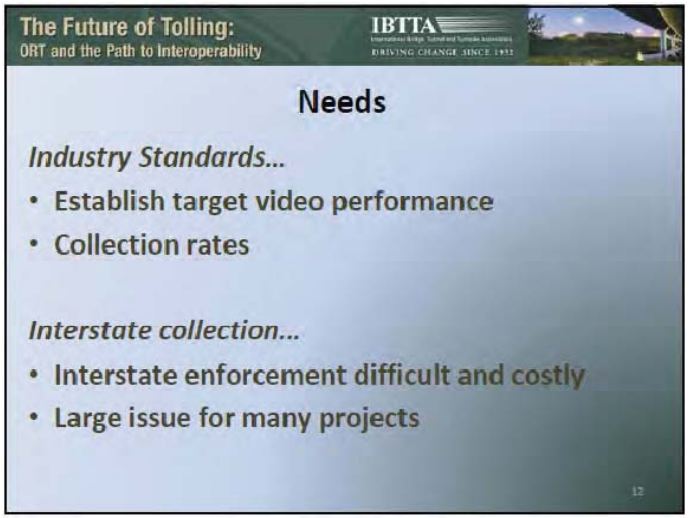
NCTA also would work to establish interoperability agreements with other toll authorities in the United States to enable the sharing of tolling accounts and transactions. These agreements would allow other toll authority's transponders to be used for toll payments on a Mid-Currituck Bridge. Toll road users also may have the option of buying project-specific transponders with a specified number of prepaid tolls.

Comment: November 14, 2011 NCTA meeting minutes about privacy issues and interoperability.

"JR Fenske discussed toll technology and interoperability. Ms. Fenske discussed the different types of tolling technology. JR stated that there are 20 toll roads across the US that are using or pursuing all electronic tolling. She discussed the evolution of tolling and payment options. She stated that current toll programs do not allow for full national interoperability due to technology as well business rules and legislation. "

Considering that the majority of the travelers to the OBX are out-of-state vacationers, the difficulty and cost of interstate collections will weigh heavily on this type of tolling. Also, the majority of the users will not buy a transponder for 1 visit per year at most.

Grady Rankin on NCTA All Electronic Tolling (see slide below)



If there are cash/credit lanes, was that considered in the travel time considerations of traveling the bridge?

Section 2.3 page 2-46 **Explain how much each detailed study alternative, including the Preferred Alternative, would cost and how it would be paid for.**

Page 2-48

NCTA has identified two funding sources available for the Preferred Alternative. The two funding sources are state appropriations from highway user taxes and toll revenues. Using these two funding sources, three financing techniques would be used in combination if the Preferred Alternative is selected for implementation. These sources are:

1. State appropriation bonds.

Based on the North Carolina "Current Operations and Capital Improvements Appropriations Act of 2011," as ratified by the North Carolina General Assembly on June 11, 2011, the state will appropriate $15,000,000 annually to be used to pay debt service, or related financing expenses, on revenue bonds (e.g., state appropriation revenue bonds, private activity bonds) or notes issued for the construction of the Mid-Currituck Bridge. Effective July 1, 2013, the state appropriation amount will be raised to $28,000,000 annually.

Comment: These funds are not guaranteed. These funds were removed completely in a version of the 2011-2012 Budget. The appropriations for 2009-2011 were reprogrammed to purchase replacement school buses. The legislation in G.S. 136-172 (b2) states "Notwithstanding the foregoing, it is the intention of the General Assembly that the enactment of this provision and the issuance of bonds or notes by the Authority in reliance thereon shall not in any manner constitute a pledge of the faith and credit and taxing power of the State, and nothing contained herein shall prohibit the General Assembly from amending the appropriations made in this subsection at any time to decrease or eliminate the amount annually appropriated to the Authority."

2. Toll revenue bonds.

The estimated average toll revenues in 2010 dollars for the first ten years would be $21 million per year; the revenues would increase until reaching average toll revenues of $34 million per year during the entire concession period (assumed to be 50 years). All the project operation and maintenance (O&M) costs during the toll collection period would be paid using toll revenues. An average of 30 percent of the revenues would be used to pay the O&M costs each year. The remaining toll revenue during the concession period would be used for debt repayment and payment of the equity return. The toll revenue bonds would be repaid during the first 40 years and the majority of the private equity would be repaid during the last years of the concession period.

Transportation Infrastructure Finance and Innovation Act (TIFIA) financing (federal government loans) could be used in addition to these bonds.

Comment: In a March 23, 2010 Presentation by David Joyner regarding T.I.F.I.A. Financing-

Value to NC Projects

- Without TIFIA, no NC project is financeable
- The state has already committed $99 million in annual appropriation to first four projects.
- Without TIFIA, these commitments increase 46% to $144 million per year
- The state is unable and unwilling to increase these annual appropriations

Value to NC Projects

Project Gaps

	Onetime Shortfall Without TIFIA	Incremental Increase to Annual Appropriation
Monroe Parkway	$ 196,625,110	$ 13,800,000
Gaston Connector	144,769,613	9,050,000
Mid-Currituck Bridge	177,114,375	13,800,000
Triangle Expressway	131,386,740	8,500,000

As A Result…

- Project sponsors caught flatfooted
- Letters of interest submitted March 1 will be evaluated to determine which projects eligible to submit applications
- Increasingly difficult to forecast financial feasibility due to evaluation uncertainties -- in an era where TIFIA support is increasingly important

As of March 2010

Letters of Interest Received:

- 39 Projects submitted
- $13+ billion in loan requests
- Would consume $1.3+ billion in credit authority
- Exceeds current credit authority by 11-fold

Program is grossly underfunded

Comment: Note the $13.8 million dollar per year increase to annual appropriation without T.I.F.I.A. That is the amount that then Senate Pro Tempore, Marc Basnight, increased the annual appropriation for the bridge project from $15 million per year to the $28 million per year. Marc Basnight had the political clout to manipulate Legislative Statues and to increase the states commitment for the project in his district. Without Marc Basnight this project would have never been given life support. The NCTA has repeatedly failed to obtain T.I.F.I.A. financing and is not expected to receive these limited funds.

Also of note, the projected revenue of $21 million per year at the outset, is vastly overstated. This assumption mandates that all vehicles traveling north on NC12 from US158 would pay the astronomical toll of $28. How many vehicles traveling north on NC12 continue on past the Currituck/Dare County line?

Page 2-49 The FEIS asserts:

If ER2 were selected for implementation, the project would have to be built by NCDOT with traditional highway financing methods rather than by the NCTA financing techniques described above since ER2 has no component that could be funded by these financing techniques. The Pre-Development Agreement would be dissolved since only motor vehicle and fuel taxes could be used to build ER2. Also, the funds made available by the General Assembly could not be used since there would be no bonds or debt to repay. Based on state law (Session Law 2011-145), state appropriations, or "gap funding," cannot be used to fund ER2 or other significant non-bridge portions of alternatives for the following reasons. First, the gap funding is allocated to NCTA. Pursuant to state law (G.S. § 136-89.183), NCTA is only authorized to construct certain projects, including, "A bridge of more than two miles in length going from the mainland to a peninsula bordering the State of Virginia, . . ." ER2 does not meet the definition of a bridge and therefore NCTA could not construct ER2. Second, the gap funding can only be used to pay debt service or related financing expenses on revenue bonds or notes issued for the construction of the Mid-Currituck Bridge. Again, ER2 does not qualify as the "Mid-Currituck Bridge." Third, since NCTA is not authorized to build ER2, if ER2 was to be built, it would have to be built by NCDOT. The gap funding is not available to NCDOT, only NCTA. ***State law would need to be modified to make the gap funding available for ER2.*** *However, even if NCDOT received the same amount as the gap funding, the additional funds would be subject to the equity formula as defined in state law (G.S. § 136-17.2A). Being subject to the equity formula would dilute the effectiveness of the funding, especially in* ***NCDOT Division 1 where the cost of the Bonner Bridge replacement would likely dominate the funds allocated to Division 1 for a significant period of time, leaving minimal funds available for other projects****, such as ER2. Without substantial unencumbered funds, it is unlikely NCDOT would be able to construct ER2.*

Comment: The funding for the proposed bridge is tenuous at best. The State reprogrammed gap funds for years 2009-2011 to the tune of $30 million to purchase replacement school buses. Twice the NCTA has sent Letters of Interest for T.I.F.I.A. financing and failed to be considered. We do not expect that T.I.F.I.A. financing will be offered on this latest attempt either. Continuation of State gap funding is questionable as the state is now focusing on much needed bridge and road maintenance and replacement of severely deficient bridges ie. the Bonner Bridge as noted above. The most urgent needs should be the focus of limited state funding, not projects as this, which will primarily be used on summer changeover days, 26 days per year. Also of note, the major political backing for this project is now gone or will be, as of the upcoming election. Marc Basnight , the major backer of this project, has retired, Representative Bill Owens, Tim Spear and Governor Bev Perdue are not seeking re-election. The change in political climate as well as transportation priorities has shifted and does not view this project as viable.

Travel Benefit Considerations page 2-54 FEIS

- *The Preferred Alternative, as well as MCB4, would provide substantial congestion reduction and travel time benefits while minimizing the widening of NC 12, and also would not require widening of US 158 from the Wright Memorial Bridge to NC 12, or an interchange at the US 158/NC 12 intersection.*
- *Should additional improvements to NC 12 and US 158 and a US 158/NC 12 interchange (e.g., the components of MCB2 not included in the Preferred Alternative and MCB4) be pursued in the future, they could be built without additional impact over that defined for MCB2. With the Mid-Currituck Bridge included in the Preferred Alternative and MCB4, a future interchange at NC 12 and US 158 would not carry as much traffic (traffic would divert to the Mid-Currituck Bridge), and the interchange configuration would result in fewer community and access impacts than without a Mid-Currituck Bridge (ER2).*

Comment: These projects are in the STIP and will be needed within the next 10 years as stated earlier in the FEIS. The HIGH toll (2X higher than the Chesapeake Bay Bridge Tunnel) primarily used summer weekends (26 days per year), does not support building the bridge. The other components are in the STIP and sorely need to be addressed. To assume that all traffic turning north on NC12 from US158 would use the Mid-Currituck Bridge is unrealistic and would be an absolute best case scenario, and still very unlikely with the high toll rates. The following includes excerpts from the DISCLAIMER at the end of the Traffic & Revenue Forecasts Final (July 2011)

In formulating the forecasts Arup has reasonably relied upon the accuracy and completeness of information provided by North Carolina Turnpike Authority and other local and states agencies. Arup has also relied upon the reasonable assurances of some independent parties and are not aware of any facts that would make such information misleading. In preparing its assessment, Arup has relied on data collected and analyzed by third parties for which Arup does not assume

Responsibility.
These estimates and projections may not be indicative of actual or future values, and are therefore subject to substantial uncertainty. Future developments cannot be predicted with certainty, and may affect the traffic and revenue forecasts expressed within this report, such that Arup does not specifically guarantee or warrant any estimate or projection within this report. *While Arup believes that the projections or other forward looking statements contained within the report are based on reasonable assumptions as of the date in the report, such forward looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. Therefore, following the date of this report Arup will take no responsibility or assume any obligation to advise of changes that may affect its assumptions contained within the report, as they pertain to; socio-economic and demographic forecasts, proposed residential or commercial land use development projects and/or potential improvements to the regional transport network.*
ADDITIONALLY DRIVERS ARE AVOIDING TOLLS ON THE CHESAPEAKE EXPRESSWAY, ARTICLE BELOW. OF NOTE, THAT TOLL IS LESS THAN 25% OF THE $28 TOLL THAT WILL BE WAITING FOR THEM ON A SUMMER SATURDAY.

Battlefield traffic heavier as drivers skirt new tolls

It was smooth sailing earlier this week at the toll plaza on the Chesapeake Expressway. Traffic has fallen off since the toll was increased. (Bill Tiernan | The Virginian-Pilot)

The toll

Beginning in mid-May, the toll for two-axle vehicles on the Expressway went from $2 year-round to $6 on summer weekends and $3 weekdays and off-season weekends.

By Marjon Rostami
The Virginian-Pilot
© June 24, 2011

CHESAPEAKE

Before Stephen Etzell tries to leave his house, he looks out his back and front windows to check traffic. He doesn't even try during rush hour.

Etzell and his wife have lived on Battlefield Boulevard for 35 years. Their backyard backs up to the Chesapeake Expressway; their driveway feeds into Battlefield.

"It's a lot more difficult to get out of the driveway, especially on weekends," he said. "It's almost back to the levels before they had the bypass here."

The Chesapeake Expressway's summer season toll hike - to $6 each way - has been in effect for about a month. Locals and visitors are finding their way around it.

The alternative route is no longer a local secret. Residents along Battlefield Boulevard are split - the increased traffic is a headache, they say, but they wouldn't use the Expressway either. It's too expensive.

Given the number of bike racks and packed roof racks he's seen on passing vehicles, Etzell said, it's obvious tourists have caught on.

"It used to be just a few out-of-town cars, but now, it's a whole stream of cars," he said. "And I can see the traffic on the Expressway - there's no backup at the toll booth like there used to be."

Etzell said the City Council's vote to increase the toll was "a pretty big mistake."

In March, the council voted to raise the toll on two-axle vehicles from $2 year-round to $6 on summer weekends and $3 on weekdays and off-season weekends. The $2 toll had been in place since the U.S. 168 bypass opened in 2001.

City officials said the increase was necessary to finance more than $7 million needed for Expressway repairs the next five years.

Councilman Lonnie Craig, who lives on Battlefield Boulevard and voted for the toll hike, did not respond to a request for an interview Thursday. Mayor Alan Krasnoff did not return calls.

City Engineer Earl Sorey said the city doesn't have enough data to make any conclusions on traffic diversion off the Expressway. He said the city will monitor the numbers throughout the summer.

From June 17-19, the weekend school let out, Expressway traffic was down just under 15 percent - 61,551 from 71,548 - from the previous year (June 18-20), according to statistics released this week by the city.

Memorial Day counts fell more than 21 percent, from 17,700 to 13,887.

When the summer season toll hike went into effect in mid-May, traffic dropped more than 20 percent from last year, from 86,650 to 68,514.

The city did not have up-to-date data on Battlefield Boulevard traffic because traffic counters had been vandalized, Sorey said. The city is trying to gather more accurate numbers.

Sorey said gas prices, school schedules and smoke from the North Carolina wildfire would have likely contributed to the decreased traffic on the Expressway.

But residents along Battlefield say only one thing could have caused less frequent usage - the toll hike.

"I'm really embarrassed to say I live in Chesapeake," said Frank Guthrie, who lives along Battlefield Boulevard. "I'd hate to be a toll collector. I'm sure they get an earful from the unsuspecting tourist."

Guthrie said it takes him a few minutes now to get out of his driveway, but he doesn't blame people for trying to avoid the toll.

He's more worried about traffic with the expected opening of a Walmart in Edinburgh this summer.

Stacy Vazquetelles drives from Moyock, N.C., just across the state line to Edinburgh almost every day to shop and run errands. Her three children are involved in activities in Hampton Roads. She said she's willing to pay the extra toll to get to appointments on time.

But her neighbor, Mark Stephens, has the opposite view. He commutes to Hampton Roads for work and shops in Edinburgh on the weekends.

He and his wife use E-Z Pass. The toll for the discount pass is now 75 cents year-round instead of 50 cents. Even so, Stephens said his family has abandoned the Expressway unless they are very late.

"Although we live down here, a lot of what we do is up there," he said. "We've been real good about bypassing that toll. It's just not worth it."

Community Impact Considerations page 2-55

Neighborhood and community cohesion impacts would be minor with ER2.

Natural Resource Impact Considerations page 2-55

- *The Preferred Alternative seeks to avoid and minimize impacts to jurisdictional waters, **as practicable**. Wetland fill impacts, calculated as including the area within 25 feet of the slope stake line, are estimated to be 7.9 acres. This impact would be higher for all of the other detailed study alternatives, including ER2 at 8.6 acres.*
- *The construction approach described for the Preferred Alternative in Section 2.4.2 seeks to minimize construction related impacts to Currituck Sound, **as practicable**.*

Comment: Wetland fill impacts between the Preferred Alternative and ER2 are negligible.
The General Statue that created the bridge project states:
§ 136-89.183A. Accelerated Pilot Toll Bridge Project.

(d) Environmental Protection. – The Authority shall ensure that the Mid-Currituck Bridge is implemented in a manner that accomplishes all of the following:
(1) Ensures the preservation of water quality in Currituck Sound.
(2) Mitigates the environmental impact of the bridge on the Currituck County mainland and the Outer Banks.
(3) Reduces traffic congestion and vehicle miles traveled, and preserves the character of the existing road system, in Dare County and Currituck County

Comment: The statute does NOT state "to the extent practicable". The water quality in the sound MUST be maintained. The same goes for the environmental impacts of the bridge on the mainland and Currituck OBX.

3.1.2.3 NC 12 Improvements in Southern Shores and Duck page 3-8

None of the detailed study alternatives, including the Preferred Alternative, include improvements in the Duck commercial area.

Comment: Why has Duck gotten preferential treatment with regards to detailed study alternatives? Duck is the biggest bottleneck and cause of congestion experienced on NC12 due to its 60 foot ROW, 25 mph speed limit and single lane traffic in both directions. Since Duck allowed irresponsible development patterns and narrow ROW it should be incumbent upon Duck to bear the brunt of the changes necessary to allow for the smooth flow of traffic into and out of the area as NC12 is the route vacationers travel once they have arrived as they sightsee up and down the OBX.

3.1.2.4 Mid-Currituck Bridge in Aydlett page 3-9

Residents of Aydlett have expressed concern about the potential impacts on their way of life related to the presence of a toll plaza in Aydlett and the revised local road system with Option B. Concerns expressed included the potential for drivers to change their minds about using the bridge just before the toll plaza and use roads in the Aydlett community to return to US 158, particularly during periods of high traffic congestion such as a crash on the approach road or the bridge. In this case, these drivers would add traffic to the Aydlett street system and introduce strangers with no business in this rural residential community.
Finally, citizens also felt that Option B contradicted previous promises that there would be no access between the bridge project and Aydlett. Similar comments were received at the public hearing and during the public comment period for the DEIS.

Comment: Aydlett residents did not FEEL that option B contradicted previous promises, IT GOES DIRECTLY AGAINST THE CURRITUCK COUNDY LAND USE PLAN as stated in our comments for the DEIS. SO IT IS NOT JUST A MATTER OF OPINION. SEE BELOW.
POLICY TR13: A new MID-COUNTY BRIDGE between the mainland and Corolla shall be supported to provide critical traffic relief to US 158, to improve emergency access to and evacuation from the Currituck Outer Banks, to promote economic development, and to provide

better access to public and private services not readily available on the Outer Banks. **To protect the character of communities near the bridge (e.g. Aydlett, Churches Island, Poplar Branch), the road leading to the bridge shall have no access points before its intersection with US 158.**

3.1.2.5 Bridge across Currituck Sound page 3-9

Currituck Sound serves as a natural barrier between mainland Currituck County and the Outer Banks. With MCB2, MCB4, and the Preferred Alternative, the Mid-Currituck Bridge would remove this barrier and create, instead, a connection between the mainland and Outer Banks. This would result in improving accessibility between the Currituck County mainland and the Outer Banks. It would facilitate travel for service workers, county employees, emergency services, and school children that need to travel between the Currituck County mainland and the Outer Banks.

Comment: Corolla has won their fight for a charter school which negates the need to bus school children to the mainland. The bridge would be too expensive for service workers due to low wages offered for seasonal work and the toll is much higher than the cost of fuel to drive around. Also, Corolla has Fire/EMS services and a satellite police station. There is also the Nightengale Helicopter that the county has helped pay for, to airlift critical patients to nearby hospitals. The physical connection between the Currituck mainland and it's OBX is not a satisfactory reason for building this bridge.

Page 3-12

ER2. If the option of using the center turn lane for outbound travel to reduce hurricane evacuation times were chosen, there would be no mainland relocations with ER2.

3.1.6 Would the project be compatible with local land use plans? Page 3-16

· *MCB2, MCB4, and the Preferred Alternative would be **inconsistent** with the Currituck County Land Use Plan, as the western bridge approach traverses a designated "Conservation Area," Maple Swamp. It is impossible to build a Mid-Currituck Bridge without passing through Maple Swamp.*

Comment: It is a ridiculous statement to say that it is impossible to build the bridge without passing through Maple Swamp.

· *MCB2 and MCB4 with design Option B would be inconsistent with Currituck County Transportation Policy TR13, as the location of the toll plaza in Aydlett at the western end of the bridge would enable direct vehicular access between the bridge road across Maple Swamp and Aydlett.*

· *The US 158/Mid-Currituck Bridge interchange with MCB2, MCB4, and the Preferred Alternative would be placed in Currituck County within an existing "Limited Service Area." The Currituck County land use plan identifies Limited Service as primarily residential development at low densities and conservation.*

Comment: The Bridge in any format, including the Preferred Alternative goes AGAINST Currituck County Land Use Plan for the area around the bridge terminus and Maple Swamp according to the statements above.

3.1.11 Could crime rates increase? Page 3-22

Crime rates are not anticipated to increase with any of the detailed study alternatives, including MCB2, MCB4, and the Preferred Alternative, which would provide a direct connection between the mainland and the Currituck County Outer Banks.

Comment: Greater accessibility, many vacant homes on the OBX during the winter, and an alternate route for escape increase crime in the area during the winter months. The table offered in the FEIS under this section, compares crime rates per 100,000 people. If crime rates are compared for the county from 2000 to 2007, there were 2007: 577 crimes as compared to 2000: 461 crimes. This direct comparison shows an increase of 25% in 7 years. Source: North Carolina State Bureau of Investigation.

3.1.12 How would farmlands be affected?

The greatest impact on farmland would be associated with the US 158/Mid-Currituck Bridge interchange with MCB2, MCB4, and the Preferred Alternative.
ER2 would affect less than 2 acres of prime farmland soils and less than 2 acres of state and locally important farmland soils. MCB2/A, MCB4/A, and the Preferred Alternative each would affect approximately 37 acres of prime farmland soils and 72 acres of state and locally important farmland soils, primarily in the US 158/Mid-Currituck Bridge interchange area on the mainland.

Comment: The bridge alternatives substantially affect prime farmland soils and locally important farmland soils. ER2 would affect < 2 acres as opposed to 72 acres. If no third outbound lane for ER2, would any state and locally important farmland be affected?

3.2.2 Would archaeological resources be affected? Page 3-27

The potential exists for archaeological resources to be affected by the detailed study alternatives, including the Preferred Alternative. Additional studies would be conducted after selection of an alternative for implementation.

The potential for additional, as yet unidentified, cultural resources sites in the project area is indicated by the presence of known sites within the APE and the extensive and continued use of the area from prehistoric times. Therefore, following the receipt of comments on this FEIS and finalizing the selection of a Preferred Alternative, additional archaeological surveys would be conducted on both land and water to identify the presence or absence of additional resources. Also, an assessment would be conducted of the NRHP eligibility of sites within the APE of the Selected Alternative if they would be jeopardized by impacts from project construction.

Comment: It makes absolutely NO sense to conduct these studies after the alternative is selected for implementation, as significant finds could alter that alternative, or stop the bridge project altogether.

3.3.1 How would water resources in the project area be affected?

The most notable temporary impact to water quality would be increased turbidity levels produced during construction of the Mid-Currituck Bridge with MCB2, MCB4, and the Preferred Alternative. Permanent impacts to water quality are primarily associated with increased levels of bridge and highway runoff. NCTA would comply with NC Session Law 2008-211 (An Act to Provide for Improvements in the Management of Stormwater in the Coastal Counties in Order to Protect Water Quality) to the maximum extent practicable for the additional impervious surface area created by this project.

Comment: Again, the Statute that governs this bridge project with regard to the environment states:

§ 136-89.183A. Accelerated Pilot Toll Bridge Project.

(d) Environmental Protection. – The Authority shall ensure that the Mid-Currituck Bridge is implemented in a manner that accomplishes all of the following:
(1) Ensures the preservation of water quality in Currituck Sound.
(2) Mitigates the environmental impact of the bridge on the Currituck County mainland and the Outer Banks.

This law does NOT state "to the extent practicable" as often stated throughout the FEIS.

3.3.1.4 Impacts to Water Quality Page 3-35

Permanent impacts to water quality would be primarily associated with increased levels of bridge and highway runoff, which is considered a non-point source discharge. The effects of runoff are highly site specific. The primary pollutants associated with bridge and highway runoff include particulates, organic compounds, nutrients, and heavy metals. These pollutants accumulate on impervious surfaces and are derived from automobiles and materials used in construction and maintenance of roadways. These substances have the potential to negatively affect aquatic life by directly or indirectly interfering with various biological processes and cycles.

Comment: These impacts, again, are in direct violation of G.S. 136-89.183A noted above.

3.3.3 How would wildlife on land be affected? Page 3-47

Each of the detailed study alternatives, including the Preferred Alternative, would result in the removal of existing vegetative habitats and the displacement of wildlife within the project construction limits. ER2 would be the least invasive to habitat.

3.3.3.2 Impacts to Land Wildlife and Land Wildlife Habitat Page 3-48

ER2 would be the least invasive to wildlife habitat, since construction would occur in primarily man-dominated areas.
Removal and alteration of wildlife habitat would be greatest for MCB2, MCB4, and the Preferred Alternative as a result of a new traffic corridor across Maple Swamp and a bridge across Currituck Sound.
While all of the detailed study alternatives, including the Preferred Alternative, are near existing road or utility corridors and are under the influence of associated edge effects,these alternatives would amplify those effects. This would be especially detrimental to maritime wildlife habitat on the Outer Banks, where existing habitat is already extremely sparse and fragmented. MCB2, MCB4, and the Preferred Alternative would introduce noise disturbance into Maple Swamp.

3.3.4 How would aquatic wildlife be affected? Page 3-50

Fill, pile placement, shading, and clearing would result directly in the permanent loss or alteration of aquatic habitat and the wildlife that live there. Construction operations could result in temporary impacts. Aquatic impacts would be the greatest with MCB2, MCB4, and the Preferred Alternative because they include a Mid-Currituck Bridge.

3.3.4.1 Aquatic Wildlife

Currituck Sound has long been recognized as a nationally important area for freshwater recreational fishing. Currituck Sound is an important nursery area for migratory and resident fish.

3.3.4.3 Water Habitat Impacts Page 3-51

Impacts on aquatic communities are listed in Table 3-5 to Table 3-8. Fill, pile placement, shading, and clearing would result directly in the permanent loss or alteration of aquatic habitat within the project area, as indicated in Table 3-5 and Table 3-6. Aquatic impacts would be the greatest with MCB2, MCB4, and the Preferred Alternative because they include a Mid-Currituck Bridge.
Overall, ER2 and the widening components of the detailed study alternatives would result in minor impacts to aquatic habitat. Runoff from active construction areas could result in temporary increases in turbidity, siltation, and sedimentation in aquatic habitat areas, but these affects are expected to be minimal and cease after revegetation

. Regarding potential stormwater runoff impacts, the stormwater management plan proposed for the Preferred Alternative is described in Section 2.1.7. NCTA would comply with *NC Session Law 2008-211 (An Act to Provide for Improvements in the Management of Stormwater in the Coastal Counties in Order to Protect Water Quality) to the maximum extent practicable for the additional impervious surface area created by this project.*

Comment: The General Statute does not say to the maximum extent practicable, it says "shall ensure the preservation of water quality in the Currituck Sound".

3.4.4 How would potential accelerated sea level rise resulting from climate change affect long-term use of the detailed study alternatives? Page 3-82

Existing roads would be affected by sea level rise. A Mid-Currituck Bridge would be a useful asset in reducing the impact of sea level rise resulting from climate change on the project area's road system. Under all sea level rise scenarios considered, the entire barrier island would be inundated at the Dare/Currituck County line, creating a breach in the island and making a Mid-Currituck Bridge the only way off the Currituck County Outer Banks.

Comment: This statement is simply NOT TRUE. Passage through False Cape and Back Bay Refuges are allowed into Sandbridge, VA. Hatteras was cut off in multiple places by hurricane Irene and temporary bridges were constructed. A map of the northern OBX was provided earlier in our comments.

3.4.5.2 Visual Impacts Page 3-88

With either Option A (included in the Preferred Alternative) or Option B, the bridge crossing Currituck Sound would be a notable change in the high quality views of Currituck Sound from Aydlett. Essentially, the 180 degree panorama of Currituck Sound would be split, with the bridge becoming a new and substantial human-made element that bisects the view. This adverse impact would be greatest for homes near the bridge where it would be a more dominant presence.

Comment: This is absolutely unacceptable to Aydlett residents.

With ER2 and MCB2, the super-street and associated interchange east of the Wright Memorial Bridge would be introduced into the views of business patrons along US 158, pedestrians and bicyclists on multi-use paths, and motorists on US 158. Principal viewers of the interchange would be users of the Aycock Brown Welcome Center, which would overlook the interchange; businesses near the interchange; a multi-story hotel; and motorists on US 158. The super-street would be the only street of such a large scale on the Outer Banks. The interchange would be the only interchange on the Outer Banks. Although the road and interchange would serve a useful purpose in terms of serving travel demand in this area, neither is what one would expect to see in a beach vacation area like the Outer Banks, with its mostly low density development.

Comment: Are you saying a 7 mile long bridge is less intrusive then an interchange in a heavily traveled business district?

Page 3-88

Although no high quality views would be lost, the overall character of the area along NC 12 would be changed by the loss of vegetation and the wider pavement. Some of the sense of intimacy and isolation associated with this section of NC 12 would be lost with this change.

Comment: The loss of vegetation and wider pavement on NC12 which you agree does not affect any high quality views, is no reason to build this bridge. Aydlett and Corolla residents would have their community highly impacted, affecting high quality views and ruining their sense of intimacy, but we don't get the same consideration from the N.C.T.A. or the F.H.W.A., why is that?

Page 3-108 *Potential for Increase in the Number of Day Trips to the Outer Banks*

Commenters at the public hearings indicated that they believe that beach driving is or could be popular with day visitors. Day visitors to the Currituck Outer Banks are most likely interested in visiting the beach, swimming, sightseeing, or driving on the beach.
In terms of the potential for an increase in the number of day trips to the Outer Banks, the findings for the detailed study alternatives are:

- *MCB4 and the Preferred Alternative: Some potential for an increase over the No-Build Alternative with the potential higher in the non-road-accessible area.*

Comment: Beach driving in the 4x4 area is a huge problem with dealing with where people should drive. The hard packed sand near the shoreline is preferred as the area close to the dunes is soft sand and ruts easily causing people to be stuck in the sand, this causes safety issues for beach visitors. Currituck County still does not have an answer for this problem. A panel looking into the issue is considering beach driving permits to deal with the overcrowding and traffic on the 4x4 beach.

The potential market area for substantial additional visitors to the Outer Banks would be in Virginia, particularly the Hampton Roads area. The Mid-Currituck Bridge (MCB2 MCB4, and the Preferred Alternative) would reduce the travel time from Hampton Roads to the Currituck County Outer Banks (156 minutes to 80 minutes under uncongested conditions according to Google Maps in combination with project area travel time studies for the project). This would not be the case with ER2. With the popularity of beaches, especially in season, reducing travel time from northeastern North Carolina and southeastern Virginia would increase the potential demand for day visitors to the Currituck Outer Banks. However, there are mitigating factors that would act to hinder day visitation, even with the benefit of a bridge. These factors are:

- *Potential day visitors have a selection of options in Virginia, Bodie Island, and Hatteras Island.*

Comment: The 3+ hour (uncongested) travel time to Hatteras Island is prohibitive to day trips from Norfolk VA area. People choose to visit the Outer Banks for its natural beauty historic attractions, beach driving, seeing wild horses roam free and relatively un-crowded beaches. Virginia does not offer that type of experience.

- *Combined tolls would be a deterrent to day trips traveling on the Mid-Currituck Bridge and the Chesapeake Expressway, the primary route in Virginia leading to the Outer Banks.*

Comment: The above assertion states that the high toll rates would deter travelers from using the Mid-Currituck Bridge. With that in mind, how is this project going to be truly viable?

- *Beach access, parking, public facilities, and services are important amenities in attracting day visitors. Beaches in Currituck and Dare counties, however, have limited to modest public facilities, especially when compared to Virginia Beach, which is closer to the largest potential source of day visitors, the Hampton Roads area.*

Comment: So you are saying that the area can NOT stand an increase of visitors due to the lack of infrastructure to handle them.

Page 3-110

The introduction of a Mid-Currituck Bridge with MCB2. MCB4, or the Preferred Alternative would substantially reduce travel time from points north of the bridge on the mainland to the Currituck County Outer Banks.

Comment: Does this assumption account for the traffic backed up on the bridge because it is only 1 lane each way or are all the traffic studies assuming un-congested travel, which is unrealistic?

Page 3-112

- *In November 2008, Currituck County Commissioners turned down a request to allow a commercial development in this area that was not in keeping with their land use plan's policy emphasis for this area. Other property owners in the area also opposed the project.*

Comment: The Commercial Development of 37 acres in the 4x4 area was brought back up a few months ago and the residents hired a lawyer to oppose the project. During the hearing that type of development was found to be SPOT ZONING and found to be illegal. The Commissioners wanted that economic development project.

Potential for Change in Development Location, Rate, or Type on Mainland Currituck County
Page 3-112

It is reasonably foreseeable that the introduction of a Mid-Currituck Bridge with MCB2, MCB4, and the Preferred Alternative would alter the location of some future Outer Banks service-oriented businesses. Some business development that might otherwise have been scattered in planned commercial areas on the Outer Banks and mainland near the Wright Memorial Bridge would concentrate at locations on the mainland near the terminus of the Mid-Currituck Bridge at US 158. This change would represent a net gain in business development in a concentrated location on the Currituck County mainland, creating a potential for a notable indirect and cumulative effects focused on the mainland bridge terminus.

Comment: The Wright Memorial Bridge terminus on the mainland has not brought notable commercial development to the southern end of Currituck County. That bridge is free and has been in place since the mid 1960's.
Aydlett and Coinjock oppose this development in their quite agricultural/residential communities. Currituck County does not have incorporated towns and they are not recognized for their opposition. The Currituck County Commissioners are at this moment trying to create a unified government which would never allow towns to incorporate, thus not allowing for meaningful opposition to the county's views. This is the case with Aydlett, Waterlilly, Coinjock and Corolla. Dare County does have incorporated towns so their positions are not based on the views of a few county commissioners.

Although ER2 would increase road capacity and improve traffic flow, it would not change the accessibility of the road system to developable properties.

Comment: Page 3-76 of the FEIS it is asserted that "*and because ER2 improvements would offer no additional traffic carrying capacity,***" the assertion above states that ER2 does in fact increase road capacity. These views contradict each other in the FEIS.**

Page 3-113

Thus, while the pattern of residential development on the mainland could change with a Mid-Currituck Bridge, the change would not be concentrated in a single location, but rather scattered among lands considered suitable for development in the Currituck County land use plan. These findings are based on the following:

- *No direct connection would be made between the community of Aydlett and the Outer Banks via a Mid-Currituck Bridge. This would be the case with either mainland approach design option.*

Comment: THIS STATEMENT IS SIMPLY NOT TRUE. OPTION B IS AGAINST CURRITUCK LAND USE PLAN BECAUSE IT IS A DIRECT CONNECTION INTO AYDLETT.

Page 3-114

With MCB2, MCB4, and the Preferred Alternative, the potential exists for increased day visitors to the Currituck County Outer Banks. These three effects would be compatible with area land use plans, social health and well-being goals, economic opportunity goals, and ecosystem protection goals.

Comment: The admitted lack of infrastructure on the Currituck OBX, such as parking and restroom facilities, has been an ongoing problem. Visitors have used nearby yards and the dunes as a public toilet. Day trippers' cars park along the streets and block driveways in residential areas, making trash collection and other services difficult. So, how is it then that the bridge would contribute to social health and well-being by adding more visitors to an already stressed area? We would also like to know how this environmentally destructive project would protect the fragile ecosystem of the Currituck Sound and Outer Banks.

In conclusion, this bridge is too expensive, too environmentally damaging, and does not successfully meet its stated purpose and need.
"No Mid-Currituck Bridge-Preserve the Wonder" opposes any alternative that includes a Mid-Currituck Bridge. We believe that the ER2 or No Build alternatives should be found to be the Least Environmentally Damaging Preferred Alternative (LEDPA).

No Mid-Currituck Bridge-Preserve the Wonder
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March 12, 2012

Ms. Jennifer Harris
NC Turnpike Authority
1 South Wilmington Street
Raleigh, NC 27601
midcurrituck@ncdot.gov

Re: Final Environmental Impact Statement for Mid-Currituck Bridge NCDOT STIP Project : R-2576, FHWA Federal Aid Project No. BRSTP-000S (494)

Dear Ms. Harris:

On behalf of the North Carolina Wildlife Federation, Environmental Defense Fund and the Wilderness Society, the Southern Environmental Law Center ("SELC") submits these comments on the above-referenced Final Environmental Impact Statement ("FEIS"), prepared by the North Carolina Turnpike Authority ("NCTA"), a division of the North Carolina Department of Transportation, and the Federal Highway Administration (the "Transportation Agencies").

On behalf of the above listed groups, SELC submitted comments on the Draft EIS in June, 2010. Since this time the Transportation Agencies have made some steps towards minimizing impacts to the important natural resources in the study area. Unfortunately, however, these steps do nothing to cure the underlying fact that the huge cost of this project, both financially and in terms of its devastating environmental impacts, is in no way justified by any demonstrated need.

Additionally, the FEIS fails to cure many of the flaws, omissions and mis-statements of the draft document. Accordingly, the comments below reiterate many of the concerns we expressed in our previous comments of June 7, 2010. In light of these fundamental deficiencies, we request that the Transportation Agencies not issue a Record of Decision ("ROD") based on this document. Rather, given the lack of a guaranteed financial plan for this project, the public opposition to it, and the devastating impact that construction will have on the environment, we urge the Transportation Agencies to reconsider whether it is the best use of the State"s scarce resources.

If the Transportation Agencies determine that it is advisable to move forward with this project, we request that they initiate a new environmental review process and create a supplemental EIS that thoroughly examines a reasonable range of alternatives, including upgrades to the existing road system that would adequately meet any supposed need for this project and that would be far less costly and damaging than construction of a new seven-mile

bridge. Further, we ask that the EIS properly investigate the impacts of the project, including an analysis of indirect impacts that examines impacts from a true No-Build scenario, rather than comparing "building the bridge" with "building the bridge."

Financing Status

A number of alternatives, including upgrades to the existing highway system, are available to meet the transportation needs in the study area. Driving the selection of a new bridge alternative, however, is a plan of finance that depends on tolling and other state and federal funding mechanisms. It is important to note from the outset, therefore, that the current financial status of the Bridge is in no way assured.

Construction of the Mid-Currituck Bridge would be hugely expensive, with current cost estimates being placed at over $500 million. (FEIS at xvi). This is money that North Carolina currently does not have to spend. A recent assessment of the State"s transportation infrastructure suggests that over the next 30 years North Carolina would need to spend almost $160 billion to meet the growing transportation needs of the evolving state.[1] Current revenue sources simply do not meet these needs,[2] and thus the State must, at this time, step back, reevaluate prior funding plans, and finance only those projects that serve the most pressing transportation needs. As discussed in more detail below, there is no such pressing need for a second, duplicative bridge to the section of the Outer Banks to be served by the Mid-Currituck Bridge.

Various mechanisms of financing the Mid-Currituck Bridge have been proposed over the years. The project has long been suggested as North Carolina"s first venture into a Public Private Partnership ("PPP"), with the Spanish Conglomerate Groupo ACS identified as the projected partner. Recently, however, the Turnpike Authority has indicated that this method of financing the project may be abandoned.[3]

As expected from a project pursued by the Turnpike Authority, one of the primary sources of revenue expected to fund the project will come from tolls. Indeed, as explained in more detail below, the collection of such tolls has been a primary force driving the selection of bridge construction over less environmentally damaging alternatives centered on upgrades to the existing highway system. A traffic and revenue study focused on the toll collection was published in July, 2011. This study indicates that, in order to be financially viable, toll rates will

[1] North Carolina Department of Transportation, Draft Report, System Inventory and Modal Needs at ix Dec. 2012 (on file with SELC and NCDOT).
[2] North Carolina Department of Transportation, Challenges and Opportunities Report at ES-ix, Sep. 2011 available at http://www.ncdot.org/download/performance/2040_ChallengeOpp.pdf .
[3] North Carolina Turnpike Authority, Press release, Turnpike Authority Publishes Final Environmental Impact Statements for Mid-Currituck Bridge, Jan. 19, 2012, available at https://apps.dot.state.nc.us/pio/releases/details.aspx?r=5935 .

need to be as high as $28 per trip.[4] Toll rates this high for other similar projects have been previously presented as unmanageable by NCDOT,[5] and it is unclear whether tourists will really be willing to pay such a huge toll to save 1-2 hours of time.

Generally, toll projects have a high rate of failure, and traffic and revenue studies almost always overstate potential revenues. A recent study of toll road projects across the nation found them to average less than half the anticipated revenues.[6] The seasonal, weekend focused, nature of the anticipated travel on the Mid-Currituck Bridge makes future usage even more difficult to predict. Moreover, even if toll revenues do live up to expectations, they will cover less than half of the required cost of construction.

Given the likelihood that tolls will not cover the cost of the whole project, NCTA has attempted on multiple occasions to secure federal Transportation Infrastructure Finance and Innovation Act ("TIFIA") loans for the projects. These attempts have failed each time, however, with the federal government declining to finance the project. Financing for the project will depend on non-toll state money: "gap" funding was secured by the North Carolina legislature in the form of an annual appropriation of $15 million, rising to $28 million annually after two years.[7] During the 2011 legislative session, groups of local opponents made several trips to the legislature to voice their opposition to the Bridge. Having listened to this opposition and reviewed the assorted issues associated with the project, the North Carolina Senate was poised to eliminate entirely its "gap" funding, and instead focus those funds on maintenance of the existing highway system.[8] Ultimately, the legislature settled on a budget that restored the funding for the project. However, legislators remain substantially concerned about the project and funding may be eliminated entirely in the upcoming legislative session. If the "gap" funding does remain in place, it will saddle the next two generations with the debt of this project, and over time will cost over $1 billion of state tax-payer money.[9]

[4] See Currituck Development Group, Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts at 1, July 2011, available at http://www.ncdot.gov/projects/midcurrituckbridge/download/MCBTrafficRevenueForecastsFinalJuly2011.pdf [hereinafter Traffic and Revenue Study].
[5] See Revised Final Section 4(f) Evaluation, NC 12 Replacement of Herbert C. Bonner Bridge (Oct. 9, 2009), Appendix G 13-14, available at http://www.ncdot.gov/projects/bonnerbridgerepairs/download/RevisedFEIS.pdf (attached).
[6] See Terry Maynard for the Reston Citizens Association, Wilbur Smith Associates" Traffic and Revenue Forecasts: Plenty of Room for Error (Jan. 27, 2012) available at http://www.scribd.com/doc/79582705/RCA-Study-Wilbur-Smith-Traffic-amp-Revenue-Forecasts-012712; see also NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM, SYNTHESIS 364 , Estimating Toll Road Demand and Revenue (2006), available at http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_364.pdf ; Jason Lemp, Understanding and Accommodating Risk and Uncertainty in Toll Road Projects: A Review of the Literature (2009) (attached).
[7] N.C. Gen. Stat. § 136-176 (b2).
[8] *Highlights of the House, Senate and Perdue Budgets,* Charlotte Observer, May 25, 2011, available at http://www.charlotteobserver.com/2011/05/25/2324080/highlights-of-senate-house-perdue.html (attached).
[9] N.C. Gen. Stat. § 136-176 (b2).

Given the serious shortfall in transportation resources currently facing North Carolina, it is essential that scarce resources be spent wisely. As the FEIS makes plain, there are other less expensive and less destructive options to building this $500 million bridge, which will largely benefit out-of-state residents. There are also far more pressing needs for the State"s limited transportation funds to be spent elsewhere. As a number of commenters have observed,[10] transportation resources could be spent more prudently, such as by pursuing much needed long-term transportation solutions for the Outer Banks, including the "long bridge" option for the Bonner Bridge replacement.[11]

A Realistic Baseline

Regulations promulgated by the Council on Environmental Quality ("CEQ") require each EIS to include "the alternative of no action," 40 C.F.R. § 1502.14(d); § 1508.25(b)(1). This alternative should be presented in a comparative fashion so as to "sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public." 40 C.F.R. § 1502.14. A true "No-Build" scenario then should present a clear picture of what would occur if the Mid-Currituck Bridge were not to be built. All impacts that result from building the Bridge should be based from this "No-Build" baseline and should be reported and analyzed accordingly.

The current FEIS does not follow this common-sense methodology. Rather than using a "No-Build" scenario as the baseline from which to calculate impacts, the EIS implicitly uses a "Build" scenario. The analysis of alternatives and impacts is based on a scenario that assumes "full build-out" of commercial and residential development[12] despite the fact that "full build-out" is only expected to occur if the bridge is constructed. Relying on this flawed baseline, the EIS repeatedly reports that construction of a seven mile bridge out to a remote barrier island would result in no induced growth or development on the barrier island, while simultaneously reporting that failure to construct the bridge would inhibit development.[13] These conclusions defy logic and common sense. If failure to construct the bridge would discourage growth, construction of the bridge must be supposed to encourage growth.

Not only is the EIS itself a self-contradictory document in this respect, but other documents prepared by the Transportation Agencies also repeatedly acknowledge that construction of the Mid-Currituck Bridge *will* encourage growth. For example, the Traffic and Revenue study states that construction of the bridge "could greatly facilitate the continued

[10] See, e.g., Stakeholder Involvement FEIS Technical Report at 4-13, 4-27.
[11] Final Environmental Impact Statement and 4(f) Evaluation , NC 12 Replacement of Herbert C. Bonner Bridge at 2-81- 2-101, (Sep. 17, 2008) available at http://www.ncdot.org/projects/bonnerbridgerepairs/
[12] See, e.g., Stakeholder Involvement FEIS Technical Report at 3-12 (explaining that "the project"s traffic forecasts assume full build-out of the NC 12-accessible Outer Banks north of US 158 in Dare and Currituck counties.")
[13] See, e.g., Mid-Currituck Bridge, FEIS at 3-107-3-114; Stakeholder Involvement FEIS Technical Report at 3-11-3-13.

growth within the area."[14] The report explains that the bridge "will significantly increase the level of access to this key vacation destination."[15] Indeed, presumably in an attempt to reassure potential bond rating entities about the revenues that the project could be expected to generate, the report goes as far as to state that "the project presents a unique marketing opportunity to leverage the existing Outer Banks travel/tourism industry with tailored marketing strategies to highlight substantial travel time savings, cost savings, and increased accessibility to this beautiful and unique destination."[16]

Thus, when it comes to examining environmental impacts, the Transportation Agencies would have us believe that construction of the Mid-Currituck Bridge would make not the slightest of differences to development. However, when attempting to justify the need for the project, or make clear that substantial toll revenues will be generated as a result of construction, the Transportation Agencies make clear that construction of the Bridge is an important mechanism to facilitate tourism and additional development. These two contradictory positions cannot be reconciled. Moreover, it is clear which scenario is more likely. As we explained in our original comments,[17] the idea that transportation improvements encourage growth and development in areas that were previously difficult to access is nothing new and has been carefully documented by transportation experts[18] and recognized by the courts.[19]

The Transportation Agencies have a duty under NEPA to carefully examine alternatives to project and the impacts that will result from those alternatives. 40 C.F.R. § 1502.14. These impacts must be analyzed from a base scenario which shows what would be likely to occur if the project was not constructed. 40 C.F.R. § 1502.14 (d). If, as the FEIS states, development would be inhibited by a failure to construct the bridge, then full build-out is not a reasonable baseline from which to measure impacts and compare alternatives. Accordingly, if the Transportation Agencies wish to move forward with this project, they must prepare a supplemental EIS that is founded on a realistic "No-Build" baseline. Failure to do this infects all aspects of the EIS and renders the NEPA analysis inadequate.

[14] Traffic and Revenue study at 2.
[15] Id. at 11.
[16] Id.
[17] Stakeholder Involvement FEIS Technical Report at C7-C10.
[18] See, e.g., Robert B. Noland, A Review of the Evidence for Induced Travel and Changes in Transportation and Environmental Policy in the United States and the United Kingdom, (Feb. 2001) available at http://www.cts.cv.ic.ac.uk/documents/publications/iccts00244.pdf ; Gilles Duranton and Matthew A. Turner, The Fundamental Law of Road Congestion: Evidence from US cities, American Economic Review, American Economic Association, vol. 101(6) (Oct. 2009) (attached).
[19] See, e.g., Mullin v. Skinner, 756 F. Supp. 904, 917 (E.D.N.C. 1990); City of Davis v. Coleman, 521 F.2d 661 (9th Cir. 1975); Conservation Law Found. v. Fed. Highway Admin, 630 F. Supp. 2d 183 (D.N.H. 2007); Highway J Citizens Group v. U.S. DOT, 656 F. Supp. 2d 868 (E.D. Wis. 2009); N.C. Alliance for Transp. Reform v. U.S. DOT, 151 F. Supp. 2d 661 (M.D.N.C. 2001); Sierra Club v. U.S. DOT, 962 F. Supp. 1037 (N.D. Ill. 1997).

Alternatives Analysis

In our previous comments, SELC documented substantial concerns about the purpose and need articulated for the Mid-Currituck project. These concerns remain. Like the earlier DEIS, the FEIS fails to explain how a new connection between the two sides of Currituck County addresses any existing, actual, significant need and thus gives little reason to suggest that this "purpose" justifies the enormous economic and ecological costs of the Project. Additionally, as explained in our previous comments, rather than meeting the purposes of addressing traffic congestion and hurricane evacuation times, construction of a Mid-Currituck bridge will instead exacerbate those problems by encouraging more drivers to visit the Outer Banks and therefore result in increased congestion on area roadways and an increased number of people in the path of any potential hurricane.[20]

ER2- The Upgrade Alternative

Despite being based on an impermissibly narrow statement of purpose and need, the FEIS makes clear that a number of alternatives would satisfy the articulated statement. This includes "ER 2," the alternative of upgrading some of the existing roads in the study area. FEIS at 2-5. Because this alternative is centered on upgrades to existing infrastructure, rather than the construction of a whole new facility in the middle of the Currituck Sound, it has substantially fewer environmental impacts. Id. Accordingly, as noted in their comments on the Draft EIS, the vast majority of resource agencies involved in the process expressed a preference for ER2 over other alternatives:

> "EPA believes that ER2 should be designated as the environmentally preferred alternative and meets the proposed project"s purpose and need by providing the appropriate balance of impacts to the benefits and costs." [21] (US Environmental Protection Agency)
>
> "ER2 costs 269.2 to 292.8 million less than the MCB4 alternative and it meets the purpose and need of the project. ER 2 also has less impact to the natural environment and its community impacts are comparable to the MCB4 alternatives"[22] (U.S. Army Corps of Engineers).
>
> "ER2 would damage less coastal habitat than any of the alternatives that require the construction of a new bridge. Alternative ER2 uses improvements to existing roads to address the purpose and need for the project rather than relying upon a new bridge over the Sound. Alternative ER2 would have the least adverse impact

[20] Stakeholder Involvement FEIS Technical Report at C5-C6.
[21] Stakeholder Involvement FEIS Technical Report at 2-34.
[22] Id. at 2-2.

> to EFH and other NOAA trust resources."[23] (National Oceanic and Atmospheric Administration, National Marine Fisheries Service).
>
> "ER2 clearly has the least impacts to fish and wildlife resources and federal trust resources."[24] (Department of Interior, Office of the Solicitor).
>
> "Of the alternatives listed the least environmentally damaging alternative is ER2 and is the NCDMF recommended alternative. ER2 will not shade important essential fish habitat."[25] (North Carolina Division of Marine Fisheries)
>
> "ER2 is the least damaging alternative to fish and wildlife resources in the project study area."[26] (North Carolina Wildlife Resources Commission)

Despite the clear preference for ER2 by the resource agencies, the Turnpike Authority, driven by its focus on alternatives that it can toll, has chosen MCB4/C1 with Option A as its "preferred alternative." The FEIS lists a number of reasons as to why it chose this alternative, but these reasons do not logically support the selection of MCB4/C1. (FEIS at 2-54 -2-56). While the FEIS predicts that the chosen alternative will result in better travel benefits than ER2, ER2 is predicted to meet the project purpose and need for this metric. By contrast, ER2 has significantly fewer environmental impacts than MCB4/C1. So long as there is a less environmentally damaging alternative that is practicable and meets the project purpose and need, it will be difficult for MCB4/C1 to receive necessary permits from federal agencies. Further, where MCB4/C1 is anticipated to result in community and neighborhood cohesion impacts, such impacts would be minor with ER2.

The factor which seemingly influences the choice of the preferred alternative most heavily, therefore, appears to be the fact that it could be financed through state gap funding and toll revenue bonds. (FEIS at 2-56). In response to agency concerns about this issues, the FEIS further asserts that, if ER2 were to be chosen, it could only be built by NCDOT and would therefore be subject to the State"s Equity Formula.[27] The FEIS suggests that, as the project is in the same Division as the Bonner Bridge, that project would be likely commandeer available resources and that, accordingly, ER2 would be unlikely to be constructed.[28]

This reasoning illustrates the problematic nature of the Turnpike Authority"s involvement in transportation decisionmaking. NCDOT should not allow one specific financing mechanism to drive transportation policy, particularly when sensitive environmental resources are at stake.

[23] Id. at 2-11.
[24] Id. at 2-33.
[25] Id. at 2-60.
[26] Id. at 2-88.
[27] See, e.g., id. at 2-3, 2-37-38.
[28] Id.

Given North Carolina"s scarce transportation resources and the fragile nature of the natural environment on the State"s Outer Banks, the first question that the Transportation Agencies should consider is how to most efficiently address the transportation challenges faced in the project area with the least impact. Only then should specific financing mechanisms be considered.

NCDOT has a number of innovative ways to fund projects such as GARVEE bond programs and the State"s Mobility Fund.[29] Further, numerous exceptions to the "Equity Formula" exist,[30] and NCDOT could work with the legislature to create an additional exception for this unique situation, or come up with other creative solutions. To suggest that the Transportation Agencies should pursue an alternative that is not only more environmentally destructive, but also is more expensive, just because it fits in with a decades-old, pre-conceived plan to finance the project through tolls, undermines the purpose of NEPA to carefully evaluate alternatives. A state created constraint cannot be a valid reason for violating federal law. It also runs contrary to the State"s more careful approach to transportation policy that is being articulated in the crafting of North Carolina"s 2040 Statewide transportation plan.[31]

Further, in addition to satisfying the NEPA, this FEIS will also be used by the Transportation Agencies to satisfy the requirements of the Clean Water Act. Yet, Section 404 has a requirement that entities pursue the "Least Environmentally Damaging Practicable Alternative." 40 C.F.R. § 230.12(a)(3). Presumably, as the preferred alternative, (MCB4C Option1), is more damaging to the environment than ER2, the transportation authorities intend to argue that ER2 is "not practicable." Indeed, the Army Corps specifically asked for information about financing stating that it would be required to determine practicability of less damaging alternatives.[32] Given the fact that financing has not been secured and finalized for the preferred alternative, it would be arbitrary and capricious to suggest that one unfunded alternative is "practicable" while others are not, and to justify tremendous environmental impacts on that basis. Furthermore, even were funding for MCB4/C1to be fully secured by the General Assembly, the annually appropriated "gap funding" required for the Bridge option will amount to more than double the cost of an upgrade alternative.

[29] See NCDOT Urban Loop Acceleration Plan, http://www.ncdot.org/performance/reform/prioritization/; North Carolina Mobility Fund, http://www.ncdot.org/about/finance/mobilityfund/; N.C. GEN. STAT. § 136-187-89.
[30] See, e.g., N.C. GEN. STAT. § 136-17.2A (exempting "federal congestion mitigation and air quality improvement program funds", "funds expended on . . . urban loop project[s]" and "funds from the federal government for the Appalachian Development Highway System" from the Equity formula.); N.C. GEN. STAT. § 136-187(b) (exempting the Mobility Fund from the Equity formula).
[31] See generally, North Carolina Department of Transportation, Challenges and Opportunities Report supra note 3.
[32] Stakeholder Involvement FEIS Technical Report at 2-10-11.

Ferries

The FEIS fails to give a satisfactory response as to why ferry options were not fully considered in the alternatives analysis. Rather than analyze the potential benefits of a ferry service alternative, the FEIS instead lists a number of attempted justifications as to why such an alternative should not even be considered. These justifications are not persuasive.

First, the FEIS sets forth the argument that ferry service would have to be dramatically expanded to meet the need of the Mid-Currituck Bridge.[33] Indeed, the FEIS suggests that ferry service for the entire state would need to be expanded by four times in order to meet transportation needs in the project area. However, the "need" being accounted for here is the forecasted traffic volumes for 2035, traffic volumes which were created based on the assumption that a bridge would be constructed. No examination of changes to traffic and development under a ferry alternative has been performed, and thus we cannot know what level of traffic ferries would be required to carry. Further, even were traffic volumes to expand significantly, that expansion would take place over a period of approximately twenty years. In other words, ferry services would not be quadrupled immediately, if at all, but would gently ramp up over time. One benefit of the ferry alternative is that ferry fleets may be expanded with relative ease, and therefore would be adaptable over time to increased demand.

In our comments on the Draft EIS, SELC listed a number of different ferry alternatives that have been used with success around the United States. These examples were intended to illustrate the variety of possible ways in which ferries can be added as effective transportation alternatives in a range of different geographical situations. Rather than use this list as a jumping off point to explore ferry alternatives for the Currituck Sound, however, the FEIS instead focuses on distinguishing why the specific details of each service listed is distinct from the precise geographical situation in the study area.[34]

For example, the FEIS states that comparison with the Puget Sound ferry system is inappropriate since Puget Sound"s average depth is 450 feet, whereas the Currituck Sound"s average depth is six feet.[35] However, our earlier comments were not intended to suggest that NCDOT replicate the exact model used in Puget Sound with the exact same ferries, but rather to illustrate the potential success of high volume ferry services. Further, while it is true that Currituck Sound is shallow, ferries do exist that are capable of navigating in as little as five feet of water.[36] Additionally, suitable ferry routes might be mapped by using readily available

[33] Stakeholder Involvement FEIS Technical Report at 3-8.
[34] Id.
[35] Id.
[36] See *M/V SOLANO Facts & Figures* (last visited Feb. 24, 2012), http://www.baylinkferry.com/ferry/solano-ferry-facts.php (attached).

nautical charts and bathymetry data that indicate water depths throughout Currituck Sound.[37] The Knotts Island Ferry that operates in the northern Currituck Sound between Knotts Island and Currituck demonstrates the feasibility of developing suitable ferry routes.[38] Ferry terminals for these options could financially boost Aydlett and other mainland towns without the impacts to community cohesion, visual impairments and environmental destruction associated with construction of a new bridge.

In sum, the Transportation Agencies have failed to perform a comprehensive, up-to-date study of ferry alternatives in the FEIS. The very limited analysis of ferries that does appear remains based on a 1991 study. Reliance on such two-decades old, outdated information when new data is readily available has been held to be arbitrary and capricious.[39] Moving forward, the Transportation Agencies must take a hard look at all alternatives, including ferry alternatives, based on recent reliable data and information about new low-draft, high-speed, high capacity ferries, that gives a true picture of the possibilities that can be expected from ferry alternatives.

Environmental Impacts

Since publication of the DEIS, the Transportation Agencies have spent time working with resource agencies to minimize some of the direct environmental impacts that will be occasioned by construction of the bridge. We applaud these efforts, specifically the decision to bridge Maple Swamp and the commitment to construct the bridge without any dredging and with a moratorium placed on construction during fish spawning habitat. Despite these advances, the fundamental problem remains that the Transportation Agencies seem determined to pursue an alternative that will result in other devastating direct and indirect impacts to the environment. In an attempt, perhaps, to obscure this fact, the agencies have conducted a flawed study of environmental impacts that improperly minimizes the dramatic impact that building a seven-mile bridge to a barrier island will have. Not only does this insufficient analysis violate NEPA, but it also fails to fulfill the Transportation Agencies" responsibility under state law to implement the bridge in a manner that "[e]nsures the preservation of water quality in Currituck Sound" "protects the natural environment" and "[m]itigates the environmental impact of the bridge on the Currituck County mainland and the Outer Banks." N. C. GEN. STAT. § 136-89.183A(a),(d).

[37] See, e.g., NOAA Office of Coast Survey, *Chart 12207* (Oct. 2009), http://www.charts.noaa.gov/OnLineViewer/12207.shtml.
[38] See NCDOT, North Carolina Ferry Routes http://www.ncdot.gov/travel/ferryroutes/#0 (last visited Feb. 24, 2012) (attached).
[39] See Northern Plains Resource Council v. Tongue River Railroad, No. 97-70037 at 30 (9th Cir. December 29, 2011).

Direct Impacts

As detailed in our previous comments,[40] construction of the Mid-Currituck Bridge will result in a number of direct impacts to the natural environment. Draining and fill of wetlands to make way for the proposed bridge will directly reduce habitat for waterfowl and their food sources. Runoff from the Bridge will pollute the waters used by waterfowl, fish and other species. Increased traffic that will accompany the Bridge will increase bird-vehicle collisions, and increased noise and visual disturbance is likely to disrupt waterfowl and potentially cause sensitive species to abandon the area. Shading from the bridge will directly impact existing areas of Submerged Aquatic Vegetation ("SAV"), and areas of potential future establishment, reducing important fish spawning habitat in the Currituck Sound. Construction may also introduce a range of invasive species into the Sound, including plants such as Phragmites which are extremely difficult to eliminate.[41] The FEIS fails to include an analysis of these direct impacts that is sufficient to satisfy NEPA. Any discussion of the impacts that is included is overly general in nature and falsely minimizes the effects that these impacts will have on the sensitive resources in the project area, particularly when considered in combination.

Indirect Impacts

In addition to its inadequate analysis of direct environmental impacts, the FEIS also fails to sufficiently document indirect impacts associated with construction of the project. The Indirect and Cumulative Effects ("ICE") analysis prepared for the FEIS is fundamentally biased by its reliance on a flawed baseline that fatally infects the analysis of indirect environmental impacts. By failing to base its analysis on a true picture of what would occur in the absence of transportation improvements, the Indirect and Cumulative Effects analysis reaches the absurd conclusion that construction of the Mid-Currituck bridge will result in a "negligible increase in permanent population", "no reasonably foreseeable change in the demand for homes and businesses" and no reasonably foreseeable change in the type, density, rate of, or demand for, development on the Outer Banks that are made accessible by construction of the bridge.[42] Indeed, it is clear from other documents that even the Turnpike Authority does not believe these arbitrary and capricious statements. In light of these erroneous conclusions, the analysis of environmental impacts is wrongly muted, and therefore insufficient to satisfy NEPA. 40 C.F.R. § 1502.16.

[40] Stakeholder Involvement FEIS Technical Report at C7-C-11.
[41] Stakeholder Involvement FEIS Technical Report at 2-42.
[42] NCDOT, Mid-Currituck Bridge Study, Indirect and Cumulative Effects Technical Report, (Nov. 2011) [hereinafter ICE Report] at xxii-xxiv.

Not only does the conclusion that construction of the Bridge would result in almost no induced environmental impacts defy common sense, but documents obtained through the North Carolina Public Records Act make it appear that the Turnpike Authority knew that its chosen "baseline" was flawed and that it would serve to underestimate the potential effects of the bridge.

The ICE study was ostensibly developed with the purpose of underestimating the environmental impact of the proposed Bridge. During initial discussions the consultant charged with analyzing the indirect and cumulative impacts from the project was cautioned to avoid using "loaded" words in his report.[43] Specifically, where the consultant had termed the bridge a "significant intervention" in an important natural area, he was warned to speak of the bridge as an intervention only "to the extent that it will support development that is already occurring in the County and make it easier for the county to provide public services."[44] This interference in the consultant"s work came before the ICE analysis had even been started.[45] Thus, the conclusion that the bridge would not, in fact, itself induce growth was apparently provided to the consultant before the study began.

Additionally, in comments to the ICE study, a NCDOT employee noted that "[i]t can be argued that the higher percentages of build-out . . . are the induced changes of the study alternatives."[46] Despite the recognition of the logical conclusion that higher growth percentages only found with construction of the Bridge should be attributable to the Bridge, no such conclusions have been adopted in the ICE study, or, indeed, anywhere else in the EIS.

In places, the ICE study does acknowledge that the there will be some change in development patterns attributable to the preferred build alternative. For example, the study acknowledges that construction of the bridge would result in a potential increase in day trips, including in the "non-road, four-wheel drive accessible area." Further, the study suggests that there would be a net gain in service-oriented businesses on Currituck County mainland. However, here again the FEIS is lacking; while some of this potential change in development is admitted, the environmental impacts associated with such growth is in no way analyzed.

In sum, the ICE study first minimizes artificially environmental impacts by basing its calculations on a flawed baseline. Then, for the environmental impacts it does it acknowledge that the study spends substantial time documenting and cataloguing the existing conditions in the study area, while never taking the additional required step of analyzing how those conditions will be changed by the construction of the bridge. Both failures render the analysis inadequate

[43] Exhibit 1, E-mail from John Page to Dan Marcucci and Jennifer Harris (Oct. 12, 2007).
[44] Exhibit 2, Comments from John Page on Draft Abstract, Dan Marcucci, Environmental Planning in the Vise between Urban and Coastal Sprawl: Sound Planning in Currituck County, NC (Oct. 2007).
[45] Id.
[46] Exhibit 3, ICE Technical Report Draft, May 20, 2011 at 6-5 (comment by Herman Huang, NCDOT-HEU).

and any decision to authorize the Bridge based upon will necessarily lack a reasoned basis, rendering it arbitrary and capricious.

Some specific examples of how this flawed analysis impacted the analysis of environmental impacts follow:

Dunes

The analysis of dunes on the Outer Banks in the ICE study provides an example of this doubly flawed analysis. First, the ICE provides a confusing statement about how much dune disturbance may result from the bridge. The ICE attempts to explain that "[t]here is no reasonably foreseeable induced development on the Outer Banks," however, at the same time, the study acknowledges that the absence of a bridge may result in a scenario where "development is constrained because of traffic congestion" and that such a scenario would result in "less land disturbance in the dunes."[47] This seemingly contradictory statement fails to explain exactly how much development is attributable to the road, and what impact that development might have on dunes.

The ICE study does acknowledge that "the dune system could potentially be impacted by increased day visitors." However, nowhere in the document does it analyze what these impacts would be. Rather, the ICE study briefly documents how impacts to the dunes could be mitigated. (ICE 6-7). This is not sufficient information to satisfy NEPA. One of the key purposes of an EIS is to document and analyze the environmental consequences of an action. 40 C.F.R. § 1500.1(c). As recently explained by a federal appellate court,

> such mitigation measures, while necessary, are not alone sufficient to meet the Board"s NEPA obligations to determine the projected extent of the environmental harm to enumerated resources before a project is approved. Mitigation measures may help alleviate impact after construction, but do not help to evaluate and understand the impact before construction.

Northern Plains Resource Council v. Tongue River Railroad, No. 97-70037 at 28 (9th Cir. December 29, 2011).

Under NEPA then, the Transportation Agencies have a responsibility to first clearly explain exactly what indirect impacts to the dune system are attributable to the construction from both increased day trips and induced development. 40 C.F.R. § 1502.16(b). The discussion should include a detailed analysis of how severe the degradation of dunes will be, the potential loss of vegetation, wildlife habitat, nesting

[47] ICE Report at 6-7.

grounds and all other associated impacts. This analysis must be based on a true "No Build" baseline, in which development may be constrained. 40 C.F.R. § 1502.14(d). Once the amount of impact has been determined the EIS must carefully document these impacts, and how they would present in the absence of mitigation. *Northern Plains Resource Council* 97-70037 at 28.

Stormwater

The ICE study similarly fails to fully analyze the indirect impacts caused by increased stormwater run off that will be occasioned by the project. Much like its analysis of dunes, the study first fails to acknowledge the full extent to which stormwater run off will result from the induced development associated with the project.[48]

The ICE study admits that 68 acres of impervious surfaces will be added to the Currituck mainland as a result of construction, but does nothing to analyze what impact associated increased run off will have on Maple Swamp and Great Swamp.[49] Rather, the ICE study simply catalogues the laws which govern runoff.[50] A similar approach is taken for stormwater concerns on the Outer Banks- the laws governing run off are listed and ways that run-off may potentially be mitigated are given.[51] This analysis is not sufficient to satisfy NEPA, the purpose of which is to analyze the environmental impacts that will be occasioned by a project. 40 C.F.R. § 1502.16(b). Such an analysis has not been performed, and the EIS is therefore rendered inadequate.

To the extent the impacts of stormwater are mentioned anywhere else in the ICE study, the mention is brief, dismissive and without analysis. For example, the analysis of coastal marshes states that there would be no indirect effect" to Coastal Marshes, "except to the extent that degraded runoff from sound side lots might affect these marshes."[52] No analysis as to how stormwater may indeed impact the marshes is given. Indeed, no detailed recognition is given to the many impacts that will be occasioned by increased stormwater run-off which could lead to substantial degradation of water quality,[53] including increased turbidity, siltation and sedimentation in aquatic habitat areas.[54] Nor is there any analysis of the impact such degradation would have on waterfowl, Submerged Aquatic Vegetation and other important fish habitat. As noted above, this limited analysis fails to demonstrate how the Transportation Agencies intend to

[48] ICE Report at 6-7-68, 6-24.
[49] ICE Report at 6-7.
[50] ICE Report at 6-7- 6-8.
[51] ICE Report at 6-8.
[52] ICE Report at 6-9.
[53] Stakeholder Involvement FEIS Technical Report at 2-17-2-18
[54] Id. at 2-40.

comply with the state law to guarantee that the bridge is constructed in a manner that "[e]nsures the preservation of water quality in Currituck Sound" N. C. GEN. STAT. § 136-89.183A (d).

Beach Driving

The ICE analysis of the impacts associated with beach driving is again confusing and inadequate. On the one hand, the ICE study appears to suggest that construction of the Mid-Currituck Bridge would have very little effect on increased beach driving in the northern Outer Banks.[55] However, elsewhere the ICE study suggests that "[i]ncreased beach driving because of induced additional day visitors could exacerbate" the degradation of breeding, migrating and wintering habitat for shorebirds and sea turtles, including several protected species listed as threatened or endangered under the federal Endangered Species Act.[56] The extent to which construction of the project will in fact induce additional beach driving is unclear. This inadequacy in the analysis is further exacerbated by the fact that the Transportation Agencies have failed to analyze the current rate of beach driving in the study area.[57] Furthermore, where the ICE study does acknowledge some increased beach driving it fails to adequately document the resultant impacts to the environment, discussing the issues at a very general level rather than specifically delving into what increase driving could mean for populations of migrating and nesting shorebirds, turtle nests and wild horses.[58] As much of the additional beach driving will occur on environmentally important lands including Currituck National Wildlife Refuge, Pine Island Audubon Sanctuary, Nature Conservancy land, and other Natural Heritage Areas, it is particularly important that a thorough analysis of potential impacts appear in the EIS.

Public involvement

One of the primary purposes of NEPA is to present a detailed picture of environmental impacts to the public and engage them in the decisionmaking process. 40 C.F.R. § 1500.1(b); 49 C.F.R. 520.25; 26. Accordingly, the EIS process is used to solicit public input to help foster more informed decision-making. Unfortunately, the Transportation Agencies are not uniform in their concern for public input. For example, while the Transportation Agencies have gone out their way to elicit public support to eliminate an environmentally preferable alternative for another toll project, the South-East Extension,[59] they have been far less responsive to public input on the proposed Garden Parkway and this project, the Mid-Currituck Bridge, where the position of the public runs counter to the agency"s own goals.

[55] ICE Report at 6-10
[56] Id.
[57] ICE Report at 4-18-4-19; see also Exhibit 4, comment from John Page, April 18, 2011 "nobody knows how much beach driving there is today, making it more difficult to know how much more that might occur."
[58] ICE Report at 6-10.
[59] See, e.g., Exhibit 5 Shirley Hayes, With red route gone, what"s next for I-540 expressway extension?, Garner News, March 29, 2011.

One of the most striking examples of this ambivalence to public engagement for the Mid-Currituck Bridge was the holding of a closed-door stakeholder meeting about the design of the bridge.[60] The meeting, which was intended to engage participants in "idea gathering," was not advertised to the public and did not include any of the stakeholders who are opposed to the project. Indeed, despite the fact that there is a well organized, vocal group of local residents in Aydlett and nearby towns who oppose the project, the group has not been recognized during the EIS process or any aspect of the project development, and was not included in that stakeholder meeting.

Conclusion

The FEIS fails to provide the basis needed for a rational appraisal of this project's impacts, benefits, or alternatives. In light of financial uncertainty surrounding this project, the overwhelming public opposition, and the flawed and insufficient EIS, we urge the Transportation Agencies to reconsider the project, and give serious consideration to an upgrade alternative and issue a Supplemental EIS that addresses the issues raised by these comments, our earlier comments and the comments of others.

Thank you for your consideration,

Sincerely,

J. David Farren
Senior Attorney

Julie Youngman
Senior Attorney

Kym Hunter
Associate Attorney

[60] Exhibit 6, Cindy Beamon, Bridge 'idea-gathering' meeting not advertised to public, Daily Advance, Sept. 18, 2011.

cc: Tim Gestwicki, Executive Director, North Carolina Wildlife Federation
Sam Pearsall, SE Regional Manager for Land Water & Wildlife, Environmental Defense Fund
Brent Martin, Program Director, Southeast Region, The Wilderness Society
Tom Cors, Government Relations Representative, The Nature Conservancy
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June 1, 2012

Via Electronic Mail and U.S.P.S.

John F. Sullivan
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Re: Supplemental Environmental Impact Statements for the Gaston East-West Connector and the Mid-Currituck Bridge

Dear Mr. Sullivan:

The recent ruling by the U.S. Court of Appeals for the Fourth Circuit regarding the deficient Environmental Impact Statement ("EIS") for the Monroe Connector/Bypass toll road underscores related issues for two other proposed North Carolina toll highway projects, the Gaston East-West Connector and the Mid-Currituck Bridge. Due to the similarities in methodology and process used for all three toll projects, we believe that it is necessary for the environmental analysis to be revisited for all three projects. We will send a separate letter regarding the Monroe project status and required study revision through counsel of record in that matter. Meanwhile, in light of the Monroe ruling and the issues we have already raised, we request that Federal Highway Administration ("FHWA") issue notices in the Federal Register to rescind the Record of Decision ("ROD") for the Gaston East-West Connector and notice the intent to prepare Supplemental Environmental Impact Statements ("SEIS") for both that project and the Mid-Currituck Bridge.

Recognizing the significant implications of the Monroe decision for toll highway project studies and permitting, the U.S. Army Corps of Engineers ("Corps") has suspended its Clean Water Act permit for the project and the North Carolina Department of Transportation ("NCDOT") has withdrawn its application for a state water quality certification. As recently documented in our comments to the Corps and the North Carolina Division of Water Quality ("DWQ"), similar concerns with the adequacy and accuracy of the NEPA analysis invalidate the Gaston East-West Connector EIS, and, without further analysis, also infect the process for the Mid-Currituck project. Addressing these fundamental issues during the NEPA process for all three projects is essential to the integrity of the permitting process. As the lead agency in the NEPA process, we urge FHWA to take a proactive approach to addressing these issues.

Implications of the Fourth Circuit Ruling

In its May 3, 2012 opinion, the Fourth Circuit held that FHWA and NCDOT violated NEPA by preparing a deficient EIS for the Monroe Connector/Bypass. N.C. Wildlife Fed'n v. N.C. Dep't of Transp., No. 11-2210, slip op. at 13 (4th Cir. May 3, 2012). Much of the Court's opinion centered on the fundamental importance of an accurate "no build" baseline as a "critical aspect of the NEPA process" from evaluating both alternatives and secondary environmental impacts, and the agencies failure to create such an accurate baseline for the Monroe Bypass EIS.

With respect to the alternatives analysis, the Appellate Court noted the importance of an accurate "no build" scenario to analyze future traffic projections. Id. at 5. The Court highlighted the highly implausible scenario presented in the Monroe EIS in which, as a result of the flawed baseline data, the 2035 "build" traffic volumes were actually "*less* than the 2035 'no build' baseline traffic volume." Id. The Court also noted that these inflated volumes contributed to the rejection of upgrade alternatives for the existing highway corridor. Id. at 4 n.1.

"In reviewing NCDOT's analysis of environmental impacts, the Court also made clear that "[w]ithout [accurate baseline] data, an agency cannot carefully consider information about significant environment impacts . . . resulting in an arbitrary and capricious decision.'" Id. at 12 (quoting N. Plains Res. Council, Inc. v. Surface Transp. Bd., 668 F.3d 1067, 1085 (9th Cir. 2011)). In addition to questioning the data and methodology used by the transportation agencies, the Court cast doubt on the conclusion presented in the EIS that the construction of the project would result in only a 1% difference in growth outcomes. Specifically, the Court noted that the administrative record was "devoid of any evidence establishing that the region is developmentally saturated such that a major toll road will have no appreciable environmental impact. Id. at 13 n2.

In its opinion, the Fourth Circuit also highlighted the high value that NEPA places on clarity and transparency of process for the benefit of the public and the permitting agencies that rely on the EIS. Id. at 11. The Court made clear that "[t]he very purpose of public issuance of an environmental impact statement is to 'provid[e] a springboard for public comment,'" id. at 12 (citing Dep't of Transp. v. Pub. Citizen, 541 U.S. 752, 768 (2004)), further noting that "the broad dissemination of information mandated by NEPA permits the public and other government agencies to react to the effects of a proposed action at a meaningful time." Id. at 9 (citing Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989)).

Gaston East-West Connector

As we have discussed in detail in comment letters, the proposed expenditure of $940 million Gaston East-West Connector would not solve any of the problems asserted as the purpose for the project. The toll highway will not relieve congestion on the road network in Gaston County, including I-85 and will be only two-lanes for one third of its

length. The project is very unpopular with the local community, and there are claims that it is politically driven and based on land speculation interests. Further, your own EIS suggests that the project will result in a net loss of jobs to South Carolina.

Beyond these troubling background facts, the EIS for the project contains many of the same flaws that the court addressed in the Monroe decision. With regard to the alternatives analysis, NCDOT used the same methodology to calculate traffic forecasts for the Gaston East-West Connector as it used for the Monroe project. Consultants relied on the Metrolina Travel Demand Model to generate both "build" and "no build" traffic forecasts for the two projects. Rather than create an accurate "no build" scenario, deemed essential by the Fourth Circuit, the Department instead relied on a *single set* of socio-economic data for both "build" and "no-build" scenarios – socio-economic data which in both cases included the toll highway.[1] The result is a "no-build" traffic forecast that is dramatically overstated, almost double the true forecast. This inflated picture of future growth was used to prematurely discard consideration reasonable alternatives such as upgrades to I-85.

Consistent with the Monroe ruling and as recognized by the Court, this method of calculating traffic forecasts has been found to be arbitrary and capricious by a number of other federal courts. See, e.g., Sierra Club v. U.S. DOT, 962 F. Supp. 1037 (N.D. Ill. 1997). Indeed, the substantial legal precedent on this issue was noted by the Fourth Circuit. N.C. Wildlife Fed'n., No. 11-2210, slip op. at 12 ("courts not infrequently find NEPA violations when an agency miscalculates the 'no build' baseline or when the baseline assumes the existence of a proposed project") (citing NC Alliance for Transp. Reform, Inc. v. U.S. Dep't of Transp., 151 F. Supp. 2d 661, 690 (M.D.N.C. 2001)).

The consideration of environmental impacts for the Gaston East-West Connector, although somewhat distinct with respect to the exact methodology used, also includes many of the same underlying flaws as with the Monroe EIS. The analysis of Indirect and Cumulative Effects ("ICE") expected to result from the project found that there would be very little growth attributable to the construction of the toll highway. This outcome was obtained through the use of a methodology based on the fundamental but unsupported assumption that the proposed toll road will not result in *any* overall growth and development in the Metrolina region. Rather, a "gravity analysis" was used to determine where growth will be redistributed in the region if the Toll Highway is constructed. This is fundamentally inconsistent with the Fourth Circuit's admonition that "[c]onclusory statements that the indirect and cumulative effects will be minimal or that such effects are inevitable are insufficient under NEPA." Id. at 10 (citing Ctr. for Biological Diversity v. U.S. Dep't of Interior, 623 F.3d 633, 642-43 (9th Cir. 2010); Davis v. Mineta, 302 F.3d 1104, 1122-23 (10th Cir. 2002)). Just as with Monroe, the administrative record for the Gaston project is "devoid of any evidence establishing that the region is developmentally saturated such that a major toll road will have no appreciable environmental impact" and this failure to consider such impacts is arbitrary and capricious. Id. at 13, n.2.

[1] This fact is undisputed for the Gaston East-West Connector, see ROD at C2-14.

Moreover, in conducting the ICE analysis, the transportation agencies failed to comply with NEPA's required purpose to inform the public and decision-makers, and to identify methodologies used. 40 C.F.R. § 1502.24. A review of public records regarding the ICE analysis makes clear that a coherent explanation of the methodology and its fundamental assumption of no over-all growth was purposefully deleted from the study.[2] Additional instances of important information being obscured from public view were noted in our earlier comments, including the instance of a consultant being directed to down-play job losses due to political considerations.[3]

The Fourth Circuit made clear that "[w]hen relevant information 'is not available during the [impact statement] process and is not available to the public for comment[,] . . . the [impact statement] process cannot serve its larger informational role, and the public is deprived of [its] opportunity to play a role in the decision-making process.'" Id. at 14 (citing N. Plains, 668 F.3d at 1085; Robertson, 490 U.S. at 349). As such, the Court found that misleading statements made by NCDOT regarding a fundamental part of the Monroe ICE analysis deprived the agencies and the public from fully participating in that process. Likewise, the deletion of a coherent explanation of methodology and fundamental assumptions for the Gaston East-West Connector also deprives the public of its ability to play a role in the decision-making process, and deprives permitting agencies of essential information.

Mid-Currituck Bridge

The Mid-Currituck Bridge similarly is a highly expensive toll project proposal that fails to serve a demonstrated transportation need. The suggestion in the EIS that this project will result in little induced development to the Outer Banks is demonstrably false, and, in fact, the project will serve to bring substantial increased development pressure to this fragile, shifting barrier island. Furthermore, resource agencies are near unanimous in their preference for upgrades to the existing highways in place of this new location bridge, which will pass directly through Maple Swamp and impact important fish spawning grounds and migratory bird habitat.

The alternatives analysis for the Bridge project was based on the same flawed process as discussed above for the Monroe Connector/Bypass and the Garden Parkway. The forecasts of future traffic were based on a single set of socio-economic data that assumed construction of the project. As with the other toll projects, the agencies must prepare a SEIS for this project that bases its traffic forecasts on two separate sets of socio-economic data- one "build," and one "no build." Only then can a reasonable picture of future needs be attained. Those forecasts should then be the basis to consider a full range of alternatives, including upgrades and ferry alternatives.

[2] Initial drafts of the ICE document included the clear explanation that "household and employment control totals for the Metrolina model region are the same between the No Build and Build conditions." This was ultimately deleted from the document because a NCTA reviewer felt that "it didn't make sense" and that the "agencies may not agree." Thus, while the dubious methodology behind the Gaston East-West Connector ICE study remained in place, the explanation regarding the fundamental assumptions was removed from the view of both agencies and the public.

[3] See our comments on the Gaston East-West Connector FEIS dated Feb 22, 2011, Dec. 22, 2011.

While the precise methodology used was different than that in Monroe, the analysis of environmental impacts for the Bridge was similarly flawed. Contrary to the Fourth Circuit's recognition of the "no build" baseline as a "critical aspect" of the NEPA process, the FEIS for the Mid-Currituck Bridge failed to include such a scenario. As detailed in our comments on the FEIS for that project, rather than using a "no-build" scenario as the baseline from which to calculate impacts, the analysis of impacts from the Bridge was based on a scenario that assumed "full build-out" of commercial and residential development[4] despite the fact that "full build-out" is only expected to occur if the bridge is constructed. Rather than base its analysis on a "no build" scenario, NCDOT analyzed impacts from what was, by the agency's own admission, a "build" scenario.

Conclusion

As we have detailed in our previous comments regarding the Mid-Currituck Bridge and the Gaston East-West Connector, there are a number of fundamental flaws in the environmental review process for the two projects that need to be addressed before they proceed to permitting. The ruling for the Monroe Connector/Bypass EIS underscores the importance of addressing these issues at the earliest opportunity, which we believe ultimately will save both time and money for all federal and state agencies involved in the process, and could save North Carolina taxpayers hundreds of millions to billions of dollars if corrected analyses show that one or all of the projects is not the best way to address transportation needs in their respective areas.

For these reasons, we respectfully request that FHWA to rescind the ROD for the Gaston East-West Connector, and to prepare a SEIS for each project that fully evaluates both alternatives and impacts using a proper baseline for comparison.

We would appreciate the opportunity for a meeting to discuss these important issues at your earliest convenience.

Sincerely,

David Farren
Senior Attorney

Kym Hunter
Associate Attorney

[4] See, e.g., Mid-Currituck Bridge Stakeholder Involvement FEIS Technical Report at 3-12 (explaining that "the project's traffic forecasts assume full build-out of the NC 12-accessible Outer Banks north of US 158 in Dare and Currituck counties.")

Cc: (via e-mail and U.S.P.S.)

Heinz Mueller, USEPA
Colonel Steven A. Baker, U.S. Army Corps of Engineers
Cindy Dohner, USFWS
Seth Wood, AUSA
Rudy Renfer, AUSA

RE: Currituck Mid-County Bridge Project (STIP #R2576)

To whom it may Concern,

I'm writing you with concerns over the "GAP Funding" that is being appropriated at the rate of $15 million dollars a year over the next 2 years for this "Bridge to Nowhere". I'm a taxpayer and registered voter in this state and with all the financial shortfalls this state is facing we can ill afford to be spending a dime on this project. This money could be better spent elsewhere in this state such as… god forbid "Education"!!! I'm asking you to cut the "GAP Funding " off for this project. The only people that will gain anything from it are the Real Estate Developers and I'm sure a Politician or two. Rep. Bill Owens and Rep. Tim Spears voted against the Governor's Proposed Budget last year in exchange for getting the "GAP Funding" put back in the Budget after it had been taken out by some Representatives who I would say had enough sense to do the right thing for ALL the People they represent in this State. These Billion dollar "Pet Projects" have no place in today's world. Do the right thing and get the Funding put where it needs to be. Education and what is happening with our schools and teachers is a good place to start. Not to mention the "Environmental" concerns this Project will have on the Currituck Sound and adjoining swamps and marshes. Existing roads and bridges are another area in which the money could be put to use. And how about our inflated gas tax in this state? The middle class poor are being suffocated under the load of ill advised funding for projects such as STIP #R2576. Make a difference and do something for the good of ALL in this Great State of ours not just a greedy few.

PS. If your plan is for one year, plant rice;
If your plan is for ten years, plant trees;
If your plan is for a hundred years,
Educate Children.

Let's put our money on the Children Folks!!! And no....I'm not a teacher..... just a blue collar working stiff.

Respectfully,

Michael Barclay

POB 106

Aydlett, NC 27916

1-252-207-8207

From: Daryl [darylbrwn@aol.com]
Sent: Tuesday, February 14, 2012 5:27 PM
To: midcurrituck@ncdot.gov; darylbrwn@aol.com
Subject: Currituck Bridge Preferred Alternative comments

We have had the opportunity to review the preferred alternative construction for the mid Currituck Bridge and want to share our thoughts. Our preference is for the bridge to impact an already established commercial area, either at the Timbuck II shopping center or by the Currictuck water station and visitors' center. Commercial entities would be clustered together and established neighborhoods would not be impacted by the view or the noise of a bridge. It is our understanding that the county's preferred alternative was largely determined by the FEIS. We hope that more thought will be given to the impact the bridge will have on private rental home investment properties, the tax these properties provide for the county (occupancy and real estate taxes), and traffic flow. It makes sense to keep the terminus of the bridge in the already commercially developed area of Corolla, NC.
Best regards,
Bob and Daryl Brown

Currituck Mid-County Bridge Final Environmental Impact Statement
March 12, 2012

Comments on the FEIS.

The following comments are made regarding the Final Environmental Impact Statement. Conclusions that the Mid County Bridge is a preferred alternative are not supported by the data presented in studies included in the FEIS. The following number comments reflect a number of incorrect conclusions which resulted from improper and/or slanted analysis of backup reports; use of old, dated information; subjectively dismissing or ignoring key issues/impacts; and, allowing blatant distortions by biased interpretation of favorable comments toward the building of the Mid County Bridge.

The Purpose and Need section of the document (pgs.6&7) states that the project will be analyzed based on its ability to meet the following needs:

- To substantially improve traffic flow on the project area's thoroughfares.
- To substantially reduce travel time for persons traveling between the Currituck County mainland and the Currituck Outer Banks.
- To substantially reduce hurricane clearance time for residents and visitors who use NC 168 and US 158 during a coastal evacuation.

I contend that the conclusion of the FEIS fails to adequately achieve any of these three stated needs.

The **substantial improvement of traffic flow on the project area's thoroughfares** fails to be met by the FEIS' and the backup documents analysis.

Regarding this item, Tables 1, 2 and 3 of the 2035 Traffic Alternatives Report (pgs. 10, 13, 14) measure vehicle per day (vpd) traffic volumes including actual 2006 versus 2035 without bridge and with MCB4 with 2/3 lanes on RT 12. These tables represent that the traffic south of Corolla will actually get worse if the bridge is built.
Related to this is my belief that the estimates of 2006 traffic (dated data) and future volumes are routinely inflated at an abnormal rate in order to better justify the bridge. The indications of the table that in 2006 average annual daily traffic was 7300 AADT (304 vehicles/hour 24 hours per day) South of Corolla and 14,800 AADT (616 vehicles/hour 24 hours per day) at Currituck/Dare county line are unsupported by observation/personal traffic count. I base this on my actual observation and counts of traffic at random times and adjusting these for the increase expected in the FEIS for seasonality and probable traffic that will not utilize the bridge due to origination in the Dare county area—principally service vehicles. I also come to this conclusion on the statement in NCTA's Alternative Screen Report which states on pages 4-5 under the heading Assumptions "Widening US 158 in Currituck County was not considered because congestion is not forecast to occur on US158 in Currituck county on summer weekdays in 2035, but only the summer weekends."

Lastly, the FEIS supplement report titled "Mid-County Traffic & Revenue Report" bases its analysis of need on several sources, among which are the Realtors Survey (which is inherently suspect to bias); Value of Time (VOT) analysis (which indicates the value of time for travel for vacationers of $14.25 versus a proposed toll of $28.00) indicating that most vacationers value the time saved at about half of the proposed cost—so, that expected usage of a toll bridge should be considered low; and, actual counts of traffic on a 2010 NCDOT Long Term Data Count Data which indicate traffic to have increased at 1.1% over the volume of 1998 measured Average Annual Daily traffic at the Wright Memorial Bridge (again uses measurement outside study area) meaning that in 12 years, traffic has increased only 2379 additional cars per day total for all cars going to the Outer Banks—much lower that the estimated traffic volumes used in DEIS analysis. At this constant rate, 2035 estimated rates should be an increase of 3.2% over 1998 traffic volumes. Additionally, of these 2379 additional cars crossing Wright Memorial Bridge to Dare County from Currituck, only 40% will reach the Currituck County line. In other words, the proposed bridge will only mean a 40 car per hour reduction in cars traveling into Currituck County via RT12. This reduction in volume of traffic will have practically NO impact on travel time. The answer is to improve the RT 12 corridor in Dare, the RT 158/RT 12 intersection, and RT 158 from the RT 12 intersection to the Wright Memorial Bridge.

In the 2035 Traffic Alternatives Report 6.1.2 on page 77 concludes "On US 158 north of the new bridge, traffic volumes are the same with or without a bridge. " It says, the two mile section of US 158 between the Wright Memorial Bridge will have extreme congestion by 2035 if the road is not widened. If a new bridge is constructed, this roadway would require a combination of six and eight lanes." The intersection of NC 12 and US 158 should be upgraded to … an interchange or similar improvement." On NC 12 in Dare, widening to four lanes would resolve congestion problems **with or without a new bridge.**

The FEIS fails to adequately address the acceleration of traffic issues due to the build out of remaining unimproved lots on the COBX. This negatively impacts traffic congestion along the problem areas of Dare Rt 12 and NC 158. Most service vehicles—construction and building trades in particular--will be traveling from Dare and will not utilize the proposed bridge. Increased permanent residents will also increase the volume of traffic. This was mentioned in workshops as early as 2004 and is not adequately addressed in this FEIS.

The conclusion should be obvious, widen RT 12, create a flyover at RT 12 and NC 158, widen and limit access on NC 158 south of the Wright Memorial Bridge. The Bridge fails to resolve the congestion problem and actually worsens congestion in the target area.

The second item is **to substantially reduce travel time from the mainland to the Currituck Outer Banks**.

I have randomly driven from the end of Aydlett Rd. to the Dare/Currituck County line in 45.5 minutes at or below the stated speed limit due to flooded roads on RT 12. On another trip, I drove to the Wildlife Center from my home (.5 miles from bridge site) in 56 minutes. I did have to stop for one stop light each day. At the Duck Pier, there was a roadside radar sign that indicated that the nine cars in front of me were driving 30 mph on what was then a clear dry road in a 35 mph zone. I have no suggestions as to how the FEIS should analyze that problem. However, widening of RT 12 South of Duck and providing turn lanes allowing other traffic to pass would positively impact the travel time. This was not analyzed as it was not included in the study area. The bridge has no positive impact on this issue.

Travel time can be measured for comparison. But a cost versus benefit analysis has to be included in making decisions regarding each of these stated goals. Therefore, it is important that we look at accurate times for traveling the routes under normal circumstances—not worse case scenarios. Additionally, those times should be analyzed based on a weighted average which takes into account frequency of congested days. Because the worse travel times are only 26 summer weekend days per year, estimated times within the FEIS overemphasizes the times required to make this trip for substantially the whole (93%) of the total travel time. Summer weekdays add only an additional 65 days, so 91 of 365 equals 24.9%--less than a quarter--of total traffic days which would have abnormal traffic conditions.

This issue is a matter of perception for those traveling. What is substantial to mainland Currituck residents? It depends on from where you are traveling in the county. For those of us in Aydlett, a bridge would allow us to be at the beach access in about 20 minutes given our need to travel to Coinjock to get on the toll road, travel across the bridge, take a drive to the beach access. So my decrease in time traveled would be 36 minutes—a decrease of 180%. A driver from Moyock to Currituck Outer Banks (COBX) access would see a decrease from 86 minutes to 45 minutes with a bridge. This is a 41 minute decrease but represents only a 91% savings in time traveled. It's relative to the total time currently travelled. It's approximately 21 miles to the Wright Memorial Bridge from Aydlett Rd and 158. It is reasonable to expect that those residents of Currituck who are closer than half way (approximately south of Jarvisburg) to the Wright Memorial Bridge will use RT 12 and drive the (at most) 36 miles to get to the bridge terminus rather than drive thru 3 stop lights in Grandy, pay a toll and travel further to get to a beach with limited resources. With only 30 spaces for beach goers on Currituck beaches, most Currituck beachgoers will need to travel to Dare.

The 2010 Mid County Traffic Revenue & Forecast report mentioned above indicates that the average visitor to the Outer Banks (not just Currituck OBX) travels 300 miles. They have done this for at least half a century and it hasn't slowed the number coming to the beach. The additional mileage driven to reach the bridge terminus in Corolla is 45 miles from Aydlett (an additional 15% of their travel time) and assumes that everyone taking the bridge ends their journey there and does not drive further south on RT12. They value their time on this at $14.50 yet we are asking them to pay a $28.00 toll, most will refuse.

According to the tables in the Mid-County Traffic & Revenue Report, this is essentially a 13 weekend a year problem. And, essentially a 1 day a week problem during these 13 weekends. Expenditures of $685 million and an additional $28 million per year for 40 years are unjustified. The conclusion reached on page 78 of the report--that 142 minutes are saved by traveling the proposed Mid County Bridge versus the current route—is flawed because it fails to use a weighted average approach and instead chooses a worse case scenario that fails to take into account the relatively minor period that the scenario exists. It is ridiculous to assume a 99% "capture rate" for travelers from the northern areas when the same document states that the traveler only values their time expenditure at $14.50, not $28.00. In fact, the report itself indicates that an expected capture rate is only 12%. **The "optimal" utilization of the tolls at the proposed bridge opening generates revenue that is less than half of its yearly operating expense and pays NONE of the cost of the bridge.** The dollar cost/benefit of this project cannot be completely determined because the cost won't be finally determined until the design is determined. This project will require continual funding because it will never pay for itself. I don't believe that it is the best use of Taxpayer's dollars to spend on unneeded and unjustifiable wants. That's what this bridge represents—a want not a need.

These scenarios **do not meet** the substantial reduced travel time standard required. Again, a bridge fails to meet the standard set by the FEIS.

The last purpose and need is **to substantially reduce hurricane clearance time for residents and visitors who use NC 168 and US 158 during a coastal evacuation**. Regarding the Hurricane Evacuation Improvements in the Alternative Screening Report on pg 12 states **"without improvements in the outbound capacity of this portion of US158 (from NC 168 to NC12) future hurricane evacuation clearance times would not decrease, even if NC 12 was widened, or a Mid-Currituck Bridge was built."** Additionally, the failure of the DEIS to analyze the impact of the current widening and improvement to NC 158 **from Belcross to Camden and on to RT 17 (Project #34430.3)** likely causes the evacuation time to be overstated. Lastly, during his comments at a DEIS public hearing in Dare, Mr. Page described the use a 3rd lane along NC 158 as an impractical (uncontrollable) solution to Hurricane evacuation, yet is an integral part of the plan to make the goal obtainable—and it's been done before.

The vast majority of hurricane evacuation traffic leaving the Outer Banks will be leaving Dare County and travelling up NC 158 rather than using a Mid Currituck County (MCC) bridge. Given the greater population of Northern Dare County and its proximity to the Wright Memorial bridge, the need to improve RT 158 rather than build a MC bridge should be the highest priority for hurricane evacuation. There are no estimates in the DEIS as to expected volumes from Dare versus the MCC. The need to merge traffic from any outbound MCC bridge lanes will create a bottleneck south of the JP Knapp Bridge. Both of these presume there will be a backup at the Barco intersection. If there is no backup, there is no need for a bridge. If there is a backup, the bridge will acerbate the problem.

Lastly, a bridge will likely encourage residents and visitors to remain on the COBX longer because of a misguided overconfidence and an aversion to wasting time for their vacations.

The conclusion of the MCB4 substantially improving hurricane evacuation is premature and illogical.

To summarize, the MCB4 alternative, along with all other bridge alternatives, fail to resolve the stated needs of the FEIS. Resolution of these needs is best accommodated by the No-Bridge or the ER1 alternatives.

Wallace E. Davis, III
143 Sandy Ln.
Aydlett, NC 27916

March 8, 2012

Ms. Jennifer Harris PE
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, NC 27699-1587

Mr. John F. Sullivan PE
Federal Highway Administration
310 New Bern Avenue Suite 410
Raleigh, NC 27601-1414

RE: Mid-Currituck Bridge Final EIS Comments:

Dear Ms. Harris and Mr. Sullivan:

My name is John Grattan. I live at 740 Mariner Drive in Corolla, North Carolina. On May 26th of 2010 I submitted detailed comments on the Draft EIS (DEIS) for the proposed Mid Currituck Bridge. On January 12, 2012 the Final EIS for this proposed project was released for public comment.

One of the principle purposes of compiling and releasing a Final EIS is to respond to the agency and public comments filed on the Draft EIS. Normally these comments and the responses thereto are included in the Body of the Final EIS in a simple comment-response format. In this case, however, the lead agencies have seen fit to include the public comments in a CD that is not part of the Body of the Final EIS. The comments of the public appear in one volume and are not directly responded to in the same place they are printed. The responses seem to be collected in another volume with no attribution to the commenter. This trivializes the comment process and makes comments on the Final EIS unnecessarily complicated.

Given the above, I have the following comments on the substance of the Final EIS:

Purpose and Need

The Final EIS (FEIS) never comes to terms with the fact that one of the major purposes of the proposed Project is to reduce congestion and improve traffic flow on only 26 days a year. The expenditure of approximately $600,000,000 to achieve this end is a colossal waste of resources. The FEIS seems to give the project an economic life extending to 2035. A fairly simple calculation (with no discount rate) put the cost of this congestion reduction at over $1,000,000 per day of congestion reduced over the life of the project. Surely there are better transportation uses of this money—nationally, statewide and regionally.

Another stated need of the project is to substantially reduce hurricane evacuation times for visitors and residents who use Routes 158 and 168. In considering this "need" the FEIS never considers the most recent hurricane evacuation experience, that of the mandatory evacuation for Hurricane Irene during the last week of August 2012. The Counties of Currituck, Dare and Hyde issued phased, coordinated evacuation orders, first for visitors and then for permanent residents day by day starting in Ocracoke Island and proceeding northward through Dare and then to the Currituck Outer Banks. The evacuation for this major hurricane as large in area as the State of Texas was completed without any major or even minor congestion on Route 12 in the Currituck Outer Banks or on Routes 158 and 168 on the Mainland.

This experience, an eventless, congestion free hurricane evacuation, based a sensible coordinated planning should have been considered and analyzed in the FEIS as it considered the validity of one of its stated purposes, and the expenditure of $600,000,000 to accomplish that purpose.

Indirect and Cumulative Impacts

The comments received on the DEIS necessitated some revision in the FEIS and in the Technical Report supporting it. However, the basic conclusion of the document remains the same: the project will not induce growth in the Currituck County Outer Banks. This conclusion is not supported by experience or case law. The FEIS's acknowledgement that the proposed project would change the location of growth from Dare County to the Currituck County Outer Banks is in itself a significant adverse environmental impact for the Currituck County Outer Banks for which mitigation needs to be recommended and implemented.

The FEIS has now acknowledged the potential for adverse impacts resulting from increased trips to the Currituck County Outer Banks and its roadless area on the Northern Beaches. However it unreasonably minimizes these impacts and absolves the Lead Agencies or any responsibility for mitigation, particularly where the Wild Horse Herd is concerned.

The FEIS mentions project related increased human-horse encounters and collisions. The Wild Horse Herd is nearly 500 years old. The Spanish Mustangs which comprise the Herd are here as a result of Spanish colonization attempts and shipwrecks. Their unique survival skills have enabled them to continue in the face of human encroachment, although their numbers have now dwindled to a little over 100. Since the DEIS was published, the North Carolina Legislature and Governor have designed the "Banker Horse" as the State Horse of North Carolina. Collisions and human interference with this resource deserves more than mention. It is a substantial adverse project impact which requires mitigation.

The FEIS abdicates any Lead Agency responsibility for mitigating these or other indirect impacts of the proposed Bridge and chooses to await the County of Currituck's

imposition of mitigation. Not only is this an abdication of responsibility, it is far too vague a measure to be effective.

Comments on the DEIS mentioned the impact of project induced driving on the dunes and the Currituck National Wildlife Refuge. The response to those comments was that driving is prohibited in the Currituck National Wildlife Refuge. The response ignores the fact that despite the prohibition, because of lack of personnel to enforce this prohibition, driving in the Refuge is occurring now and such driving will significantly increase if the project is built. This impact most be identified and mitigated for.

The FEIS speaks of the County of Currituck limiting access to the Off-road area. It fails to note that the County has rejected the recommendations of it own Beach Driving Task Force to do just that. The FEIS also fails to acknowledge that the State Department of Transportation still has Right of Way Jurisdiction over the access to the Off-road area and part of the Beach itself (It is part of the Route 12 Right of Way). This being the case, it is clearly the obligation of the Lead Agencies to recommend and implement mitigation measures.

Visual Impacts

The FEIS mentions the visual impact of the proposed Mid Currituck Bridge preferred option on the Corolla Bay Subdivision. It totally ignores the impact on the visitors to Currituck Heritage Park, the Historic Whalehead Club House, and the Currituck Beach Light House. All are located right on the Currituck Sound in Corolla. This is a serious omission. The Light House alone has over 100,000 climbers a year (Personal Communication-Megan Agresto, Light House Site Manager). The significant adverse visual impact on these visitors and climbers must be acknowledged and addressed.

Trade Off's Between Local Short Term Uses of Man's Environment and Maintenance and Enhancement of Long Term Productivity.

The FEIS does not adequately address the trade off between the short term commitment of $600,000,000 capital resources required to build the proposed Bridge and the long term impacts of its contribution to the overdevelopment of a Barrier Island.

Irreversible and Irretrievable Commitment of Resources

The FEIS never adequately addresses the irreversible and irretrievable commitment of resources required to build and maintain the Bridge versus commitment of those resources to another transportation use. Capital is a limited resource. $600,000,000 is a significant amount of capital. How does the expenditure of $600,000,000 to build a bridge to a Barrier Island to alleviate congestion on 13 Weekend a year stack up against expenditure of such an amount to address potentially more legitimate traffic and safety issues regionally, statewide and nationally? This issue needs to be discussed.

Summary

The FEIS is inadequate for the reasons stated above. If the lead agencies still desire to pursue this questionable project. A new DEIS, which address the concerns discussed herein (and other concerns raised in the comment process), must be produced and circulated for public comment.

Thank you for the opportunity to comment,

John Grattan
740 Mariner Drive
Corolla, NC 27927

C-95

From: John Harter [mailto:hartjd7@msn.com]
Sent: Sunday, January 22, 2012 1:54 PM
To: midcurrituck
Cc: Office of the Governor
Subject: Mid Currituck Bridge

This is a comment in regard to the FEIS and the impact of the mid Currituck bridge. The bridge will put 11 miles of pristine beach (the last chance for the state horse) in easy access of a major population center. Kids play on this beach in the summer and driving there is like a demolition derby on a playground. This is a note I made to myself of a phone conversation in October:

"Tracy Roberts 9197072728 called me today for Jennifer Harris NC Turnpike authority. He said they studied indirect and cumulative potential to affect land use on off road. Also had concluded traffic increase wasn't material based on "independent study." He said when he met with the commissioners last year they gave him (the attachment) to show they had authority to deal with traffic. He basically said it was up to Commissioners. I asked him if he had ever been there. No. Somebody in his office had and said the beach was a mess with people and cars."
As to the Commissioners you left on top of this, below is the rant I got from local Commissioner Butch Petrey when I brought up a permit system. Now the Commissioners won't restrict access. The politicians you work for, not regulators by the way, are exempt from their negligence under NC law :

Where to start?
The number #1 & #2 tourist attractions in Currituck County are the beaches #1 and the wild horses #2. Who gets a permit? There are 3500 homes in two wheel drive. 90% plus are in the rental program. That's 3150 homes that are Currituck County's life blood. Life blood that puts over $1500 per houshold per year in tax relief in Currituck County residents pockets. Yours, mine, every household, $1500, that is a lot of money. Does this mean that only a portion of these 3150 homes get a permit to go to 1/2 portion of #1 and 0 of #2 tourist attraction of the county. Is it one permit per rental house or do they share with the other families who are staying there? Who decides? Tell that to the home owners who have invested in Curritck County that they may or may not get a permit for there rental. There are 20,000 plus residents in Currituck, who while they might not need a permit, could go to 4 wheel drive for the day. So far just by the numbers we are now up to 10,000 plus permits or possible cars per day. The committee complained about 3,000 cars per day. When a family is here on vacation or maybe lives hear, how do they find out if a permit is available. How many cars on the beach. Do we have a waiting list of vacationers waiting for someone to leave so the can go to the beach. When I, who live in Currituck, go to the beach for the day and I am turned away because there are too many cars, yea right. Try and sell that one. Another thing, when a family is here, do they buy a daily permit, weekly permit? What color. Picture a deputy riding

down the beach checking permits all day long telling people here on vacation "You don't have a permit, you have to pick up your beach chairs and coolers and leave the beach". What do you think will happen next year when vacations are planned. Also, Currituck County Sherriffs dept. has said, on record, that they are adamantly opposed to a permit system, why. It is unenforceable! As far as safety, one solution that has been suggested by many, and rejected by those who live in 4 wheel drive and the committee is between Memorial Day and Labor Day drive next to the dune line between 9:00 am and 5:00 pm. I have heard residents that live in 4 wheel drive say from there own mouths that is something that has possibilities. But when that is suggested you are tuned out because they is no room for compromise or reason with some people. The Sherriff has even suggested this to deaf ears. That would go a long way to eliminate 90% of the safey issues for kids. Remember, the dune is the only thing that is constant, doesn't move in and out with the tide. Also, Currituck County Tourism Dept. had 0 input in this study, ZERO. They promote "day trippers". There studies show that "day trippers" do spend money in the shops, stores and markets of the county. It is called sales tax. Our #2 source of revenue for the county. Their studies also show that when these "day trippers" come to our beaches from where ever, it makes them comeback for a longer visit. Occupancy Tax. Hence, rentals and return vacations. The main problem I have in permits is that it may well have a negative impact on tourism since there are other beaches they can go to other than ours. I am afraid of jeopardizing some of this $1500 tax relief. Tell you what, we have an election next year. Let's put this out as a voter referendum. Let them decide if they want to play games with their $1500 per house.Tell those running for commissioner, 4 of them, your wishes and let them put it on there platform. Let the 16,000 voters in Currituck County decide, not a few people who are pushing this agenda. Thanks for your questions.

Still relying on the attachment?

You ignored the most horrific impact of all. Now you can't say it was up to the Commissioners when a child in the 4WD is hurt or killed in this insanity. As a matter of record it was up to you!

C-96

From: Robert John Hawk [mailto:robertjhawk@charter.net]
Sent: Tuesday, January 24, 2012 12:24 PM
To: midcurrituck@ncdot.gov
Subject: Westbound lane to Duck Woods Dr.

The purpose and use of this added lane escapes me. It seems to me this will be another one of these not understood not anticipated right (travel) lane ends mergers that unfamiliar drivers will not anticipate and will not respond to in a safe manner. It will allow speeds to increase for a short distance to the east only to reach another arbitrary bottleneck. I'm no traffic engineer but as a long term resident of Duck Woods Drive, I'll bet I'm right on this one. Pretty Darn sure this is a bad idea. Then the next solution to "fix" the problem you create will be a realignment of Duck woods Drive and another traffic control light, which will just move the weekend parking lot.

From: Karen And mack pierce [mackqp@embarqmail.com]
Sent: Monday, March 12, 2012 12:28 PM
To: midcurrituck@ncdot.gov
Subject: Comment to FEIS

Jennifer Harris

After reviewing the FEIS I still come to these conclusions of opposing the building of the Mid Currituck Bridge because

We the tax payers of North Carolina do not need to spend anymore tax dollars on new projects. It is tax payer money when it comes from the "gap funding". It stated this money cannot be used by the NCDOT only by the NCTA. Because it is public money this can be changed by a vote.

The $15 million and soon to be 28 million can be spent on projects such as the ferry system and the mentioned Oregon Inlet Bridge.

Development of Corolla could be the main subject in this statement. No concern to what its going to do to our natural resources and environment. Corolla doesn't have the infrastructure to handle what this bridge is going to create. So again its going to be left up to the NCDOT to fix.

The traffic that you project is seasonal. I've lived here all of my life and see it every day. I see how you take your surveys the weekends in summer months. Where are you cameras during January and February?

Hurricane Evacuation: this term has been beat to death. Over the years notification has come so far of a hurricane there is plenty of time to leave. It is not the states responsibility to help the ones who wait to the last minute to leave. The rental agencies help in solutions of rental money but no time is money who cares about the tourist then.

THIS BRIDGE IS GOING TO CREATE MORE PROBLEMS THEN IT SOLVES!

C-97

Mack and Karen Pierce
5067 Caratoke Hwy.
Coinjock, N.C. 27923

From: Ed Was [mailto:ejwod@aol.com]
Sent: Sunday, February 26, 2012 8:48 PM
To: midcurrituck@ncdot.gov
Cc: danatwod@gmail.com
Subject: Mid Currituck County Bridge

I would like to voice my support for this project.

Our home is in Monterey Shores, 852 Oakridge Ct,, have owned since 1993.

My concern is around our ability to get across Rt 12 with the increased southbound flow. It will be difficult and dangerous to cross RT12 to get to the beach access.

Additionally, I think consideration should be given to building a pedestrian overpass so that individuals on the soundside of RT12 can safely bike/walk to beach. Monterey Shores will unfortunately be affected the most of all the developments because of the proximity of the bridge landing just north of our community.

Thank you for your consideration and I would appreciate some response to my concerns.

Ed/Dana Wasloski
852 Oakridge Ct
Corolla, NC 27927
C4103823890

From: Lorraine Wenstrom [mailto:sadiew29@yahoo.com]
Sent: Sunday, January 22, 2012 4:35 PM
To: midcurrituck@ncdot.gov
Subject: comments to MCB impact statement (Jennifer Harris)

Dear Jennifer,

My husband and I own property on 966 North Harbor View in Corolla, NC. We have been following the final drafts on the impact statement since the alternative route and the beginning stages of the plan. We have e-mailed John Page several times with questions. We are very concerned about the widening of the road behind our house with a drainage ditch. That is one major concern along with losing the serenity of the area with trees and wildlife. We have opposed the bridge from the beginning, since we know it will be used 13 weekends out of the year and a huge expense to the residents of N.Carolina. We have never had a problem to evacuate for the two hurricanes since owning the house since 2001. We have spent several weekends improving on our rental property in hopes of retiring there in the future. There is no way we would live in that house with the sound of that widened Rt 12 behind us. Since this plan has been revised in the road widening, we wanted to know, if it is still in the plans for the widening of the road behind us, taking down all of our mature trees on the dune that blocks the traffic and sound from our house? We also want to know if the drainage ditch is still proposed behind our house narrowing our back yard. How far is the nearest traffic lane to our house? I hope you know that this would certainly devalue our house in many ways and we would be seeking legal counsel. We have mature trees protecting our house from the two lane highway from sound and traffic. That is a dangerous curve on North Harbor View and most people do not do the speed limit. We can hear the cars and trucks jamming on their brakes at times. The dune and trees are our protection. What family would want to rent our house with children with a drainage ditch behind us? Maybe you need to see the pictures of our street during the rains in 2006. The entire area was flooded. So, now we can have an entire ditch full of water emptying on our property when we have the nor'easter rains. Our renters have to cross NC12 to get to the club house to enjoy the amenities that are offered with our property in Monteray Shores. At a minimum of $660 million this bridge is a waste of NC taxpayer's money. I am looking forward to the answers to our questions.

Lorraine and Robert Wenstrom

From: Lorraine Wenstrom [mailto:sadiew29@yahoo.com]
Sent: Monday, January 23, 2012 3:14 PM
To: Page, John
Subject: Re: comments to MCB impact statement (Jennifer Harris)

My major concern with the widening of the road is our safety and traffic noise. If you put that ditch behind our house, we will hear the traffic and be wide open to the vehicles on that dangerous curve. Our house will be wide open to the road and ditch, if you remove the trees and dune on our property. The ditch will be a hazard to family renters with children, and that is already a low area during storms. Why wasn't this ditch considered further up the road where there are no homes on North Harbor View? This will definately devalue our property. We can't even imagine looking out our bedroom and living area and seeing that traffic that close to our property with no protection. There needs to be changes made in order to protect the residents on North Harbor View. We do not want any drainage behind our property or even close to our property. That section of North Harbor View..... 962, 964, and 966 are lowest on the street and this will just make the situation worse during the nor'easter rains. And, you didn't mention how far away the nearest traffic lane will be to our home with the revised plan. We also have two levels of decking further from our home toward Rt. 12.

Mr. and Mrs. Robert Wenstrom

Appendix D

Response to Non-Governmental Organization Comments Received During Reevaluation Preparation

D. Response to Comments Received During Reevaluation Preparation

This appendix provides responses to comments on the project received from the non-governmental organizations (NGOs). The written correspondence received from local agencies and NGOs is included in Appendix E. The comments and responses are presented in the following sections:

D.1 Southern Environmental Law Center

1. **Comment:** On behalf of No MCB-Concerned Citizens and Visitors Opposed to the Mid-Currituck Bridge and the North Carolina Wildlife Federation, the Southern Environmental Law Center ("SELC") submits the attached comments requesting that the North Carolina Department of Transportation ("NCDOT") and the Federal Highway Administration ("FHWA"), collectively the "Transportation Agencies," prepare a Supplemental Environmental Impact Statement ("EIS") pursuant to the National Environmental Policy Act ("NEPA") for the Mid-Currituck Bridge ("Bridge").

   Recent funding changes in North Carolina call into question the financial viability of the Bridge, while new traffic forecasts suggest that the $600 million project is a poor use of limited taxpayer resources. In addition, the comments below identify serious deficiencies in the environmental review that has been performed by the Transportation Agencies to date. These factors combine to make NCDOT's forecasted decision to conduct a mere "reevaluation"[1] of its outdated public disclosure documents not only illegal, but bad public policy.

   In light of the diminished funding picture, the shifting demographics on the Outer Banks, changing vacation patterns, and reduced forecasts of traffic and growth, the below comments also offer a new, lower-cost alternative solution that has been carefully designed to alleviate congestion without the expense or environmental harm associated with the $600 million, seven-mile Bridge. The Currituck Sound is one of North Carolina's treasures. As such, we intend this solution as a means to improve the mobility of both tourists and local residents without destroying the

[1] FHWA & NCDOT, Mid-Currituck Bridge Study, Reevaluation of the Final Environmental Impact Statement, DRAFT (Sept. 2016) (Exhibit 1) [*hereinafter*, Draft Reevaluation]

very beauty and unique experience that so many travel from so far to enjoy.

Both the critique of the Transportation Agencies' review and the new proposed set of alternative solutions are supported by a report from Transportation Expert, Walter Kulash, P.E. attached.[2] Mr. Kulash has over 45 years in transportation engineering expertise. Since the 1990s, Mr. Kulash has focused on bringing balance to the design of roads, improving not just their vehicular traffic capacity but also their accommodation of non-motorized travel and their value for local businesses. He has applied this approach, "context sensitive" design, to roads throughout the United States. Mr. Kulash is a licensed engineer in Alabama and Florida and his license is pending in North Carolina.

To ensure good, reasoned decision making, and to comply with NEPA, it is imperative that the Transportation Agencies address the concerns raised in these comments in a Supplemental EIS that is made available for public review and comment. As noted below, there have been significant changes since the last opportunity for public scrutiny when the Final Environmental Impact Statement ("FEIS") was published almost five years ago in early 2012. The many changes that have occurred since deserve a thorough look by both the Transportation Agencies and the public. Moreover, the time is ripe for all stakeholders to coalesce around a cost-effective solution that can be swiftly set in place to ease summer-time traffic woes in the Northern Outer Banks.

These comments address the following key issues:

- A long history of pushback from environmental resource agencies that have consistently found non-bridge alternatives to be less environmentally damaging.
- The limited funding available for the Bridge and new increased flexibility to fund alternative solutions.
- The new expectation that traffic in the study area will be significantly lighter than previously anticipated and the Transportation Agencies' failure to incorporate this fact into their analysis.
- Reliance on an arbitrary 18-hour hurricane evacuation standard to support the project's Purpose and Need that is impossible to satisfy even with the proposed $600 million Bridge.

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[2] Walter Kulash, REVIEW OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT AND DRAFT REEVALUATION OF FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE MID-CURRITUCK BRIDGE, CURRITUCK COUNTY, NC (Dec. 20, 2016) (Exhibit 2) [*hereinafte*r, Kulash Report].

- The Transportation Agencies' failure to consider in earnest a full range of alternatives, including upgrades to existing roads, ferries, staggered check out times, and small-scale transportation solutions.

- The Transportation Agencies' failure to transparently present the indirect environmental effect of the Bridge on induced development, despite repeated statements from the Transportation Agencies and the local community that the Bridge will cause increased development pressure.

Response: *Responses to the concerns raised by the commenter are addressed in the commenter's more specific comments below. This reevaluation study report presents a thorough look at changes since the release of the Final Environmental Impact Statement (FEIS) in January 2012. It should be noted that Southern Environmental Law Center (SELC)'s comments are based on the first draft of the reevaluation report. The SELC comments were considered when developing this final study report. That draft included the first presentation of the new traffic capacity analysis findings for discussion with the Federal Highway Administration (FHWA) and NCDOT staff. FHWA and NCDOT had neither reviewed or approved the traffic capacity analysis findings presented in the first draft of the study report. These initial traffic capacity findings were to be reviewed as the same time as the balance of the study report.*

I. HISTORY OF THE BRIDGE

1. **Comment:** On pages 3 to 16 the commenter's letter presents a history of the Mid-Currituck Bridge Project including a presentation of:

    - Concerns raised by environmental regulatory and resource agencies during preparation of the initial Draft Environmental Impact Statement (DEIS) released in 1998. These included concerns related to potential environmental impacts, potential development increases resulting from the bridge, and preference for improving existing roads

    - Concerns raised by environmental regulatory and resource agencies in late 1997 regarding the project's purpose and need with the introduction of the Merger Team process into the NCDOT project planning process in May 1997

    - State and federal environmental regulatory and resource agency, as well as public, comments on the January 1998 DEIS

    - Correspondence and meetings with state and federal elected officials, as well as local officials and business leaders, on the project's status and potential means for reactivating and advancing the project

- Concerns expressed by the Merger Team, including hurricane evacuation as a part of the purpose and need and how that was resolved

- Assignment of the project in 2006 to the newly created NCTA, the planned use of a public-private partnership for project implementation, and the General Assembly's provision of state "gap" funding.

- The 2013 introduction of the Strategic Mobility Formula and withdrawal of state "gap" funding.

- Organization in 2010 of a local opposition group NoMCB, Concerned Citizens and Visitors Opposed to the Mid-Currituck Bridge

The reader is referred to the commenter's original letter in Appendix A for the complete discussion, which also includes the commenter's footnotes 3 to 98.

Response: *The following clarifications are appropriate:*

- *The issues raised by environmental resource and regulatory agencies during the preparation of the 1998 Draft Environmental Impact Statement (DEIS) were addressed in that document, as well as in the 2010 DEIS and 2012 FEIS.*

- *The Merger Team process was introduced in 1997 after the 1998 DEIS was substantially completed under agency coordination procedures that predated the Merger Team process. The first Merger Team concurrence point is purpose and need. After the Merger Team raised concerns with the purpose and need as written, FHWA decided to release the already prepared DEIS for formal agency and public comment rather than take the DEIS preparation process back to the beginning prior to any public comment. The outcome of agency and public review of the 1998 DEIS was a decision not to pursue the project further, essentially the selection of the No-Build Alternative.*

- *Local elected officials always have a role to play in identifying and advocating for transportation improvements that serve their communities and that respond to community growth. It is common for local elected officials to ask their state and federal legislative representatives to advocate on their behalf and provide reasons why they should serve as an advocate. NCDOT's decision ultimately was to start the National Environmental Policy Act (NEPA) process again from the beginning, addressing issues and concerns raised during the agency and public review of the 1998 DEIS, raised in the discussions with elected officials, and raised during a new scoping process.*

- *The model used in calculating hurricane clearance times for the 2012 FEIS was approved for use on the Mid-Currituck Bridge Project and other coastal transportation projects in 2008.*

– *With the introduction of the Strategic Mobility Formula and the withdrawal of "gap" funding in 2013, the project was put on hold, pending the outcome of applying the Strategic Mobility Formula to the project. With the application of the Strategic Mobility Formula, the state's contribution to this toll project was funded as a local priority using state transportation funds allocated to NCDOT Division 1.*

II. NEW FUNDING REALITIES RENDER THE BRIDGE UNAFFORDABLE AND DEMAND CONSIDERATION OF LESS COSTLY ALTERNATIVES

2. **Comment:** Even after forty years of planning, NCDOT still has no clear path forward to pay for the overpriced Mid-Currituck Bridge. Instead, NCDOT continues to obfuscate the true cost of the project and has failed to provide any realistic financial path to construction. At the same time, the Department has failed to consider how other less costly alternatives could be funded under the State's new data-driven funding process.

Response: *This reevaluation study report includes in Section 1.2.5 a current strategy for financing for the Preferred Alternative, as well as a financing strategy for ER2 (widen existing roads alternative).*

NCDOT will continue to refine and update the project cost estimates as project details are refined. In keeping with FHWA Major Project Guidelines, a cost estimate review workshop was conducted in December 2011 that included subject matter experts from FHWA, NCDOT and the project study consultant team to review the cost and schedule estimates for the Preferred Alternative. These findings were included in the FEIS. The objective of the workshop was to verify the accuracy and reasonableness of the total project cost estimate and schedule, and to develop a probability range for the cost estimate that represented the project's then current stage of development. New cost estimates for the revised designs of the Preferred Alternative and ER2 are included in this reevaluation study report in Section 1.2.4. Another cost estimate review workshop with FHWA was conducted January 23 to January 25, 2018 to review schedule and cost assumptions for the Preferred Alternative, as described in Section 1.2.4. The updated total project cost estimate and schedule assumptions were used to develop the initial full financial plan for project.

3. **Comment: Project Cost.** The cost for the Mid-Currituck Bridge has vacillated widely over the past twenty-five years, with costs ranging up to as high as $808 million.[99] The latest estimate in the Draft Reevaluation places the cost at $568.7–$678.6 million.

   In recent years, it has been almost impossible for the public to determine the true cost of the Bridge and the extent to which that cost will be borne by taxpayers. The 2012 FEIS put the cost of the Bridge at $500–595 million.[100] Months later, however, in a presentation to the North Carolina General Assembly, former North Carolina Turnpike Authority Executive Director David Joyner estimated the cost at $650 million.[101] At that time, NCDOT expected a relatively small portion of the project cost, $40 million, would be borne by a private partner in the form of a P3 agreement.[102] NCDOT also expected tolls to finance the project. NCDOT's traffic and revenue studies projected toll rates that would vary over time, with rates rising as high as $28 for a one-way trip during peak season. Mr. Joyner told the North Carolina General Assembly that the toll revenue bonds would account for roughly $132 million of the project's cost, while the state would be responsible for appropriation bonds of approximately $464 million. At the time, this nearly half-billion dollar "gap" in toll funding was to be supported by an annual earmark appropriation from the legislature in the amount of $35 million per year for forty years.[103]

   > ***Response:*** *NCDOT continues to refine and update the project cost estimates as project details are refined. In addition, trends in inflation rates and construction pricing evolve over time, which also are reflected in capital cost estimates. In keeping with FHWA Major Project Guidelines, a cost estimate review workshop was conducted in December 2011 that included subject matter experts from FHWA, NCDOT, and the project study consultant team to review the cost and schedule estimates for the Preferred Alternative. These findings were included in the FEIS. The objective of the workshop was to verify the accuracy and reasonableness of the total project cost estimate and schedule, and to develop a probability range for the cost estimate that represented the project's then current stage of development. The cost estimate review completed in December 2011 yielded an estimate of total project costs ranging from $507.8 million to $588.1 million. This estimate falls within the*

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[99] NCDOT, *Financial Feasibility Assessment of the Mid-Currituck Bridge Project*, Handout 24, Aug. 10, 2010 (Exhibit 72). In 2011, internal estimates placed the cost of the Bridge as high as $750 million when bridging Maple Swamp was included into the design.

[100] *FEIS* at xvi.

[101] David Joyner, NCDOT, *The Mid-Currituck Bridge Project*, presentation to the Joint Legislative Transportation Oversight Committee, at slide 7 (Oct. 5, 2012), *available at* www.ncleg net/documentsites/committees/JLTOC/2011-12 Biennium/2012-10-05/MidCurrituckDOT.pdf (Exhibit 73).

[102] *Id.* at slide 43.

[103] N.C. GEN. STAT. § 136-178–79, *repealed by* 2013 N.C. Sess. Laws 183, § 4.9.

probable range of costs published in the FEIS and presented above. Another cost estimate review workshop with FHWA was conducted from January 23 to January 25, 2018 to review schedule and cost assumptions for the Preferred Alternative as described in Section 1.2.4. The numbers presented to the North Carolina General Assembly were developed in response to their specific questions and are not directly comparable.

4. **Comment:** In 2013, however, North Carolina decided to move toward an objective, data-driven approach for selecting road projects instead of allowing politicians to choose highways that please special interests. The legislation, known as the Strategic Transportation Investments law ("STI"), eliminated the earmark for the Mid-Currituck Bridge and subjected the project to the state's new data-driven scoring system.[104] Under this system, projects compete for funding at three different levels: a "Statewide" level that is composed primarily of large highway projects deemed to be of statewide significance; a "Regional" level that includes highways, as well as some other modal options; and a "Division" level which includes all transportation modes and is limited to the funding allocated to each of NCDOT's fourteen transportation divisions.

   The Bridge scored exceptionally poorly when compared objectively to other projects. It garnered just 23.34 points out of a possible 100 in the Statewide Mobility tier,[105] and over 250 other "Statewide" projects achieved a higher score.[106] As a result, the Bridge failed to qualify for funding at either the Statewide or Regional tiers. Despite also achieving a low score at the Division level, Division One and the local RPO prioritized the project by awarding the Bridge the maximum number of local input points.[107]

   When the project was submitted to the STI process for scoring, it was assigned an overall project cost of just $440 million—a significantly lower price tag than the $650 million estimate from two years earlier. NCDOT staff noted internally the large

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[104] Strategic Transportation Investments Act, N.C. GEN. STAT. § 136-189 (2016).

[105] NCDOT, P3.0 Total Scores (last updated Oct. 12, 2015), *available at* https://connectncdot.gov/projects/planning/Prioritization%20Data/Forms/AllItems.aspx?RootFolder=%2Fprojects%2Fplanning%2FPrioritization%20Data%2FPrioritization%203%2E0%20Archive%2FP3%2E0%20Scores&FolderCTID=0x0120001FD46DF9A3ECD549A6C58B29B660DAA2&View=%7BAE55D1B2-A3A0-493D-93D3-E689D98ADDFF%7D, at "All Projects" tab, row 2201 (Exhibit 74) [hereinafter STI scores].

[106] *Id*.

[107] Strangely, although the Bridge only scored well enough to receive division level funds, NCDOT correspondence suggest that Statewide funds were used to purchase right-of-way for the Bridge. *See* Memo from Calvin Legget, NCDOT, to Majed-Al Ghandour, NCDOT (Mar. 17, 2015) (Exhibit 75).

discrepancy between the cost figure used in the STI and other estimates for the project,[108] but these significantly different estimates continued to be presented to the public. For example, despite rounding down the cost to just $440 million for purposes of the STI, a 2015 fact sheet published by NCDOT estimated the cost of the project to be $567–$676 million.[109]

Importantly, for purposes of prioritization, NCDOT included a cost to the state of just $173 million, therefore assuming the remaining 60% of the project cost would be covered by toll revenue.[110] This $173 million figure formed the basis of key scoring metrics in the STI, such as the "cost benefit" calculation. The end result of the STI process was that $173 million in state money would be allocated for the Bridge project. This is the *only* NCDOT funding that is available to the Bridge. All the remaining funds necessary to construct the Bridge must come from private contributions, a local match, or toll revenue.

In contrast to both the STI and the NEPA document, the current STIP reflects a project cost for the Mid-Currituck Bridge of $482.8 million, with $245 million coming from NCDOT, (more than the $173 million allocated by the STI).[111] Because the project only qualified for funding at the "Division" level, all of this funding would be required to come from Division One's already over-stretched budget. In fact, even if NCDOT kept within the STI allocation of $173 million, the project would eat up approximately 67% of the entire Division Budget for the next ten years. Using the $245 million figure noted in the STIP, that percentage would increase to over 90%. The amount of funding between the years of 2016-2025 for Division One is set at $257,718,000.[112]

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[108] Email from Derrick Lewis, NCDOT, to Spencer Franklin and Seth Fisher (Apr. 27 2015). (Exhibit 76).

[109] NCDOT, *Mid-Currituck Bridge Fact Sheet* (Jul. 2015) (Exhibit 77); *See also* NCDOT, Status Report on R-2576, Mid-Currituck Bridge (Jul. 2015) (Exhibit 78).

[110] STI scores at row 2201 (Exhibit 74).

[111] NCDOT, Nov. 2016 STIP, *available at* https://connectncdot.gov/projects/planning/STIPDocuments1/2016%20November%20STIP%20Board%20of%20Trans%20Amendments%20Item%20I.pdf (Exhibit 79).

[112] Email from Jason Soper, NCDOT, to Rep. Paul Tine (Dec 12, 2014) (Exhibit 80). "By year it is: 19 - $27,429,000; 20 - $25,482,000; 21 - $22,283,000; 22 - $22,283,000; 23 - $13,173,000; 24 - $13,173,000; 25 - $13,173,000. We will continue to have GARVEE payments in the amount of $13,173,000 for years 26 through 30." The total per year figures "include the STIP dollars, federal and state but does not include items such as toll bond revenue or emergency federal funding for Pea Island or Rodanthe. This is all funding in all 3 categories plus transition dollars for Division 1. Includes bridges, safety, widenings, etc." *See also* Email from Representative Tine to Peter Bishop (May 26, 2015) (Exhibit 81).

Response: During the life of the project, several different cost estimates have been developed at different times, based on different assumptions, for different purposes, and with different results. The cost estimates developed for the NEPA process are based on the FHWA Major Project Guidelines. The funding and associated project costs shown in the NEPA documents include agency costs, prior year costs, contingency costs, and are inflated to the estimated year of expenditure. Also, the costs presented in the NEPA documents represent the 70 percent probability that the project will cost less than this amount; accordingly, there is a 30 percent chance that the project will cost more. Throughout the life of project development, the NEPA costs estimates have continued to be updated as information becomes available or is refined. A cost estimate review workshop using the refined design plans and the most recent cost was conducted from January 23 to January 25, 2018 to review schedule and cost assumptions for the Preferred Alternative.

The Mid-Currituck Bridge project costs for Strategic Transportation Investments (STI) law and the State Transportation Improvement Program (STIP) were developed consistent with their unique processes. This consistency allows all the projects being considered for funding to be analyzed or compared using the same methodology and assumptions. One of the major difference between the two methodologies is that agency costs, prior year costs, and reserve funds are not included in the STI and STIP estimates; these costs are considered in the development of a Major Project Cost estimate in NEPA. In addition, the STI and STIP estimates reflect current year dollars and are not inflated to the estimated year of expenditure. Finally, the STI and STIP estimates represent a 50 percent probability verses the 70 percent probability assumed in the NEPA cost estimates.

5. **Comment:** NCDOT's Draft Reevaluation now sets the overall project cost at $568.7–678.6 million.[113] The document provides no justification for this reversion to an earlier cost figure that is quite out of line with the STI's project cost. Moreover, no explanation is given as to why the cost in the NEPA document differs so greatly from that listed in the STIP. Federal regulations require that a project receiving federal funding must be part of a fiscally constrained STIP.[114] And FHWA requires highways undergoing NEPA review to have at least one section funded through the STIP.[115] FHWA guidance also requires that the cost estimate in the STIP mirror the estimate in the NEPA documents.[116] Therefore, unless the STIP is updated to match

[113] Draft Reevaluation at 8 (Exhibit 1).

[114] 23 C.F.R. §450.222.

[115] TRANSPORTATION PLANNING REQUIREMENTS AND THEIR RELATIONSHIP TO NEPA APPROVALS, FHWA (Feb. 9, 2011), *available at* www fhwa.dot.gov/planning/tpr and nepa/tprandnepasupplement.cfm (Exhibit 82).

[116] *Id*.

the project cost listed in the NEPA document, FHWA cannot approve the project as planned.

Central to the discussion surrounding the merits of the Mid-Currituck Bridge has always been the issue of project cost and the affordability of alternative solutions, especially in comparison to the cost of the proposed Bridge. NCDOT must use the NEPA process to transparently present one figure—the true cost of the project—to the public and local decision- makers and cease using different cost estimates for different purposes. Only then can the democratic decision-making process be fully informed.

Response: *See the response to the previous comment regarding why the cost estimates in the STI, STIP, and the NEPA document differ. In each case, the cost estimate presented meets the requirements of FHWA for its purpose. As indicated in the response to the previous comment, the cost estimates presented in NEPA documentation present the full project cost and accounts for uncertainty by presenting a range and assuming a probability of 70 percent that costs will be lower.*

In 2011, the costs for the Preferred Alternative as presented in the FEIS were estimated by utilizing FHWA's cost estimating guidance. Important project funding decisions are often made during the early stages of planning and programming, when information is limited and cost estimates are only conceptual in nature. As such, the cost profile of a project is liable to change in subsequent phases of project delivery. These changes can be attributed to several factors, such as increases (or decreases) in costs of construction materials, unexpected site conditions, and other issues that may change a project's scope, design, or schedule. In the early stages, cost estimates usually contain a larger degree of uncertainty; therefore, they costs are often presented as a range in order to avoid a false sense of precision.

The cost estimates presented in the FEIS were expressed in anticipated year-of-expenditure dollars. Translating current costs into year-of expenditure dollars allows for the effects of inflation to be incorporated. At the time of the FEIS estimate, the construction contract was assumed to be awarded in March 2013, with a completion date of November 2017. The range of project costs included in the FEIS was:

- *Construction Cost (millions)*
  - *Currituck Sound Bridge: $291.4 to $339.1*
  - *Maple Swamp Bridge: $74.2 to $86.4*
  - *Other: $101.0 to $117.2*
- *Total Construction Cost (millions): $466.6 to $542.7*
- *Environmental Mitigation (millions): $5.4 to $6.3*
- *Right-of-Way Cost (millions): $19.2 to $32.3*

- *Utilities (millions): $11.2 to $12.8*
- ***TOTAL COST (millions): $502.4 to $594.1***

A cost estimate review workshop was conducted in December 2011 that included subject matter experts from FHWA, NCDOT, and the project study consultant team to review the cost and schedule estimates for the Preferred Alternative. Its findings were included in the FEIS. The objective of the review was to verify the accuracy and reasonableness of the total cost estimate and schedule, and to develop a probability range for the cost estimate that represented the project's then current stage of development. The cost estimate review completed in December 2011 yielded an estimate of total project costs ranging from $507.8 million to $588.1 million. This estimate falls within the probable range of costs published in the FEIS and presented above.

Capital costs for the Preferred Alternative (as assessed in the FEIS) were updated in 2015 to reflect new schedule assumptions. These estimates assumed award of the construction contract in July 2018, with completion in December 2022. The anticipated year-of-expenditure estimate was revised to account for the effects of inflation per the updated schedule. The revised range of costs is as follows:

- *Construction Cost (millions)*
  - *Currituck Sound Bridge $329.8 to $388.0*
  - *Maple Swamp Bridge $84.0 to $98.9*
  - *Other $114.3 to $134.1*
- *Total Construction Cost (millions) $528.1 to $621.0*
- *Environmental Mitigation (millions) $6.3 to $7.3*
- *Right of Way Cost (millions) $20.6 to $34.6*
- *Utilities (millions) $13.7 to $15.7*
- ***TOTAL COST (millions) $568.7 to $678.6***

Section 1.2.4 of this reevaluation study report presents updated cost estimates for the revised designs of the Preferred Alternative and ER2 following the same methodology as past estimates included in NEPA documentation. An updated cost estimate is included in Section 1.2.4 and based on a rigorous cost estimate review workshop with FHWA in January 2018.

6. **Comment: Plan of Finance.** Not only has NCDOT failed to present a clear estimate of the project cost, but the agency has also failed to articulate a workable plan of finance to pay for the project. It is still unclear how much of the project cost can be covered by toll revenue and what financing mechanisms can and will be used.

   Despite FHWA requirements, it seems unlikely that the STIP *can* be updated to match the new, high project cost noted in the NEPA document. The plan of finance

laid out in the Draft Reevaluation is significantly flawed, making it clear that there is no feasible way to pay for the full Bridge with the small amount—$173 million—that has been assigned to the project from the STI.

The amount of funding that must come from public coffers has also varied dramatically over time. In 2012, internal NCDOT documents assumed that with an overall project cost of $637 million, approximately $460 million would need to be covered by public funds, i.e., 72% of the total project.[117] These figures were based on a 2012 traffic and revenue study which, despite including toll rates of up to $28 for a one-way trip, concluded that ultimately the toll revenue generated by the Bridge would be quite minimal.[118] Assumptions behind this study are detailed in the lenders report and are largely outdated.[119]

As noted above, however, the STI assigns just $173 million to the project, a far cry from the $460 million of public funds assumed in 2012. As such, NCDOT has been forced to explore plans of finance with significantly higher percentages of revenue being provided from toll revenue and other sources.[120]

> ***Response:*** *In 2013, the General Assembly, as part of the Strategic Transportation Investments (STI) Law (Session Law 2013-183 and House Bill 817) withdrew the annual state appropriations or "gap funding" for the Mid-Currituck Bridge Project. The STI also established the Strategic Mobility Formula, a new way of allocating NCDOT's major revenue sources based on data-driven scoring and local input. The Mid-Currituck Bridge Project was scored using the new criteria. Thus, NCDOT allocated project funding in the 2016 to 2025 STIP and the 2018 to 2027 STIP that demonstrates the state's commitment to fund and deliver this project.*
>
> *A previous preliminary Plan of Finance was developed using total project costs in anticipated year-of-expenditure dollars, in accordance with FHWA Major Project Guidelines. The funding and associated project costs shown in a preliminary Plan of Finance are different than those costs programmed in the STIP, primarily because of the way inflation, agency costs, and reserve funds are handled, as described in the responses above. Also, the cost in the Plan of Finance represents the 70 percent probability that the project will cost less than this amount; accordingly, there is a 30 percent chance that the project will cost more. To be consistent with the other*

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[117] ACS Infrastructure, COMMENTS WITH RESPECT TO COMPREHENSIVE AGREEMENT ("AGREEMENT") TO BE ENTEREDWITH THE NORTH CAROLINA TRANSPORTATION AUTHORITY ("NCTA") (Sep. 28, 2012) (Exhibit 83).

[118] Currituck Development Group, MID CURRITUCK BRIDGE, FINAL REPORT TRAFFIC AND REVENUE FORECASTS (Jul. 2011) (Exhibit 84).

[119] Steer Davies Gleave, MID-CURRITUCK BRIDGE LENDERS TRAFFIC CONSULTANT REPORT, DRAFT REPORT (Oct. 2011) (Exhibit 85).

[120] Email from Donna Keener to David Miller, PFM (Apr. 23, 2015) (Exhibit 86).

projects being scored in the STI process the project costs used in that context were in current year dollars, without agency costs and reserve funds, and with a 50 percent probability.

An updated cost estimate is included in Section 1.2.4 and a rigorous cost estimate review workshop was conducted with FHWA in January 2018. In addition, an updated, traffic and revenue study and a revised preliminary plan of finance will be prepared.

7. **Comment:** In August 2015, NCDOT set out a preliminary plan of finance that included a $188.5 million TIFIA Loan, $117.5 million in Toll Revenue Bonds, and $130.0 million in STIP Funds.[121] This plan also included a $133.4 million "Toll Match" from NCDOT.[122] It is unclear exactly what is meant by the "Toll Match" from NCDOT. Beyond the $173 million apportioned from the STI there are no other NCDOT funds available to be spent on the project, yet each plan of finance that has been explored by NCDOT to date requires the use of much more than $173 million in public funding.[123] These various plans have included the idea of a "loan" from NCDOT to the project.[124] The concept of this loan, which would amount to at least $100 million, flies in the face of the STI process. The entire purpose of the STI is to prioritize which highway projects get NCDOT's limited transportation funds, with those decisions being made through a data-driven formula. The Mid-Currituck Bridge did not secure funding from Statewide or Regional funding sources and was only successful in securing funding at the Division level based on the understanding that the cost to NCDOT was $173 million. To provide additional financial support to the project at this juncture would necessarily take financial resources away from other, higher scoring projects in the STI and fatally undermine the entire process.

   Response: *An updated cost estimate is included in Section 1.2.4 and, in accordance with FHWA Major Project Guidelines, a rigorous cost estimate review workshop was conducted with FHWA in January 2018. In addition, an updated traffic and revenue study and a revised preliminary plan of finance will be completed for the project. The STIP will be updated to reflect the latest project cost estimates and funding sources.*

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[121] NCTA, Preliminary Plan of Finance, Mid-Currituck Bridge (Aug, 21, 2015) (Exhibit 87).

[122] *Id*.

[123] Email from David Miller, PFM, to Beau Memory and David Tyeryar, NCDOT (Mar. 14, 2016) (Exhibit 88).

[124] *Id*.

8. **Comment:** In the Draft Reevaluation, NCDOT also explores the idea of using the STI toll bonus allocation to pay for the Bridge itself.[125] The bonus allocation is a provision of the STI that provides a dollar award equal to 50% of expected toll revenues, capped at $100 million, to be made available to the RPO for programming on another project in the same county.[126] There was an attempt during the 2015 legislative session to alter this legislation slightly with regard to the Mid-Currituck Bridge so that the bonus could be spent anywhere in Division 1, not just in Currituck County.[127] The attempt, however, was ultimately unsuccessful.

   The fact that NCDOT has considered using the bonus allocation to pay for the Bridge itself is both surprising and troubling. The STI legislation makes very clear that any bonus allocation associated with a project must be spent on an "additional" project, not to pay for the toll project itself.[128] Moreover, Currituck County and the Albemarle Rural Planning Organization has already determined that any bonus allocation associated with the Bridge will be spent on R-2574, the widening of US 158 from NC 34 at Belcross to NC 168 at Barco."[129] The use of the bonus allocation to fund the Bridge is therefore a non-starter.

   Response: *The assumption that the bonus allocation could be used to pay for the bridge itself is no longer made in the financial discussion presented in Section 1.2.5 of this reevaluation study report. An updated cost estimate is included in Section 1.2.4 and, in accordance with FHWA Major Project Guidelines, a rigorous cost estimate review workshop was conducted for the project in January 2018. In addition, an updated traffic and revenue study and a revised preliminary plan of finance will be completed for the project.*

9. **Comment:** Going forward, NCDOT will need to create a financial plan to pay for the $568–678 million Bridge using just $173 million from public funds—all of which must come from Division One's funding share. The rest of the project's cost must be covered by toll revenue. Financing mechanisms could include a range of options such as TIFIA loans, GARVEE bonds,[130] Toll Revenue Bonds or private capital, but

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[125] Email from David Miller, PFM, to Donna Keener, NCDOT (Apr. 23, 2015) (Exhibit 86); Email from David Miller, PFM, to Beau Memory and David Tyeryar, NCDOT (Apr. 13, 2015) (Exhibit 89); Draft Reevaluation at 8 (Exhibit 1).

[126] N.C. GEN. STAT. § 136-189.11 (f); *see also* Email from Malcolm Fearing, NC Board of Transportation, to Rep. Paul Tine (Jun. 9, 2015) (Exhibit 90).

[127] Email from Peter Bishop to Rep. Paul Tine (May 26, 2015) (Exhibit 81).

[128] N.C. GEN. STAT. § 136-189.11 (f).

[129] Memorandum from Dan Scanlon, Currituck County Manager, to the Currituck Board of County Commissioners, (Aug. 12, 2016) (Exhibit 91).

[130] GARVEE financing, a "Grant anticipation revenue vehicle," allows NCDOT to issue bonds based on anticipated future federal revenue. *See*, www.fhwa.dot.gov/ipd/finance/tools

repayments to any of those programs would all necessarily come from toll revenue generated by the Bridge. The STI process has made clear that public funds for the Bridge must be capped at $173 million and no more. As noted below, declining traffic forecasts make it likely that toll revenue will be much lower than previously expected, rendering full funding of the Bridge an impossibility.

If NCDOT can ever create a realistic plan of finance, the agency will need to take a number of steps to gain approval of their plan, including consulting with the Joint Legislative Commission on Governmental Operations. N.C. GEN. STAT. § 136-89.183(a)(2)(f). Only once these steps have been taken can NCDOT move forward with the project as a toll road. If NCDOT wishes to issue bonds for the project, further coordination and approval by the Local Government Commission will be required. N.C. GEN. STAT. §159-85.

> ***Response:*** *An updated cost estimate is included in Section 1.2.4 and a rigorous cost estimate review workshop was conducted for the project in January 2018. In addition, an updated Traffic and Revenue Study and a revised preliminary plan of finance will be completed for the project. The NCDOT is fully aware of, and committed to complying with, all requirement under NC General Statutes regarding the plan of finance.*

10. **Comment: Cost of Alternative Solutions.** Under NEPA, the Transportation Agencies must also present a fair and realistic cost of alternatives, including ER2 and the Improved ER2. The cost of alternatives and the ability to fund and finance them has long been central to NCDOT's analysis of transportation solutions for the Currituck Outer Banks.

    For example, in 2012, NCDOT asserted in the FEIS that if ER2 were to be chosen, it could only be built by NCDOT and would therefore be subject to the State's Equity Formula.[131] The FEIS suggested that, as the project is in the same Division as the

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programs/federal debt financing/garvees/(Exhibit 92). As Ray McIntyre, a Unit Head in NCDOT's STIP, Feasibility Studies, and Strategic Prioritization Office explained in a 2014 deposition, "it does not increase funding, but allows you to bring funding forward." Deposition of Ray McIntyre by Kym Hunter, in Defenders of Wildlife v. NCDENR, 13 HER 16087 (Aug. 18, 2014) (Exhibit 93). Mr. McIntyre explained that where NCDOT previously had a cap on the amount of GARVEE funding that could be used on a particular project, that cap was no longer in place. *Id*. The only limit now is the limit for the overall GARVEE bond program for the state. *Id.* Because, however, GARVEE financing does not increase funding in the long term, GARVEE bonds can only properly be used to help finance the Bridge project if NCDOT could show that future toll revenues would be sufficient to pay back the anticipated future anticipated federal payments.

[131] FEIS at 2-3, 2-37-38.

Bonner Bridge, that project would likely commandeer available resources and that, accordingly, ER2 could not be constructed.[132] The FEIS used this funding situation to discount ER2 as a reasonable scenario.

As noted above, the state's equity formula is no longer in place. Division One does not suffer from the exact restraints as in the past. Under the new STI, any Division may secure funding at the "Statewide" level as well as funding from "Regional" and "Division" levels. There is therefore more flexibility under the new funding system. NCDOT has failed to assess, however, how the ER2 alternative, or any alternative to the Bridge, might score under the STI formula. Until that step is taken there is no reason to believe that funding and financing the Bridge will be any more feasible than other alternatives.

In addition, even were the STI to still impose the same restraints as the equity formula once did, the Corps has been clear that state law limitations cannot trump the federal requirements that practicable alternatives be considered pursuant to the 404(b)(1) guidelines.[133]

As noted by Ken Jolly in his 2010 comments to NCTA, the Corps "determined that State Legislation/Law is not an adequate reason to consider ER2 an alternative that is not practicable." Moreover, the Corps noted that "[u]nder NEPA and Section 404 requirements, alternatives may still be considered practicable even though current funding is not available for a specific project. Therefore, we recommend not all the conceptual alternatives be dropped at this point in the process".[134]

As set out above, there are a number of mechanisms including the use of GARVEE bonds, public-private financing, tolling, local contributions, and other funding and financing solutions that could be creatively used to explore an alternative to the Bridge. NCDOT should consider a less expensive, refined alternative such as Improved ER2 and make a full analysis of how such an alternative could be funded. With only $173 million currently available to fund the more than $600 million Bridge it is almost certain that such an alternative would be more practicable than the toll-funded Bridge.

> ***Response:*** *This reevaluation study report includes in Section 1.2.5 a strategy for financing ER2. The ER2 strategy assumes the revised design and cost estimate presented in Section 1.2.4. Since ER2 is an alternative approach to addressing the transportation needs considered when scoring STIP Project No. R-2576 (Mid-*

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[132] *Id.*; *see also*, NCDOT, *Draft Preferred Alternative Report* (Nov. 2010) (Exhibit 94).

[133] Letter from Kenneth Jolly, USACE, to Jennifer Harris, NCDOT (Oct. 29, 2010) (Exhibit 95).

[134] Letter from William Biddlecome, USACE, to Jennifer Harris, NCDOT (Sep. 12, 2007) (Exhibit 96).

Currituck Bridge Project), it would not offer any regional or state-wide benefit beyond that of the Preferred Alternative.

III. THE NEPA DOCUMENTS ARE BASED ON FLAWED TRAFFIC FORECASTS

11. **Comment:** As noted in the attached report from transportation expert Walter Kulash, the NEPA documents continue to contain significant traffic forecasting errors. While the Draft Reevaluation contains dramatically changed traffic forecasts, NCDOT's underlying statement of purpose and need and screening of alternatives remains based on the old, incorrect data. Similarly, the screening remains based on inaccurate baseline data. The new traffic forecasts also have substantial implications for the practicability of different project alternatives. With the Bridge so reliant on toll revenue, a dramatic down-shift in likely drivers casts serious doubt on the financial feasibility of the project. Finally, as discussed in Mr. Kulash's report, the current NEPA documents are based on an inapt methodology which overstates the problems on NC 12 and understates the effectiveness of reasonable alternative solutions. These questions are central to the analysis of reasonable alternatives to the Bridge that NEPA requires.

    Response: *The September 8, 2016 draft of the reevaluation report viewed by the commenter contained in Section 3.0, "Changes in Project Need and Project Benefits since the Preparation of the FEIS," affirmed that the needs to substantially improve traffic flow and substantially reduce travel time remain with the new traffic forecasts and congestion and travel time assessment. The September 2016 draft was the first time that congestion and travel time findings were presented to FHWA and NCDOT for discussion. Those findings have been refined based on that discussion. The Mid-Currituck Bridge project remains financially feasible. See the responses to the commenter's comments on project financing above (under "II. New Funding Realities Render the Bridge Unaffordable and Demand Consideration of Less Costly Alternatives") and the financing discussion in Section 1.2.5. FHWA and NCDOT disagree with the methodology proposed by Mr. Kulash. See the responses to the commenter's comments on the congestion assessment methodology below (under "III. The NEPA Documents are based on Flawed Traffic Forecasts". Mr. Kulash is mistaken in his assertion that one can reasonably apply multilane highway capacity values to two-lane roads. He provides no reference, theory, or empirical evidence to back his assertion on applying multilane highway capacity values to two-lane roads.*

12. **Comment: NCDOT Must Revisit Its Analysis of Alternatives Based on Up-To-Date Traffic Data.** The most striking information in the Draft Reevaluation is the new set of traffic forecasts that are *significantly* lower than previous estimates. Forecasts have dropped under both the "No Build"/ ER 2 scenario as well as the

MCB4 "Build" scenario.[135] For example, where the FEIS anticipated Annual Average Daily Traffic ("AADT") of 48,700 under a "no-build" scenario for the Wright Memorial Bridge, the reevaluation has revised that number down to 30,600.[136] This figure is actually lower than the previous estimate presented as the "build" scenario in the FEIS—which was 37,400.[137] In other words, the FEIS endorsed an alternative that would have included 37,400 cars much lower level of traffic can be achieved without the Bridge being built at all. The same is true for forecasts from NC 12 Albacore Street to the Mid-Currituck Bridge and from US 158 Barco to the Mid-Currituck Bridge.[138]

Despite these dramatic changes, the Draft Reevaluation fails to revisit meaningfully the NEPA process as the law requires. 23 C.F.R. §§ 771.129; 771.130(a)(2). Rather than setting out to reevaluate the purpose and need for the project and revisit the various project alternatives, the Draft Reevaluation simply states that "the needs the project is trying to meet remain needs"[139] and that "the Preferred Alternative identified in the FEIS will continue to meet the project purpose and need and provide greater travel benefits than ER2 . . . ."[140]

These conclusory statements do not satisfy NEPA. The assertion that "the needs the project is trying to meet remain needs," assumes that the *level* of need is irrelevant. This is not the case. By design, NEPA requires an agency to clearly define, with a reasonable amount of specificity, the needs that a proposed project is designed to address. Agencies may not "define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency's power would accomplish the goals of the agency's action," rendering the EIS a "foreordained formality." *Id.; Webster v. U.S. Dep't of Agric.*, 685 F.3d 411, 422 (4th Cir. 2012). Nor is it acceptable for an agency to "frame its goals in terms so unreasonably broad that an infinite number of alternatives would accomplish those goals." *Citizens Against Burlington*, 938 F.2d at 196. Rather, the agency must set out the needs that a proposed project is designed to meet and then evaluate how a range of alternative solutions can meet those needs. Vague statements that there is a need for some traffic improvement are insufficient to support construction of a $600 million bridge, or to disregard other less expensive and less damaging alternatives.

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[135] Draft Reevaluation at 25 (Exhibit 1).
[136] *Id*.
[137] *Id*.
[138] *Id*.
[139] *Id*. at 15.
[140] *Id.*

Response: *The purpose and need statement in the FEIS did not have as an objective lowering traffic volumes on US 158 and NC 12 to a specific level, rather it identified one project purpose as substantially improving traffic flow on the US 158 and NC 12. In the 2012 FEIS, FHWA and NCDOT identified as the Preferred Alternative an alternative that reduced the annual congested vehicle-miles (VMT) traveled on the project area's thoroughfare network in 2035 from 66.1 million with the No-Build Alternative to 40.2 million. The widen existing roads alternative (ER2) reduced annual congested VMT to 51.4 million. This difference was one factor in the identification of the Preferred Alternative, as presented in Section 2.6 of the FEIS. The others factors were environmental impact and financing and design considerations.*

A revised discussion of the travel need and the travel benefits of the Preferred Alternative is presented in Section 3.0. They consider the new 2040 traffic forecasts (discussed in Section 2.4), the 2016 Highway Capacity Model (HCM) (discussed in Section 2.5), and the Preferred Alternative and ER2 designs.

23 CFR § 771.129 (a) says the purpose of a reevaluation is to determine whether or not a supplement to the draft Environmental Impact Statement (EIS) or a new draft EIS is needed. 23 CFR § 771.130(a)(1)&(2) says an EIS must be supplemented when "changes to the proposed action would result in significant environmental impacts that were not evaluated in the EIS" or "new information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS." Section 3.1 finds that the purpose and need of the project remains, although the travel characteristics that demonstrate the need have changed. There is no reason to redefine the project's three purposes (FEIS Section 1.3) and need (FEIS Section 1.2).

The project need related to traffic congestion in Section 1.2 of the FEIS says: "The need to substantially improve traffic flow on the project area's thoroughfares (US 158 and NC 12)." Substantial is defined as: "An improvement is considered substantial as opposed to minor if the improvement is great enough to be largely noticeable to typical users of the transportation system and if the improvement offers some benefit across much of the network, as opposed to offering only a few localized benefits. Alternatives that provide only minor or no improvement, as opposed to substantial improvement, would not meet the above needs."

As stated in the FEIS: "An improvement is considered substantial as opposed to minor if the improvement is great enough to be largely noticeable to typical users of the transportation system and if the improvement offers some benefit across much of the network, as opposed to offering only a few localized benefits. Alternatives that provide only minor or no improvement, as opposed to substantial improvement, would not meet the above needs." For example, without "substantial" as a part of the purpose, a change as small as changing the timing of one traffic signal could meet the

purpose of improving traffic flow. Not to include "substantial" would have resulted in a list of alternatives that was unreasonably long and include alternatives that accomplished very little.

The FHWA and NCDOT also chose not to set a specific reduction in congested vehicle-miles traveled. To do so could have unreasonably narrowed the range of alternatives considered.

The 2012 FEIS assessed as detailed study alternatives a widening alternative (ER2), Mid-Currituck Bridge alternatives (MCB4 and the Preferred Alternative), and a combination of widening and a Mid-Currituck Bridge (MCB2). The 2009 Alternatives Screening Report screened other potential detailed study alternatives. For all alternatives, both the purpose and need of the project and the potential for environmental impacts were considered. Three alternatives were found to clearly not offer substantial travel benefits: shifting rental times, transportation systems management, and bus transit. Other alternatives considered in 2009, including ferry alternatives and two alternatives that included widening NC 12 to four lanes, met the purpose and need but were not identified as detailed study alternatives for other reasons. These alternatives are revisited in Section 3.3 taking into consideration the new traffic forecasts and the 2016 HCM.)

The detailed study alternatives assessed in the FEIS varied in their cost, travel benefits, and environmental impact and as such represented a reasonable range of alternatives neither too broad nor too narrow. In identifying the Preferred Alternative, cost, financing, travel benefits, and environmental impact all were considered, as discussed in Section 2.6 of the FEIS. Changes in those four factors since the release of the FEIS all are taken into consideration in the conclusions of this reevaluation.

13. **Comment: Purpose and Need.** The EIS defines the following needs for the project: "substantially improve traffic flow," "to substantially reduce travel time," and to "reduce substantially hurricane clearance time."[141] If these nebulous statements were left without more support they would necessarily run afoul of the stricture that an agency not frame its goals such that an infinite number of alternatives could meet them.

    The FEIS, however, goes on to further define the needs in terms of the 2035 traffic forecasts. For example, the document notes that by 2035 "travel demand will exceed the capacity of the road to handle that demand on almost all project area segments of NC 12 and US 158 east of the Wright Memorial Bridge during summer weekday and

[141] FEIS at 1-3.

summer weekend conditions (approximately 29 miles)."[142] Similarly, the document states that "[in] 2035, on the summer weekday, on US 158 east of the Wright Memorial Bridge and NC 12 in Southern Shores and parts of Duck, travel demand is expected to be notably greater than the capacity of these roads for 6 to 7 hours per day."[143] The document further explains that "[in] 2035, on the summer weekend, US 158 in Currituck County between NC 168 and the Wright Memorial Bridge will be congested for 10 to 11 hours a day, with demand 16 to 19 percent above the capacity of US 158," and that "[i]n 2035, on the summer weekend, US 158 east of the Wright Memorial Bridge and NC 12 in Dare County will be congested for 15 to 18 hours per day, with demand 117 percent of the capacity of US 158 and as much as 162 percent of the capacity of NC 12."[144]

The FEIS thus defines the "need" for a project in fairly specific detail with reference to the 2035 traffic forecasts. New traffic forecasts, however, have shown that every single one of these predictions is no longer true. Travel demand will no longer exceed road capacity on 29 miles of the road network by 2035, or even 2040.[145] Travel demand on 158 and NC 12 is no longer expected to exceed the capacity of those roads for 6 to 7 hours per day during the weekday.[146] US 158 between 168 and the Wright Memorial Bridge will no longer be congested for 10 to 11 hours a day.[147] And US 158 east of the Wright Memorial Bridge and NC 12 in Dare County will no longer be congested for 15 to 18 hours per day.[148]

In short, the needs established in the EIS no longer exist. Different, diminished needs exist and the purpose and need for the project must be updated. The statement that "the needs the project is trying to meet remain needs"[149] is simply false. NCDOT must prepare a Supplemental EIS that takes into account the new information about the level of future need and redefine the statement of purpose and need in those terms.

> ***Response:*** *Regarding the use of "substantially," see the response to the previous comment. The need for the project is defined by the first three bullets under Section 1.2 of the FEIS and the three paragraphs in bold that follow. The details presented in Section 1.2 following each paragraph in bold text and details referenced by the commenter are not the need but rather demonstrate or provide evidence of the need. The new congestion, travel time, and hurricane evacuation clearance findings*

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[142] FEIS at 1-4.
[143] FEIS at 1-4.
[144] *Id.*
[145] Draft Reevaluation at 31-38 (Exhibit 1).
[146] *Id.*
[147] *Id*.
[148] *Id*.
[149] *Id*.

presented in Section 3.1 of the reevaluation illustrate that even with the changed traffic forecasts and updated hurricane clearance model, the need defined by the three bullets and the three paragraphs in bold is still demonstrated and does not need to be redefined.

14. **Comment: Alternatives Screening and Analysis.** Equally important, the EIS used the 2035 forecasts to screen between various project alternatives. The ability of alternatives to achieve the purpose and need of the project was measured in terms of: "The percent reduction in annual millions of vehicle-miles traveled under congested condition (at LOS E and F, at LOS F, and at a poor LOS F) on the project area's thoroughfares in 2035 (LOS E and F are considered congested)," "The percent reduction in miles of NC 12 and US 158 operating at LOS F on the summer weekday and summer weekend in 2035," and "the percent reduction in miles of NC 12 and US 158 operating at a poor LOS F on the summer weekday and summer weekend in 2035." In other words, alternatives were scored based on their ability to achieve a percentage reduction in traffic congestion when compared to the 2035 "no build" forecasts.

    For example, the FEIS states that ER2 would reduce LOS F conditions by 44% compared to the 2035 "no build" scenario, but "leave extensive periods of severe congestion." Further, ER2 was found to reduce travel times by 19% compared to the 2035 "no build" projections, and provide hurricane evacuation benefits. While the DEIS thus acknowledged that ER2 met all elements of the statement of purpose and need, it concluded that it "offered a low level of benefit in terms of reducing congestion and travel time." The FEIS similarly presents the alternatives in comparative form, noting that while ER2 meets the project purpose and need it would have fewer benefits than Bridge alternatives.[150] Again, however, these 2035 forecasts are now deemed invalid in the Draft Reevaluation and thus the previous screening and analysis of alternatives is invalid. As noted above, non-Bridge alternatives are now shown to meet the same level of benefit that Bridge alternatives would have produced.

    Response: *When considering several reasonable alternatives that meet the project's purpose and need, considering which one provides the best improvement in transportation service is an important decision-making criterion. The results of the new congestion and travel time studies are presented in Section 3.2 of the reevaluation.*

    While important, as was the case in the FEIS, congestion reduction was not the only factor in the Preferred Alternative decision. Also considered were community, cultural resource, natural resource, other physical characteristic impacts and

[150] FEIS at 2-44.

mitigation opportunities, as well as financing and design considerations. All the decision factors are updated in Section 1.3 of this reevaluation study report.

15. **Comment: Accurate, Up-to-Date Information.** "Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." 40 C.F.R. § 1500.1(b). Such accuracy ensures that agencies take a "hard look" at environmental effects of proposed projects and that relevant information is available to the public. *Glickman*, 81 F.3d at 445-46 (holding that the economic assumptions underlying an EIS are subject to "narrowly focused review" to determine whether they "impair[ed] fair consideration of a project's adverse environmental effects").

    Moreover, agencies have a duty to "insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." 40 C.F.R. § 1502.24. Continued reliance on outdated traffic forecasts that have now been shown to be overstated to an alarming degree fails to "satisfy the requirements of NEPA," and the EIS "cannot provide the basis for an informed evaluation or a reasoned decision." *Sierra Club v. US Army Corps of Eng'rs*, 701 F.2d 1011, 1030 (2d Cir. 1983); s*ee also*, *Northern Plains Resource Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1085-86 (9th Cir. 2011) (ten-year old survey data for wildlife "too stale" thus reliance on it in EIS was arbitrary and capricious); *Lands Council v. Powell*, 395 F.3d 1019, 1031 (9th Cir. 2005) (six year-old survey data for cutthroat trout was "too outdated to carry the weight assigned to it" and reliance on that data violated NEPA); *Seattle Audubon Soc. v. Espy*, 998 F.2d 699, 704-05 (9th Cir. 1993) (reliance on "stale scientific evidence" regarding owl population data without adequate discussion of scientific uncertainty violated NEPA).

    Courts have been clear that the quality of data must be proportional to the weight the agency assigns to it in its analysis. Here, the accuracy of the traffic forecast data underlies both the purpose and need for the project and the entire analysis of alternatives. The Transportation Agencies have gathered new traffic forecast information but have then failed to incorporate that more accurate, up-to-date information into the analysis in the reevaluation. Instead, the reevaluation continues to blindly defer to the reasoning in the FEIS despite acknowledging that the projections upon which it was based have been shown to be wrong.

    The Transportation Agencies' bare assertion that "the Preferred Alternative identified in the FEIS will continue to meet the project purpose and need and provide greater travel benefits than ER2 . . . ." is wholly insufficient. NEPA requires that the efficacy of different alternative solutions be laid out fully for public review and drive the

democratic decision-making process.[151] *North Carolina Wildlife Federation v. North Carolina Dep't of Transp*., 677 F.3d 596, 602 (4th Cir. 2012). The new forecasts create a "seriously different picture" of the project and alternative solutions and a Supplemental EIS is now required. *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 443 (4th Cir. 1996).

> ***Response:*** *The final results of the new congestion analyses based on the new 2040 traffic forecasts and the 2016 HCM are discussed in Section 3.0 of this reevaluation study report. The material which the commenter is referencing was included in a first draft of the reevaluation report. It contained new 2040 traffic forecasts (approved by NCDOT) and the first presentation of initial congestion findings for discussion between NCDOT and FHWA. The congestion analysis findings included in the first draft are superseded by the final findings presented in this final reevaluation report. The approved new 2040 traffic forecasts assuming planned and expected development have not changed since the first draft. The final congestion analysis did result in changes to constrained development findings for the No-Build Alternative and ER2, that affected the traffic forecasts associated with constrained development.*

16. **Comment: The Transportation Agencies Must Establish a Reasonable Baseline for Comparing Alternatives.** A Supplemental EIS is also essential because the Transportation Agencies have a duty to present the public with a clear and accurate "No Build" baseline, which the Fourth Circuit has found to be a "critical aspect of the NEPA process." *NC Wildlife*, 677 F.3d at 603. Indeed, the Court noted that "[w]ithout [accurate baseline] data, an agency cannot carefully consider information about significant environment impacts . . . resulting in an arbitrary and capricious decision.'" *Id.* (*quoting N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1085 (9th Cir. 2011)). In the EIS for the Mid-Currituck Bridge, the Transportation Agencies used the 2035 traffic forecasts as its "No Build" baseline. The updated "No Build" numbers for 2040 showing dramatically lower levels of congestion and traffic must now be presented to the public in a Supplemental EIS as the baseline.

    Moreover, the Transportation Agencies must present the efficacy of various project alternatives in absolute terms, not simply as percentage differences from the "No Build" baseline. As noted above, the Transportation Agencies' previous analysis of

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[151] As the Fourth Circuit noted in *NC Wildlife*, "the very purpose of public issuance of an environmental impact statement is to 'provid[e] a springboard for public comment,'" (citing *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 768 (2004)), 677 F.3d at 603. Indeed, "the broad dissemination of information mandated by NEPA permits the public and other government agencies to react to the effects of a proposed action at a meaningful time." *Id.* (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989)).

project alternatives was based on the percentage improvement they would have over a "No Build" condition. In the Draft Reevaluation, the Transportation Agencies attempt to do the same with the updated traffic forecasts, presenting the different project alternatives based on how they will improve on the updated 2040 "No Build" forecast.[152] This trick, however, illegally obscures the absolute impact that different project alternatives would have. New forecasts show that the less damaging ER2 alternative will now, on many segments of road, achieve a level of traffic that was previously determined to be acceptable under the preferred alternative in the FEIS.[153] This fact makes clear that ER2 is not only fully capable of meeting the project purpose and need, but it can achieve a result that NCDOT was previously prepared to invest $600 million on a new Bridge to accomplish. The Improved ER2 presented by the local community and attached to these comments should similarly be examined with regard to this updated baseline condition. The new, more realistic, projections of future traffic will be a key consideration in the determination as to what is the Least Environmentally Damaging Practicable Alternative ("LEDPA") for the project and must be transparently presented to the public in a Supplemental EIS.

> ***Response:*** *The final results of the new congestion analyses based on the new traffic forecasts and the 2016 HCM are discussed in Section 3.0 of this reevaluation study report. The material which the commenter is referencing was included in a first draft of the reevaluation report that contained the first presentation of initial congestion findings for discussion between NCDOT and FHWA. Those findings are superseded by the final findings presented in this final reevaluation. This reevaluation study report presents the congestion findings both in absolute terms and in terms of the absolute change from the No-Build Alternative. As discussed in Section 3.2.1.5 of this reevaluation study report, the Preferred Alternative offers greater benefits than the No-Build Alternative or ER2, whether one assumes development in Currituck County is constrained or unconstrained by the capacity of NC 12 with the No-Build Alternative or ER2. When considering several reasonable alternatives that meet the project's purpose and need, considering which one provides the best improvement in transportation service is an important decision-making criterion. A Supplemental Environmental Impact Statement (SEIS) is not needed. See Section 3.0 in the Reevaluation of Final Environmental Impact Statement report.*

17. **Comment: New Traffic Forecasts Affect the Practicability of the Project.** The new, much lower forecasts of traffic also have significant implications for the practicability of project alternatives. The Draft Reevaluation anticipates significantly lower numbers of traffic using the Bridge than previously expected. As a result there will be correspondingly less toll revenue than thought. As Mr. Kulash lays out in his

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[152] Draft Reevaluation at 38-39 (Exhibit 1).

[153] *Id*. at 25.

report, this reduction results from two factors compounded: (1) the reduction in all traffic (toll as well as non-toll) within the study area and (2) a further reduction in the "capture" rate (percentage of all bridge traffic choosing to use a toll bridge) due to the reduced congestion in the year 2040 forecast.[154]

Using the new forecasts, Mr. Kulash notes that toll collection costs (20 percent of toll revenue or $4 million annually) and annual bridge maintenance/rehabilitation reserve costs (3 percent of bridge costs of $450 million or $14 million annually) would leave annual net revenue of only around $4 million available for debt service.[155] In the early years of the project, during "ramp-up" of toll revenue, total revenue would be insufficient to cover operations and maintenance costs, and would therefore leave nothing for debt service.[156] Even in year 2040, the available net revenue ($4 million) would service only around $70–80 million in loans.

This level of revenue is completely insufficient to meet the preliminary plan of finance laid out in the Draft Reevaluation. Rather than deal with this issue head on, the Draft Reevaluation states that "the effects of changes in development and traffic growth trends on bridge volumes as they relate to toll revenue and toll bridge financing will be addressed in a new investment grade traffic and revenue forecasts being prepared independent of this reevaluation."[157] This information, however, is central to any analysis of the Bridge and must be included in a Supplemental EIS and presented to the public for review and comment. The Final EIS discussed at length how a Bridge alternative was preferred over ER2 due to the fact that it could be funded by toll revenue.[158] If the Bridge will not be able to generate the level of revenue previously anticipated, that is a "significant new circumstance" that must be fully evaluated in a Supplemental EIS.

> ***Response:*** *An updated financial plan for the FEIS Preferred Alternative indicating how it could be financed, is presented in Section 1.2.5 of this reevaluation study report. The funds allocated in the preliminary Plan of Finance for Preferred Alternative in Section 1.2.5.1 of this reevaluation study report that are not supported by toll revenues ($171.8 million) would not be adequate to finance ER2. If the investment grade toll and revenue study were to demonstrate that the Mid-Currituck Bridge would generate insufficient toll revenue to be financed, then bridge project planning would be terminated. A SEIS is not needed. See Section 3.0 in the Reevaluation of Final Environmental Impact Statement report.*

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[154] Kulash Report at 10-14 (Exhibit 2).
[155] Kulash Report at 13-14 (Exhibit 2).
[156] *Id*.
[157] Draft Reevaluation at 24 (Exhibit 1).
[158] FEIS at 2-44- 2-49.

18. **Comment: The Transportation Agencies Should Reevaluate Traffic and Accurately Compute the Capacity of NC 12.** In addition to the new forecasts that undermine the continued validity of the Transportation Agencies' analysis, the NEPA document also contains other errors that have been present throughout. One fundamental error is the Transportation Agencies' use of an inapt methodology to assess the capacity of NC 12. As explained by Mr. Kulash in his report, the traffic capacity analysis used in the FEIS is for a rural two-lane highway—this is inappropriate for the area through which NC 12 passes.[159] The effect of this misusage is to understate the capacity of NC 12, thereby undermining the legitimacy of the project purpose and need and the screening and analysis of alternative solutions.

    As Mr. Kulash explains, the EIS computes the vehicular capacity of NC 12 using a proprietary software package (HCS 2000) that follows the method for the "Class II Two-Lane Highway" in both the 2000 Highway Capacity Manual ("HCM") and the current 2010 Highway Capacity Manual.[160] In the Class II Two-Lane Highway method (unlike the method used in the FEIS for US 158), "capacity" is not defined as the maximum possible hourly flow of vehicles, but rather by the ability of a motorist to freely overtake ("pass") any slower-moving vehicle.

    Under the Class II Two-Lane Highway method, maximum "capacity" occurs when the motorist's "percent time spent following" (i.e. time spent desiring to, but unable to pass a slower vehicle) reaches 85 percent. The "collective opinion and judgment" of the Transportation Research Board's" "committee of experts" determined that this level of inability to pass is unacceptable to the typical motorist, and is therefore identified as Level of Service ("LOS") F, the "worst" LOS possible, creating the misleading impression that no further increase in traffic flow is possible. Unlike other methodologies used in the FEIS (for example on US 158) where LOS F is based on a computation of hourly vehicle flow, LOS F in the Class II Two-Lane Highway method, occurring at levels well below (around 60 percent of) the possible maximum vehicle flow, simply indicates that a subjectively-determined marker of motorist convenience has been reached.

    The HCM identifies the Class II Two-Lane Highway method as appropriate for highways in rural area.[161] The Class II Two-Lane Highway method is intended for highways carrying long-distance travelers, with a preponderance of "through" trips (i.e., with neither origin nor destination immediately along the subject road. The Class II highway is assumed to be "rural" in character, with few driveways, even fewer intersecting roads, and no intrusion by pedestrian crosswalks or bicycle travel. In these "rural" conditions, drivers expect to maintain consistently high speed with

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[159] Kulash report at 3 (Exhibit 2).
[160] Kulash Report at 3 (Exhibit 2).
[161] *Id*.

ability to freely overtake slower vehicles, with this ability limited only by sight distance and opposing traffic flow and not by regulatory limitations (speed limits, "no passing" zones, etc.) due to roadside development.

NC 12 in Dare and Currituck counties, however, has none of these "rural" characteristics. The overwhelming majority of traffic is making short local trips (i.e., with origin, destination, or both along the road), not long-distance "through" travel. Drivers, most of them non-resident visitors are focused on identifying their destinations rather than covering long distances without hindrance.[162] Moreover, NC 12 is replete with driveways, commercial entrances fronting residential and commercial properties, and bicycle side path and pedestrian crosswalks that all signal to the driver that NC 12 is more urban than rural, and thus not the high-speed driving environment envisioned by the Class II Two-Lane Highway method.

Traffic engineers regularly apply the Class II Two-Lane Highway method to inappropriate locations (such as NC 12) because proprietary software packages for applying HCM methods do not yet offer an appropriate method for two-lane roads in low-speed town or developed environments. Until such methods are offered by proprietary software products, the correct procedure is to adapt, to two-lane roads in developed areas, a two-lane version of the "multilane" (four- or more lane) method given in the HCM. This approach establishes: (1) a capacity based on vehicle flow, rather than on the convenience of passing at will and (2) LOS based on consumption of the road's vehicular capacity, rather than on "percent of time spent following."

As Mr. Kulash details in his report, the difference in the two methodologies is significant. Under the Class II Two-Lane Highway standard used in the FEIS, four of the six road links analyzed on NC 12 have Volume to Capacity ("V/C") ratios in excess of 1.0. By contrast, when the more appropriate methodology is used, and forecasts are computed directly from the HCM, only one link has a volume to capacity ratio greater than 1.0.

By thus understating the capacity of NC 12, the Transportation Agencies overstated the level of need in the EIS. As noted above, new 2040 traffic forecasts already show that the 2035 numbers were significantly overstated. It is likely, however, that the 2040 numbers continue to be based on this faulty methodology and so even the new, lower numbers remain overstated.

> ***Response:*** *NCDOT disagrees with the commenter that "the correct procedure is to adopt, to two-lane roads in developed areas, a two-lane version of the 'multilane' (four- or more lane) method given in the HCM." Mr. Kulash is mistaken in his*

[162] The EIS fails to provide data regarding, for instance, the number of vehicles crossing between Dare and Currituck Counties, which would allow for a more complete picture of traffic patterns and the effect of the Bridge on alleviating traffic bottlenecks.

assertion that one can reasonably apply multilane highway capacity values to two-lane roads. He provides no reference, theory, or empirical evidence to back his assertion on applying multilane highway capacity values to two-lane roads.

Both the FEIS congestion analysis and the congestion analysis prepared for this FEIS used the methodology contained in Highway Capacity Manual (HCM). The HCM is published by the Transportation Research Board, an arm of the US National Academy of Sciences, and is based on decades of traffic research sponsored primarily by the federal government. The HCM has been adopted by the NCDOT (and other state and municipal transportation departments throughout the US) for official use in all traffic engineering analyses like the one for the Mid-Currituck Bridge Project.

The new congestion analysis prepared for this reevaluation uses the 2016 HCM. It uses the two-lane road category of Class III, which was first added to the HCM in the 2010 fifth edition. (The FEIS congestion analysis was prepared prior to 2010 and used the 2000 fourth edition.) A Class III two-lane road is a two-lane road in a built-up area, which fits NC 12 well. A Class III two-lane road is defined in the 2016 HCM as having:

- *A capacity of 1,913 vph and a Level of Service (LOS) E threshold of 62 percent of capacity or 1,185 vph in areas with frequent driveways or local street intersections. This capacity was assumed south of the Duck commercial area.*

- *A capacity of 2,550 vph and a LOS E threshold of 62 percent of capacity or 1,580 vph in areas with consolidated driveways or subdivision entrances. This capacity was assumed north of the Duck commercial area.*

In the FEIS modeling using the 2000 HCM and a Class II two-lane road, the capacity was assumed to be 2,218 vehicles per hour (vph) and the LOS E threshold used to differentiate congested traffic from uncongested traffic was 70 percent of 2,218 vph or 1,529 vph.

19. **Comment:** It is worth noting that the two methods of computing capacity yield significantly different levels of traffic performance for Alternative ER2 and the Improved ER2 alternative. The FEIS reports that even after widening to three lanes throughout the two busiest Dare County links (Links 9 and 10) would still operate at LOS F, with V/C ratios of 1.36 and 1.15 respectively. Although the FEIS does not offer operable guidelines defining the project's purpose to "substantially improve traffic flow" on NC 12, the failure to eliminate LOS F conditions could reasonably be interpreted as failure to "substantially improve".

    When the same three lane expansion is analyzed pursuant to the more proper methodology using the HCM, however, not one of the links along NC 12 operates at LOS F. The worst conditions, LOS E, which occur on the two most congested links, is considered acceptable for peak hour conditions in developed areas such as the NC

12 corridor.[163] In the Supplemental EIS, the Transportation Agencies should reanalyze all alternatives, including the Improved ER2, based on the more appropriate HCM methodology.

> ***Response:*** *The FEIS in Section 1.2 defines substantially improve as, "An improvement is considered substantial as opposed to minor if the improvement is great enough to be largely noticeable to typical users of the transportation system and if the improvement offers some benefit across much of the network, as opposed to offering only a few localized benefits. Alternatives that provide only minor or no improvement, as opposed to substantial improvement, would not meet the above needs." Eliminating of LOS F, while desirable, is not an objective of this project. An updated discussion of the ability of the FEIS Preferred Alternative and ER2 to reduce travel demand exceeding the capacity of the road (LOS F) is presented in Section 3.2 of this reevaluation study report. See the response to comment 18 above regarding the commenter's critique of the HCM methodology.*

IV. THE NEPA DOCUMENTS RELY ON A FLAWED HURRICANE EVACUATION RATIONALE TO JUSTIFY THE BRIDGE

20. **Comment:** Since 1950, only three Category 3 storms, and no category 4 or 5 storms, have touched the North Carolina coast during peak tourist season.[164] When storms have struck, the Northern Outer Banks has been successfully evacuated.[165] In response to prior attempts to include hurricane evacuation in the project's Purpose and Need Statement, resource agencies repeatedly commented that building a bridge may very well *increase* hurricane evacuation times in the long run, as additional access will mean there will simply be more people on the Outer Banks who need to be evacuated.[166] As the Corps long ago observed, Transportation Agencies are simply using hurricane evacuation to prey on fears of a "what if?" scenario to obtain public support for an ill-advised project.[167]

    The Draft Reevaluation does not reexamine the Purpose and Need Statement, which includes "[t]he need to reduce substantially hurricane evacuation times

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[163] Kulash Report at 6 (Exhibit 2).

[164] NCTA Response to Written TEAC Comments Requested in Jul. 2007 (Sep. 19, 2007 update) (Exhibit 97).

[165] Email from Drew Pearson, Dare County Emergency Management, to Angela Welsh, ARPO (Jan. 2, 2015) (Exhibit 98).

[166] Email from Gary Jordan to Tonya Caddle (Sep. 29, 2003); Meeting with DENR RE R-2576, Currituck Sound Area Transportation Study (Aug. 26, 2003) (Exhibit 99).

[167] "Mike Bell stated that he was against hurricane evacuation as part of the purpose and need because it is only included to obtain public acceptance for the project." Meeting Minutes from Jul. 24, 2002 Merger Team Meeting (Aug. 28, 2002) (Exhibit 100).

from the Outer Banks for residents and visitors who use US 158 and NC 168 as an evacuation route."[168] The Purpose and Need Statement does not define the substantial reduction with any specificity, but instead states, "an improvement is considered substantial as opposed to minor if the improvement is great enough to be largely noticeable to typical users of the transportation system and if the improvement offers some benefit across much of the network, as opposed to offering only a few localized benefits."[169]

> ***Response:*** *The North Carolina Outer Banks has historically had many significant storm threats. The NCDOT assembled a report entitled 2008 North Carolina Hurricane Landfall Study (February 2008) that documented both land falling and near miss hurricanes for the North Carolina coast, which have created threats to the Outer Banks since 1950. Since 1950, 19 different storms, including Irene, have made landfall in North Carolina. Fourteen of these storms were category 3 or above at their maximum and eight were category 3 or above at landfall. Another 12 storms came within 50 miles of the North Carolina coast but did not make landfall there. If the historical footprint looked back even an additional 30 years, one would find plenty of significant hurricane activity on the Outer Banks.*
>
> *Sixty years of storm history is not enough to develop a return frequency of hurricanes, meteorologically speaking. One would need 500 to 1,000 years of hurricane history in a given location to determine the possibilities and that historical record does not exist. All the storm tracks and intensities that are not only possible but are probable have not been seen for the North Carolina Outer Banks according to Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model runs by the National Hurricane Center. The 2017 hurricane season reminds us vividly reminds us that all the catastrophic hurricane tracks and possibilities that can and will occur in various locations have not been seen.*
>
> *Not only has the worst track and intensity for the Outer Banks not been seen, a major evacuation of the Outer Banks has not been seen in recent times where all permanent residents believed they needed to evacuate and where a large holiday tourist population was in place with a storm that picks up forward speed and intensity from lower latitudes. Of major concern, evacuations have taken place where permanent residents decided not to evacuate and were stranded when portions of NC 12 were washed out.*
>
> *The US 158/northern Outer Banks area will see major evacuation congestion when a major hurricane directly threatens the Outer Banks and both permanent population and a large tourist population are forced to evacuate simultaneously. NCDOT*

[168] Draft Reevaluation at 29 (Exhibit 1).
[169] Draft Reevaluation at 29 (Exhibit 1).

reanalyzed the proposed Mid-Currituck Bridge project alternatives and many of the revised hurricane evacuation inputs and assumptions recognize the build out of all planned and expected development for the future year condition with the FEIS Preferred Alternative, as well as constrained development in Currituck County with the No-Build Alternative and ER2. Hurricane evacuation scenarios for all categories of hurricanes and varying levels of tourist occupancy were modeled based on current and year 2040 occupancy on the Outer Banks.

Section 3.2.3 of this reevaluation study report updates how well ER2 and the Preferred Alternative (revised designs) address the hurricane evacuation need. The commenter is correct on the definition of a substantial reduction presented in the FEIS. The FHWA and NCDOT chose not to set a specific reduction in clearance times other than identifying an 18-hour goal based on the National Hurricane Center's (NHC) hurricane warning timing at the time the FEIS was released. To be more specific could have unreasonably narrowed the range of alternatives considered. The NHC's hurricane warning time has since changed, as discussed in Section 2.7, and is considered in the updated analysis, which now assumes a 30-hour goal.

21. **Comment: 18 Hour Evacuation "Standard".** As justification for this purported need, the FEIS states that "[h]urricane evacuation times. . . far exceed the state-designated standard of 18 hours."[170] The stand-alone Purpose and Need document also states that "law enforcement and emergency management indicate a preference for an 18-hour maximum."[171] The state-designated standard referred to by the FEIS was enacted by the North Carolina General Assembly in 2005.[172] The law states in its entirety: "The hurricane evacuation standard to be used for any bridge or highway construction project pursuant to this Chapter shall be no more than 18 hours, as recommended by the State Emergency Management officials."[173] The law, therefore, does not mandate an 18 hour evacuation standard for all locations throughout the coastal region, but instead states that if a bridge or highway is to be built, then it should be built with the goal of providing an evacuation time of no more than 18 hours. In other words, the law is meant to provide a standard for an assumed bridge or highway project, not to serve as a justification for the creation of a bridge or highway project.

    State officials have also acknowledged that the legislature intended the 18-hour

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[170] Draft Reevaluation at 29 (Exhibit 1).
[171] Statement of Purpose and Need at 39 (Oct. 2008) (Exhibit 101).
[172] *See* SL 2005-275, Section 5, effective Aug. 12, 2005.
[173] N.C. Gen. Stat. § 136-102.7

standard to be a "goal" for evacuation and not a "must meet" rule.[174] Indeed, there are many NC coastal communities that would fail this 18-hour standard.[175] The transportation agencies have also not put forth any data, or any other form of logical justification, for this arbitrary standard and have not identified any other states that have a similar goal evacuation time. The report prepared by transportation expert Walter Kulash further discusses the arbitrary nature of the 18-hour standard,[176] noting that it has no basis in meteorology, storm forecasting, peer site comparison, or locally adopted preparedness planning. As stated in the report:

The three arguments for "preferred clearance time" of 18 hours (P&N Statement, Section 1.10) are all based on unsupported assumptions:

1. Requiring that evacuation be "conducted mostly during daylight hours" is not only arbitrary and unsupported by any emergency-management advisories, but also contradictory, in that (1) there is not likely to be 18 hours of daylight in hurricane season with a storm looming and (2) waiting for daylight to begin an evacuation would almost certainly contribute to "violating" the 18-hour "standard".

2. The goal of "Limiting the amount of personnel that North Carolina law enforcement would have to commit to one shift for an evacuation" presumably is intended to accommodate the availability of locally-stationed North Carolina State Highway Patrol ("NCSHP") officers, and possibly also to minimize the cost of an evacuation. Neither of these concerns is justified or quantified. Under a governor-mandated state of emergency multiple shifts of NCSHP officers could be made available, particularly for the small number of relevant postings. Furthermore, at no point in any available documentation is the cost of additional NCSHP manpower weighed against the half-billion dollar cost of the build alternatives.

3. A " preference" for evacuation within the "National Hurricane Center's warning period as opposed to… hurricane watch period" in no way supports the 18-hour evacuation "standard". Warnings are typically issued 36 hours ahead of the expected arrival of tropical storm force winds (39 miles per hour) and, depending on the speed of the storm, 48–60 hours ahead of the arrival of hurricane-force winds. A 36-hour evacuation time is therefore possible entirely within the hurricane warning period.[177]

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[174] MCB Turnpike Authority Bridge Study Response to Agency Comments at the Jul. 18, 2007 TEAC meeting (Exhibit 102).

[175] Stakeholder Involvement Report at 2-36 (Exhibit 103).

[176] *See* Kulash Report at 8-10 (Exhibit 2).

[177] *Id.*

Finally, the Purpose and Need's 18 hour standard does not comport with the State's Standard Operating Guide for coastal evacuation. That guide sets forth a detailed schedule for evacuation, below, that does not contemplate 75% occupancy within 18 hours of a storm's landfall.

- 72 hours – State implements partial activation of the EOC based on the approaching hurricane. State activates depending on storm progress. NCSHP and NCDOT engaged in evacuation.

- 48 hours – Division of social services activates the sheltering program. County Board Chairman decides whether or not to call a phased evacuation of special needs population. If so he issues that order now.

- 40 hours – Division of social services and ARC begin preparations to open general population shelters.

- 36 hours – County Board Chairman gives evacuation notice for the general population in the county.

- 32 hours – Voluntary evacuation of general public begins in the county.

- 18 hours – Depending on county clearance times, mandatory evacuation begins in the county.

- 12 hours – The last bus leaves on rout to in-county shelter.[178]

The 18 hour evacuation "standard" cannot serve as a justification for this project.

> ***Response:*** *The FEIS does not use the 18-hour standard as a mandate in the statement of purpose and need. The FEIS does not define the needs as a failure to meet the 18-hour standard. Rather, the purpose and need calls for a "substantial" reduction in hurricane evacuation clearance times and defines substantial. In demonstrating that a need exists, the FEIS notes that hurricane clearance times currently "far exceed the state-designated standard of 18-hours." Nor does the FEIS treat the 18-hours standard as a "must meet" rule. As noted by the commenter in the next comment, none of the detailed study alternatives assessed in the FEIS meet the 18-hour standard. All of them, however, offer a substantial reduction in hurricane clearance times.*
>
> *In 2005 the NC Legislature passed GS 136-102.7 which set forth achieving an 18-hour hurricane evacuation standard as a consideration for bridge or highway projects. The 18-hour legislative clearance time standard/goal that resulted from*

[178] 2011 NC Coastal Region Evacuation and Sheltering Standard Operating Guide for the Northern Coastal Plain (Exhibit 104).

intense NCDOT studies and interaction with emergency management, law enforcement, and policy makers well over a decade ago and was based on the National Hurricane Center's previous warning and watch timeframes of 24 and 36 hours respectively. The National Hurricane Center now issues warnings and watches 36 and 48 hours (respectively) in advance of tropical systems.

The previous 18-hour benchmark was based on accommodating 18 hours of traffic movement and allowing an additional 6 hours of what is called 'pre-landfall hazards time'. This 6-hour block of time is the time before eye landfall in which evacuation is too dangerous due to the arrival of sustained tropical storm winds. The idea was to try and achieve 18-hour clearance times so that evacuation advisories/mandates could be issued at the hurricane warning and allow communities to complete evacuation before the arrival of hazardous roadway conditions. At the time, the 18-hour threshold was developed and implemented, it was both a prudent and rational measure to gauge highway improvement projects for public safety purposes.

Given the change by the National Hurricane Center of the warning timeframe from 24 to 36 hours and that the 18-hour goal was based on the 24-hour timeframe, use of a 30-hour goal (30 hours minus 6 hours) when considering the benefits of the Mid-Currituck Bridge project is now appropriate and is used in this reevaluation study report in Section 3.2.3.

The state does have a procedure for coastal evacuations that sets forth actions that should be taken at various hourly timeframes before the arrival of sustained tropical storm winds and eye landfall. The commenter notes that these begin 72 hours prior to landfall. While that is correct, nothing in state hurricane evacuation procedure conflicts with the latest findings and conclusions contained in the project reevaluation.

Hurricane Irene which was a slower moving and more easily tracked storm by the National Hurricane Center, with all forecast model tracks in agreement 48 hours in advance. North Carolina officials saw the benefit of moving tourists and Ocracoke Island residents early in the evacuation process. A very different scenario was posed with the Hurricane Floyd in 1999 where the storm was expected to be in Florida, then Georgia, then South Carolina and ended up in North Carolina. Both tourists and permanent residents who decided to evacuate for that event had to move concurrently.

While in optimal warning situations, Dare County will be able to move the ambient tourist population in advance of the permanent residents; this will not be possible for many storm scenarios that must be planned for. To provide evacuation notices to the tourists at the time intervals suggested by the commenter, one would have to make the decision when the storm is so far south that few tourists would listen.

The historical selection and use of a category 3 hurricane, 75 percent tourist occupancy scenario for analysis is still a prudent choice. While the National Hurricane Center still maintains that a category 5 hurricane is possible for the Outer Banks and while certain rapidly intensifying storms may in fact require the evacuation of a 95 percent tourist occupancy condition (along with permanent residents), this should be considered a "maximum possible" scenario and NOT a "maximum probable" scenario. Given the peak time of year (mid-August through September) and hurricane history of the area, the maximum probable scenario of a category 3 with 75 percent tourist occupancy should be the scenario that is analyzed as a measure of public safety consideration.

The committee that vetted the 2005 NCDOT statewide hurricane evacuation study effort, considered this aspect of evacuations in North Carolina—specifically, what portion of the tourist population should be planned for in evacuations. The committee made up of key emergency management officials, highway patrol/law enforcement, and NCDOT staff, decided (after reviewing the historical data) that 75 percent would be the maximum occupancy assumption for corridor study hurricane evacuation analyses. In accord with this direction, the hurricane analysis performed for the proposed Mid-Currituck Bridge assumed that day visitors would not be present and that 25 percent of the tourists would not be present by the time the general evacuation is called for either because of the fact they have already left or simply not there because of lower seasonal occupancies.

22. **Comment: Hurricane Evacuation Alternatives Analysis Technical Memorandum.** To support their position that the Bridge will address a need for improved hurricane evacuation, the Transportation Agencies rely on a 2010 memorandum prepared by Parsons Brinckerhoff. For purposes of analyzing project alternatives, the memorandum assumes 75 percent tourist occupancy and a Category 3 storm.[179] Notably, there is no evidence provided that a Category 3 storm has ever struck the Currituck Outer Banks when there was 75 percent occupancy.[180] The Hurricane Technical Memorandum states that, as of 2010, the existing hurricane evacuation time was 27 hours, and it predicts an evacuation time of 35.9 hours in 2035 under a no-build scenario.[181] As discussed above in section III, however, the Draft Reevaluation forecasts significantly reduced traffic volumes in 2040. In order to present a valid analysis of the need for improved hurricane evacuation, the Transportation Agencies must complete a new Hurricane Evacuation Alternatives Analysis with this new traffic forecast data.

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[179] Hurricane Technical Memorandum at 2 (Exhibit 106).

[180] *See* Stakeholder Involvement Report at 2-36 (Exhibit 103).

[181] Hurricane Technical Memorandum at 3 (Exhibit 106); *see also* (Exhibit 107)

Finally, even using outdated traffic forecast data, the memorandum does not predict that *any* of the alternatives, including the preferred alternative, would achieve hurricane evacuation times of 18 hours or less.[182] And the technical memorandum anticipated that ER2 and MCB4 would achieve the same 2035 hurricane evacuation time—27 hours.[183] The Transportation Agencies, therefore, cannot defend their selection of the preferred alternative based on this report. To do so would amount to a "subterfuge designed to rationalize a decision already made." *Forest Guardians v. USFWS*, 611 F.3d 692, 712 (10th Cir. 2010).

> ***Response:*** *The hurricane clearance study is updated in this reevaluation using Federal Emergency Management Agency/US Army Corps of Engineers clearance time model released in 2016, as described in Section 2.7 of this reevaluation study report. A new 2040 housing estimate was prepared for use in the new model, replacing the 2035 estimate used in the FEIS clearance time study. The commenter's comment on the appropriateness of using for analysis the category 3 hurricane, 75 percent tourist occupancy scenario is discussed in the response to their previous comment.*
>
> *The FEIS found that either a widening alternative or an alternative with a Mid-Currituck Bridge could achieve a substantial reduction in hurricane clearance times (35 hours to 22 hours by adding a third outbound lane to US 158 or 27 hours by reversing the center lane) in 2035, meeting the purpose and need for hurricane clearance. As such, hurricane clearance time reduction was not a factor in deciding between a widening alternative and a Mid-Currituck Bridge alternative in the selection of the Preferred Alternative presented in the FEIS.*

23. **Comment: Resource Agency Objections.** State and federal resource agencies have long questioned the legitimacy of hurricane evacuation as a need for the Bridge. In comments on the FEIS, EPA noted that there have not "been any documented hurricane evacuation problems in this area of the Outer Banks in modern times using the existing roadway system."[184] Regarding the 18 hour standard, EPA stated that "this desired goal should be a consideration but not a finite decision point in the preferred alternative selection process."[185] EPA also noted that "[t]here are other areas of the Outer Banks that potentially cannot meet this 18-hour goal even if a new bridge is constructed over Currituck Sound."[186] Finally, EPA noted that only two

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[182] Hurricane Technical Memorandum at 3-4 (Exhibit 106); s*ee also* 2010 MCB Hurricane Evacuation Meeting (Exhibit 108).

[183] Hurricane Technical Memorandum at 3-4 (Exhibit 106).

[184] Stakeholder Involvement Report at 2-36 (Exhibit 103).

[185] *Id*.

[186] *Id*.

Category 3 hurricanes have struck the outer banks since 1930.[187] Instead of focusing on building the proposed bridge, EPA suggests that the Transportation Agencies should focus on local planning and early warning to lower hurricane evacuation times, "*including the consideration of minimizing new development along isolated and remote areas of barrier islands*."[188]

In response to EPA, the Transportation Agencies cite a letter from Currituck County Emergency Management describing an incident during the evacuation for Hurricane Earl in which traffic was stalled because of an accident in Duck and a malfunctioning traffic light.[189] Far from providing justification for the proposed bridge, this example shows how upgrades to existing roads and traffic technology could substantially reduce hurricane evacuation time. A $600 million bridge cannot be justified by a broken traffic signal.

As discussed in Section I, above, other agencies, including the USFWS and the Corps, have noted that the Bridge could actually increase hurricane evacuation times because of the induced development and additional population on the Currituck Outer Banks created by the Bridge.[190] These concerns are succinctly summarized in an email from USFWS to Parsons Brinckerhoff: "[T]he secondary development that goes along with improved transportation could (by bringing more people to the Outer Banks) create a worse evacuation problem even with improved transportation. In other words, improved transportation could be self-defeating with regard to hurricane evacuation times."[191] The Transportation Agencies have failed to consider these effects of induced growth on hurricane evacuation as required by NEPA.

> ***Response:*** *The opinions of the resource agencies were noted and discussed during project planning. The purpose for hurricane evacuation is listed in Section 1.3 of the FEIS as "To reduce substantially hurricane clearance time for residents and visitors who use US 158 and NC 168 during a coastal evacuation." The hurricane clearance benefits in the FEIS and this reevaluation are based primarily on expected hurricane evacuation clearance times under expected circumstances. The bridge would offer the additional advantage of providing a second way off the island if an incident occurred*

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[187] *Id.*; *see also* NCTA Response to Written TEAC Comments Requested in July 2007 (Exhibit 97) ("EPA is uncertain as to the likelihood of a Category 3-5 hurricane prior to September 1st. Most of the strongest and most damaging storms have occurred later in the hurricane season (September and October). EPA requests that a 'risk analysis' be performed by NCTA and FHWA that documents the past recorded storm events along the Outer Banks that met or exceeded the Category 3 status and the time when these storms occurred.").

[188] Stakeholder Involvement Report at 2-36 (emphasis added) (Exhibit 103).

[189] Stakeholder Involvement Report at 2-37 (Exhibit 103).

[190] Email from Gary Jordan to John Hennessy (Sep. 30, 2003) (Exhibit 109); Aug. 26, 2003, Notes of Cathy Brittingham (Exhibit 99).

[191] Email from Gary Jordan to Tonya Caddle (Sep. 29, 2003) (Exhibit 63).

temporarily blocking NC 12. The effect of NC 12 acting as a constraint on development in Currituck County with the No-Build Alternative and ER2 is addressed in the new hurricane clearance time analysis presented in Section 3.2.3 of this reevaluation study report.

24. **Comment:** The FEIS' claim that the Bridge would reduce hurricane evacuation time is based on the assumption that the Toll Bridge would not cause any growth in travel to the Outer Banks. As discussed further in section VI, that assumption is not scientifically credible or legally defensible. In fact, as the Corps pointed out in its comments on the initial DEIS, the transportation agencies should have disclosed the impacts associated with "hurricane evacuation time increase" resulting from the Project.[192] Public Comment also noted that the Bridge would increase the population of the Northern Outer Banks, and therefore drive up evacuation times.[193]

    It is not at all surprising that the Transportation Agencies have for so long attempted to use hurricane evacuation as a justification for the Bridge, as for many years NCDOT included hurricane evacuation in the purpose and need for every coastal bridge project in the State.[194] Indeed, the trumped up need for improved hurricane evacuation, and the fear it instills in the public, was the driving force that revived the Bridge project in the early 2000s.[195] The Transportation Agencies do not, however, have scientific evidence or sound analysis to support this purported need, and their own outdated study shows that the Bridge would not achieve the State's arbitrary 18 hour evacuation goal. For these reasons, resource agencies previously refused to sign off on including hurricane evacuation in the project's purpose and need.[196]

    Nothing has changed since then to strengthen the argument for hurricane evacuation as a justification for the Bridge. On the contrary, the purported need has only been weakened by reduced traffic forecasts which the Transportation Agencies have yet to consider in this context.

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[192] U.S. Army Corps of Engineers' Comments on 1995 Mid-Currituck Sound Bridge DEIS (1995) (Exhibit 110).

[193] Stakeholder Involvement Report at 4-12 (Exhibit 103).

[194] Email from Mike Bell to Dan Scanlon (May 13, 2002) ("[H]urricane evacuations have been included in all of the recent bridges that have been constructed in North Carolina") (Exhibit 111).

[195] Notes from R-2576 Mid-Currituck Sound Bridge Informational Meeting (Aug. 16, 2001) ("Evacuation is the main driving force for the resurrection of the bridge.") (Exhibit 112).

[196] Letter from John Page to Dan Scanlon (Jun. 25, 2002) at 4 (Exhibit 55); Meeting Minutes from May 8, 2002 Merger Team Meeting (Exhibit 56); *see also* Revised Draft Summary of the Purpose of the Proposed Action (Jun. 25, 2002) (Exhibit 57); Currituck Sound Area Transportation Study, Southern Shores Meeting (Jul. 18, 2002) (Exhibit 58).

Response: *The commenter's opinion is noted. See the response to commenter's comments 20, 21, and 22 on the severity of storms, the 18-hour goal used in the FEIS, and the updated clearance time analysis methodology.*

V. THE TRANSPORTATION AGENCIES HAVE FAILED TO ADEQUATELY ANALYZE A REASONABLE RANGE OF ALTERNATIVES

25. **Comment:** NEPA requires agencies to "[r]igorously explore and objectively evaluate all reasonable alternatives." *N.C. Wildlife Federation*, 677 F.3d at 602 (citing 40 C.F.R. § 1502.14(a)). Agencies have a "duty under NEPA . . . to study all alternatives that appear reasonable and appropriate for study at the time of drafting the EIS, as well as significant alternatives suggested by other agencies or the public during the comment period." *Roosevelt Campobello Int'l Park Comm'n. v. US EPA*, 684 F.2d 1041, 1047 (1st Cir. 1982) (internal quotation marks omitted). Only unreasonable alternatives can be eliminated. 40 C.F.R. § 1502.14(a).

    Moreover, the Clean Water Act ("CWA") mandates, with limited exception, an analysis of alternatives and the selection of the alternative with the least impact on the aquatic environment. CWA regulations state that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the *aquatic ecosystem*, so long as the alternative does not have other significant adverse environmental consequences." *Id.* § 230.10(a). At the outset, only adverse impacts to the aquatic ecosystem can be considered. A practicable alternative that would have the least impact on the aquatic ecosystem can only be rejected if it has "other significant adverse environmental consequences." The preamble to the rule makes clear that this secondary analysis is intended to "take into account evidence of damage to other *ecosystems* in deciding whether there is a 'better' alternative."[197] The Corps has recognized that the secondary analysis focuses on "substantial impacts to other *natural* environmental values."[198] In short, the environmental impacts that can be considered in designating the "Least Environmentally Damaging Practicable Alternative ("LEDPA") are significantly narrower than those that may be considered in selecting a preferred alternative under NEPA. The Coastal Area Management Act ("CAMA") N.C. GEN. STAT. § 113(A)-120(a)(9), and section 401 of the Clean Water Act 15A N.C. Admin. Code § 02H .0506(b)(1) similarly include requirements that the least damaging, practicable alternatives be selected.

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[197] Guidelines for Specification of Disposal Sites for Dredged or Fill Material, 45 Fed. Reg. 85336, 85340 (Dec. 24, 1980) (emphasis added).

[198] Regulatory Guidance Letter 93-02, Guidance on Flexibility of the 404(b)(1) Guidelines and Mitigation Banking (Aug. 23, 1993) (emphasis added) (Exhibit 113).

In North Carolina, new location highway projects are developed through the "merger process," which aims to integrate NEPA and section 404 of the CWA. The Transportation Agencies thus work closely with the Corps as each highway project is reviewed and advanced to ensure, in theory, that "the regulatory requirements of Section 404 of the Clean Water Act are incorporated into the NEPA decision-making process for transportation projects."[199] Through this process the agencies are required to meet consensus on the "preferred alternative" and the LEDPA prior to publication of an FEIS. At the time it is selected, the agencies are required to be "reasonably certain that the LEDPA/ Preferred Alternative will comply with all relevant regulations and permit requirements" and "can be authorized."[200] In the case of the Mid- Currituck Bridge, however, all resource agencies have consistently stated that ER2, the alternative which focuses on improving existing roads, should be considered the LEDPA. The alternative is undeniably the least environmentally damaging, and any concerns about its lack of practicability, as compared to other alternatives, have changed with the revisions to North Carolina's funding system.

Despite the importance of an accurate, up-to-date assessment of alternatives under NEPA, the CWA, and CAMA, the Transportation Agencies' review of alternatives has not been updated since 2009. We have previously commented on the agencies' failure to examine a reasonable range of alternative solutions. In particular, we have criticized the agencies' failure to look closely at non-Bridge alternatives and combinations of alternatives that could work in concert to replace the need for the $600 million Bridge.[201] In the Draft Reevaluation, the Transportation Agencies have again failed to take a hard look at any non-Bridge alternatives.[202] Importantly, the Draft Reevaluation also fails to consider how altered circumstances, including changes to funding streams, altered population dynamics, reduced traffic forecasts, and evolving trends in vacation patterns could change the relative merits of alternatives previously studied, as well as innovative new alternative solutions.[203]

> ***Response:*** *NCDOT and FHWA have worked closely with the US Army Corps of Engineers (USACE) and other natural resource agencies under a Section 6002 process rather than NCDOT's merger process, as authorized under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), signed into law in 2005. The Section 6002 agreement with federal*

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[199] Memorandum of Understanding, Section 404 of the Clean Water Act and National Environmental Policy Act Integration Process for Surface Transportation Projects in North Carolina at 1 (last rev. May 16, 2012) (Exhibit 114).

[200] *Id*. at 12.

[201] *See, e.g*., Letter from Kym Hunter to the Board of Transportation (Nov. 24, 2015) (Exhibit 115); Letter from David Farren to Jennifer Harris (March 12, 2012) (Exhibit 116); Letter from David Farren to Jennifer Harris (June 7, 2010) (Exhibit 117).

[202] 202 Draft Reevaluation at 10-14 (Exhibit 1).

[203] *Id*. at 10-14, 20-44.

and state environmental resource and regulatory agencies specifies opportunities for coordination and input (including an opportunity to provide significant objections) instead of concurrence. In their comments on the FEIS, the resource regulatory agencies focused on the need during the permit process to continue to develop and refine the avoidance, minimization, and mitigation plans described in the FEIS. USACE nor did any of the other resource and regulatory agencies indicate that the Preferred Alternative could not be found to be a Least Environmentally Damaging Practicable Alternative (LEDPA) by USACE. On August 17, 2017, NCDOT met with the USACE to discuss potential wetland impacts for the revised designs of ER2 and the Preferred Alternative. USACE representatives said at that time that they were pleased that design revisions to the Preferred Alternative and ER2 had been made to take into consideration reduced traffic forecasts and new delineations. They did not see anything further that needed to be addressed before completion of the reevaluation report from a jurisdictional resources perspective related to the practicability of the Preferred Alternative. They said they would need to review the entire reevaluation report (i.e. consider all impacts and costs) before an indication of practicability could be made, but did not see any red flags at that time related to the Mid-Currituck Bridge being identified as a Least Environmentally Damaging Practicable Alternative (LEDPA).

26. **Comment: Improved ER2.** Residents and visitors to the Outer Banks and across Currituck County have worked with transportation expert Walter Kulash to develop an alternative that combines a variety of low-cost solutions to solve the concerns intended to be met by the Bridge.[204] The alternative is described in detail in Mr. Kulash's report, but includes the following elements:

    - From the eastern end of the Wright Memorial Bridge to the entrance to the Home Depot, a distance of 1.3 miles, reconstruct US 158 into a **four-lane superstreet**. This is a modified version of the Transportation Agencies' suggestion for ER2, but includes four lanes instead of six to eight. As such the element would be less costly than that included in ER2. The purpose of the improvement would be to improve access for properties fronting onto US 158 while simultaneously improving the flow of through-traffic.

    - At the US 158/NC 12 junction, proceed with project R-4457 for the grade separation of the existing intersection. However, in light of the reduced year 2040 traffic volumes and to assist in cost reduction, Mr. Kulash suggests consideration of two modifications to the full interchange that has been planned: (1) a simple flyover, permitting conflict-free movement between US 158

[204] Kulash Report at 14-16 (Exhibit 2).

eastbound and NC 12 northbound and also the reverse movement, from NC 12 southbound to US 158 westbound or (2) a Continuous Flow Intersection.

- NC 12 in Dare County should be configured as a three lane, undivided roadway with a continuous two way left turn lane. The roadway will have 4-foot paved shoulder and swale drainage. Unlike ER2 which requires a four lane roadway, this modified alternative solution for NC 12 in Dare County could be constructed on existing right-of- way.[205]

- NC 12 in Currituck County should remain a two-lane undivided roadway.

- All signalized intersections on NC 12 should be converted to one-lane roundabouts which reduce congestion and improve through-flow. In addition, the Transportation Agencies should develop a plan for adding roundabouts at currently unsignalized intersections to: (1) control speed, (2) provide cross-street access, and (3) provide U-turn opportunities so drivers can avoid left turns into NC 12 during when traffic is congested.

- On key holidays and other days when there is a predictable pattern of extreme peak travel, NCDOT should employ manned traffic control at key intersections.

- The Transportation Agencies should develop a plan for more connectivity between local streets that feed onto NC 12.

- The Transportation Agencies should consider overhead pedestrian walkways in Duck to increase pedestrian safety and improve through-flow. This improvement was suggested by Currituck County Commissioner Bobby Hanig.[206]

- The Transportation Agencies should identify places to consolidate driveways along NC 12.

- To improve pedestrian safety, the Transportation Agencies should add hybrid beacon pedestrian signals at selected non-intersection pedestrian crossings and add a variety of crossing warning devices as outlined in the *Manual on Uniform Traffic Control Devices*.

- For US 158 from Barco to the Wright Memorial Bridge, the Transportation Agencies should retain the existing five-lane undivided cross section with the continuous two-way left turn lane.

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[205] FEIS 2-35 -2-36.

[206] William F. West, *Hanig, White meet with anti-bridge group.* DAILY ADVANCE (Dec. 19 2016) *available at* www.dailyadvance.com/News/2016/12/19/Hanig-White-meet-with-anti-bridge-group.html (Exhibit 230).

- For the 15.5 mile segment between NC 136 and the western end of the Wright Memorial Bridge, the Transportation Agencies should conduct a comprehensive access management study to identify small-scale road improvements including the addition of traffic signals, coordination of traffic signals, development of seasonal traffic signal timing algorithms, new or extended local streets and roads providing access to streets served by a traffic signal on US 158 and designated U turn locations. The study should also explore the feasibility of converting some segments to a superstreet.

- NCDOT should also explore implementation of some other changes to reduce demand. An incentive program to better stagger change-over days at rental companies away from the current norm of Saturday change-overs could greatly help to reduce the congestion on those busy days. The alternative is discussed in more detail below. In addition, a program establishing "electronic keys" should be encouraged.[207] Such programs reduce congestion by eliminating trips that tourists need to take to a central rental check-in company, and allow them to proceed directly to their rental house.

This comprehensive set of solutions should be given serious consideration by the Transportation Agencies. NEPA requires that the agencies examine "all alternatives that 'appear reasonable and appropriate for study at the time' of drafting the EIS, as well as 'significant alternatives' suggested by other agencies or the public during the comment period." *Roosevelt Campobello Int'l Park Comm'n v. USEPA*, 684 F.2d 1041, 1047 (1st Cir. 1982) (quoting *Seacoast Anti-Pollution League v. Nuclear Regulatory Comm'n*, 598 F.2d 1221, 1230 (1st Cir. 1979)).

> ***Response:*** *This reevaluation considers a revised design for ER2, although it differs from the one proposed by Mr. Kulash as follows:*
>
> - *ER2's revised design uses a six-lane superstreet instead of a four-lane superstreet because a four-lane superstreet would still have LOS E and F along US 158. In addition, a six-lane road would have more capacity to handle NC 12 queues that back-up onto US 158 and minimize the effect of those back-ups on US 158 through traffic.*
>
> - *ER2's revised design has an at-grade intersection instead of an interchange with full turning movements between NC 12 and US 158. Left turns to and from the Visitors Center and to southbound US 158 from NC 12 would be accomplished via the superstreet's U-turn opportunities. The level-of-service on the summer weekday would be LOS B and the summer weekend would be LOS D.*

[207] *See, e.g.*, eRentalLock: www.erentallock.com/ (*last visited* 12/14/2016) (Exhibit 118).

- *ER2's revised design includes a three-lane, undivided NC 12 from US 158 to the existing three lane section in downtown Duck. The three-lane section would not continue north of downtown Duck because at that point the character of the road changes with few driveways connecting directly to NC 12, greater spacing of residential streets connecting to NC 12, and consolidated subdivision entrances. ER2 was never defined as included four lanes on NC 12 in Dare County. Such an option was dropped in during the 2009 alternatives screening because of the substantial residential and business displacement that would result.*

- *ER2's revised design includes no improvements to NC 12 in Currituck County, the same as proposed by Mr. Kulash.*

- *No roundabouts were included in the revised ER2 design because they have a lower vehicular capacity than signalized intersections. In the 2010 HCM, a lane of traffic heading into a one-lane roundabout had an ideal capacity (that is, with no interference from the side street) of 1,150 passenger cars per hour (pcph); in the 2016 edition that ideal capacity was increased to 1,380 pcph. Even at 1,380 pcph, that ideal capacity is far smaller than the ideal capacity of a lane of traffic moving through a signalized intersection, which is 1,900 pcph.*

- *Manned traffic control was not assumed because it is not affective in locations where there is a long, consistent flow of traffic. It can be useful for short periods of time where there are specialized events or opportunities when there is a one- to two-hour spike in traffic. In the summer, congestion in the project area occurs over many hours.*

- *Connectivity of local streets was considered during the development of the original ER2. Frequent subdivision street connections occur on NC 12 beginning in Southern Shores at Hickory Trail and continue up to the Sanderling subdivision in Duck. Most of these local streets do not connect to each other but only to NC 12. Providing connections to these local streets would result in the displacement of homes. However, for the original ERs, three locations north of downtown Duck were proposed for closure where local streets connecting to NC 12 are closely spaced but connected to other local streets. With the new traffic forecasts, improvements to NC 12 are not proposed north of downtown Duck.*

- *Pedestrian overpasses are not proposed with any detailed study alternatives because people tend not to use them. Grade-separated pedestrian crossings are generally effective only if pedestrians need to neither walk up or down to use the crossing. People generally do not want to make the equivalent of a two-story climb up the steps or the handicap ramp of a pedestrian overpass to clear vehicles if they can just walk across a road.*

- *Consolidation of driveways where they occur along NC 12 would involve the connection of individual driveways to a connecting driveway or road parallel to NC 12. The creation of such roads would require more additional right-of-way than widening NC 12 to four lanes. Widening NC 12 to four lanes was found to generate a high number of displacements. As such, consolidation of driveways also would cause displacements, including displacement of homes and businesses whose driveways are being consolidated.*

- *If ER2 is selected for implementation in a ROD, the inclusion of pedestrian signals at selected non-intersection pedestrian crossings and other crossing warning devices could be considered during final design.*

- *The traffic forecasts and congestion analysis for this reevaluation and the FEIS found that with the No-Build Alternative, US 158 from Barco (NC 168) to the Wright Memorial Bridge would not be congested on the summer weekday (level-of-service E or F) and so ER2 as presented in the FEIS and the revised design considered in this reevaluation retained the existing five-lane undivided cross section with the continuous two-way left turn lane on US 158 from Barco (NC 168) to the Wright Memorial Bridge. To meet the hurricane clearance need, a third outbound emergency lane is included in ER2 (both designs) from Barco (NC 168) to the Wright Memorial Bridge.*

- *The Currituck County Comprehensive Transportation Plan (NCDOT, 2012) recommends that "by providing neighborhood connectivity along the corridor a 4-lane divided boulevard would be the most appropriate solution" from the Mid-Currituck Bridge to Dare County (Wright Memorial Bridge). The reasons for this recommendation differ from the objectives of Mid-Currituck Bridge Project in that they include fulfilling the North Carolina Strategic Highway Corridor (SHC) Vision Plan. It also notes that in a portion of this part of US 158 by 2035 the average annual vehicles per day will be approaching LOS D. The Mid-Currituck Bridge Study assumes congestion begins at LOS E. The comprehensive transportation plan proposal is not listed in the STIP and thus is not a reasonably foreseeable improvement. At some future date, should NCDOT pursue improvements to US 158, the access management study proposed by the commenter could be a part of alternatives development.*

Rental time shifts are addressed in detail in Section 3.3.4 of this reevaluation study report document and below in in response to the commenter's comment 29. Property management companies are currently at various stages of using or transitioning to keyless check-in system. Some property management companies have had keyless systems in place since 2014. Other companies are currently in the process of transitioning to keyless check-in. It is anticipated that most properties will have keyless check-in the next few years.

27. **Comment:** Much has changed since the agency last put the NEPA document for the Bridge out for comment in 2012. Funding constraints previously in place have been replaced by an entirely new funding system.[208] In addition, there is now greater financing flexibility in the form of GARVEE bonds.[209] At the same time, the need for the Bridge has diminished dramatically. Current and future traffic forecasts are much lower than anticipated the last time the public had the opportunity to review the Bridge and alternative solutions.[210] As such, it is imperative that the Transportation Agencies issue a Supplemental EIS that takes a hard look at Mr. Kulash's comprehensive set of alternative solutions as well as other solutions that the public may now have to offer.

    Moreover, it is important to note that the Transportation Agencies will only be able to acquire construction permits for the LEDPA. Because the Improved ER2 alternative, like ER2, would result in significantly less environmental damage than construction of the Mid-Currituck Bridge, it will undoubtedly be the "least environmentally damaging" alternative. And where questions had previously arisen about the practicability of ER2,[211] the "Improved" alternative demands fewer large scale improvements and would therefore be less expensive than ER2.[212] As such, it is likely the LEDPA and should be given a thorough review.

    Response: *A SEIS is not needed. See Section 3.0 in the Reevaluation of Final Environmental Impact Statement report. See the response to the commenter's comment 26 regarding how this reevaluation addresses Mr. Kulash's suggested alternative. The FEIS reevaluation rigorously explored and objectively evaluated all reasonable alternatives. This reevaluation reconsidered FEIS detailed study alternatives ER2 and the Preferred Alternative. Reasons are provided for why MCB2, bridge corridor C2, and mainland approach option B do not warrant revisiting in Section 1.2. For alternatives eliminated from detailed study, the reasons for elimination were revisited, in part taking into consideration the concerns raised by the commenter. See the response to the commenter's comment 25 regarding the FEIS Preferred Alternative as a LEDPA.*

28. **Comment: Ferries.** In addition to taking a hard look at the Improved ER2 alternative, the Transportation Agencies should use a Supplemental EIS to take a hard look at alternatives that have not yet been adequately reviewed, and should conduct their review based on up-to-date accurate data.

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[208] Strategic Transportation Investments Act, N.C. GEN. STAT. § 136-189 (2016).
[209] McIntyre Deposition (Exhibit 93).
[210] See Section III, above.
[211] The question of practicability is discussed more above in Section III.
[212] Kulash Report at 14–16 (Exhibit 2).

Throughout the NEPA analysis, the Transportation Agencies have failed to conduct a reasoned analysis of ferry alternatives. This is despite the fact that the former NC Secretary of Transportation stated publicly that ferries should be considered in lieu of the Bridge.[213] As noted below, ferries should be considered not just as a stand-alone alternative, but as part of a combined solution to meet the stated purpose and need. The Draft Reevaluation cites the Alternatives Screening Report and states that the ferry alternative was not selected as a detailed study alternative because it would require dredging acres and the disposal of 14.5 million cubic yards of dredged material.[214] The Alternatives Screening Report does not, however, specify what type of ferry technology was assumed in arriving at those figures. Instead, the report states: "The Ferry Alternatives use equipment and has operating characteristics similar to the current ferry service operated by NCDOT which, because of NCDOT's many years of experience in operating ferry service in North Carolina, *is assumed* to have the equipment and operating characteristics best suited for North Carolina waters."[215] Rather than assuming NCDOT is presently using the best and most appropriate equipment, the Transportation. Agencies must conduct a complete analysis of ferries that incorporates the latest shallow draft ferry and hovercraft technology.

While it is true that Currituck Sound is shallow, ferries and hovercrafts do exist that are capable of navigating in as little as five feet of water.[216] For example, the company Sea Transport designs ferries with drafts less than five feet capable of carrying over thirty vehicles at speeds of up to 18 knots.[217] Nichols Brothers Boat Builders has developed similar technology.[218] Indeed, NCDOT in the Stakeholder Involvement report did not dispute that ferry technology may exist that would require no dredging whatsoever.[219] Further, as we noted in our comments on the FEIS, suitable ferry routes might be mapped by using readily available nautical charts and bathymetry data that indicate water depths throughout Currituck

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[213] *See* "New NCDOT boss talks bridges, ferries, U.S. 64," The Outer Banks Voice (Feb. 15, 2013), available at http://outerbanksvoice.com/2013/02/15/new-transportation -boss-talks-obx-bridges-surfing/ (last visited December 14, 2016) (Exhibit 119).

[214] *See* Draft Reevaluation at 45 (Exhibit 1).

[215] Alternatives Screening Report for the Mid-Currituck Bridge at 46 (2009), (emphasis added), available at https://connectncdot.gov/projects/MidCurrituckBridgeDocuments/Alternatives%20Screening%20Report%20October%202009.pdf (Exhibit 120) [hereinafter 2009 Alternatives Report].

[216] *See* www.seatransport.com/ferries/ (Exhibit 121)*; see also* Letter from Clarence Coleman to L. Winslow (November 28, 2011) (Exhibit 122).

[217] www.seatransport.com/ferries/ (Exhibit 121).

[218] www nauticexpo.com/prod/nichols/product-21674-230951 html (Exhibit 123).

[219] Stakeholder Involvement for FEIS at 3-7 (Exhibit 103).

Sound.[220] The Knotts Island Ferry that operates in the northern Currituck Sound between Knotts Island and Currituck demonstrates the feasibility of developing suitable ferry routes.[221] Ferry terminals for these options could financially boost Aydlett and other mainland towns without the impacts to community cohesion, visual impairments, and environmental destruction associated with construction of a new bridge.

In sum, the Transportation Agencies have failed to perform a comprehensive, up-to-date study of ferry alternatives. The very limited analysis of ferries that does appear remains based on a 1991 study. Reliance on two-decade old, outdated information when new data is readily available has been held to be arbitrary and capricious.[222] The Transportation Agencies should a Supplemental EIS to take a hard look at all alternatives, including ferry alternatives, based on recent reliable data and information about new low-draft, high-speed, high capacity ferries, that gives a true picture as to how ferries may fit into a larger comprehensive set of solutions.

> ***Response:*** *As documented in the Alternatives Screening Report (October 2009), the Ferry Alternative was assessed in terms of its travel benefits both as a stand-alone alternative and with capacity and hurricane evacuation improvements. This assessment of travel benefits is revised to reflect the new traffic forecasts in Section 3.3.7.8 of this reevaluation study report.*
>
> *This reevaluation study report addresses in Section 3.3.7.3, the opportunities offered by ferries built by other manufacturers, including draft, speed, and capacity. This includes the two manufacturers noted in the comment above. Note that NCDOT's new River Class ferry has a draft of 4.5 feet. It is assumed in the new ferry reevaluation. Draft is measured when the boat is loaded with vehicles and not moving. As discussed in Section 3.3.7.5, even vessels with a 4.5-foot draft would require a 12-foot channel. The additional 7.5 feet of depth of water beneath the keel is needed for the vessel to perform at its peak speed. If the vessel hull is too close to the bottom of the channel, the increased water drag will slow down the vessel. This is true for both single hull (i.e. River Class) and catamaran ferries. There is no vessel currently manufactured that can operate in less than 5 feet of water. At that depth, wave action would cause the vessel to bounce on the bottom and the propulsion drive would stir the bottom causing bearing damage to the drive units. The National Oceanic and Atmospheric Administration nautical chart at www.charts.noaa.gov/OnLineViewer /12204.shtml consistently shows that the depth*

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[220] *See, e.g.*, NOAA Office of Coast Survey, *Chart 12207* (Oct. 2009), available at www.charts noaa.gov/OnLineViewer/12207.shtml (www.charts noaa.gov/PDFs/12207.pdf) (Exhibit 124).

[221] *See* NCDOT, North Carolina Ferry Routes, www.ncdot.gov/travel/ferryroutes/#0 (last visited Dec. 20, 2016) (Exhibit 125).

[222] *See* N. Plains Res. Council, Inc. v. Surface Transp. Bd., 668 F.3d 1067, 1086 (9th Cir. 2011).

of the water along the shoreline of Currituck Sound, as well as at many locations in the middle of the sound, as less than 5 feet deep.

The commenter is mistaken that the ferry terminals for these options could financially boost Aydlett and other mainland towns without the impacts to community cohesion, visual impairments, and environmental destruction associated with construction of a new bridge. In Aydlett, a ferry service that would provide the travel benefits documented in Table 4 of the Alternatives Screening Report and updated in Table 3-4 of this reevaluation study report would:

- *Introduce ferry traffic to the local road system unless an alternative access road is built with associated impacts is built, including a bridge across Maple Swamp like the bridge access road.*
- *Require 12 acres of land in Aydlett. The shoreline where the ferry docks would be placed is occupied either by homes that would be displaced or Narrow Shore Road that would need to be relocated.*
- *There would be visual impacts associated with the ferry parking lot and docks and noise impact associated with ferry operations on what is a residential and farming community.*

Further, input received from the county and the community has been clear that there is no interest in an alternative that would induce economic development or bring Outer Banks visitor traffic into Aydlett. This is why NCDOT has never proposed a bridge alternative where traffic to the Outer Banks could access the bridge from Aydlett or where traffic from the Outer Banks could exit the bridge in Aydlett. The DEIS assessed what was called Option B that put local Aydlett traffic on the bridge approach road. It includes provisions for Aylett traffic to exit the approach road before a toll plaza in Aydlett and enter the approach road after the toll plaza. The toll plaza was placed in Aydlett. This alternative was met with strong objections by Aydlett residents and Currituck County officials. There is no reason to believe that the presence of a ferry terminal or ferry traffic in Aydlett and associated impacts would be acceptable to Aydlett residents or the county.

The area of land on the west side of NC 12 at the Preferred Alternative's Outer Banks terminus is 6.9 acres. The Outer Banks terminus of the new ferry alternative would require 12 acres. The purchase of the additional 5.1 acres would affect either part of Phase I of Corolla Bay to the north or the northern end of Monteray Shores to the south. Like in Aydlett, there would be visual impacts associated with the ferry parking lot and docks and noise impact associated with ferry operations on what is a residential community.

29. **Comment: Staggered Check Outs.** The Currituck Outer Banks include a substantial number of vacation rental properties that commonly rent by the week, with their

peak use being in the summer (June to August). Currently, the vast majority of these property rentals turn over occupancy on Saturdays. As a result, congestion is extremely high on Saturdays during the summer as tens of thousands of tourists attempt to check into their properties, while others are attempting to leave. Additional traffic comes from the hundreds of workers involved with the switch-over as they clean and otherwise manage the properties. In 2009, 70% of turnovers were on Saturdays, 25% on Sundays, and 5% on Fridays.[223] No more recent data is available from the Transportation Agencies.

Staggered check outs would better spread out rental turnover days throughout the week and alleviate heightened weekend congestion, particularly on Saturdays. The Draft Reevaluation demonstrates why staggered check outs would be effective. Summer weekend traffic is currently much worse than summer weekday traffic. In 2015, the entire road network operates at LOS A- D on summer week days.[224] It is only on summer weekends that portions of NC 12 and the Wright Memorial Bridge slip to LOS E and F. The Transportation Agencies do not provide a break-down of traffic between Saturdays and Sundays, but anecdotally we have been informed that the worst congestion is typically limited to Saturdays.

With the Transportation Agencies' new projections for future traffic, a similar picture emerges. During the week US 158 is projected to remain at LOS A-D even by 2040. It is only on summer weekends that it is anticipated to slip to LOS D. Extremely congested conditions, i.e., LOS F (V/C >1.3), south of Duck and on the Wright Memorial Bridge are also only anticipated to occur on summer weekends. As a result, much of the purpose and need that is attempted to be addressed by construction of the Bridge, as articulated in the Draft Reevaluation, is limited to congestion found on summer weekends.

The Transportation Agencies' only look at a "shifting rental times" alternative was in the Alternatives Screening Report in 2009. In this report, the Transportation Agencies looked at how traffic would function if rental change-over-days were shifted to an even distribution on Fridays, Saturdays and Sundays. The Transportation Agencies did not consider further expanding this analysis to include other week days. The Transportation Agencies' 2009 analysis found that shifting to this even, three day distribution would result in a 28% reduction in the miles of road operating at LOS F during summer weekend days. This analysis was based on the old traffic forecasts and has not been updated.

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[223] 2009 Alternatives Report at 37–38 (Exhibit 120).

[224] Draft Reevaluation at 33, Figure 4 (Exhibit 1).

Despite the significant reduction in congested VMT that this very low-cost solution could effectuate, the Transportation Agencies rejected the alternative by minimizing its impact.[225] Rather than focus on its ability to alleviate congestion during the most congested times of the year, the Transportation Agencies averaged out the alternative's impact over the entire summer and the entire year.[226] Because the solution, by design, would not have any impact on week days, the Transportation Agencies determined that overall its impact on congestion would be minimal.[227] This surprising conclusion overlooks the fact that the congestion problem the Bridge is intended to address occurs not throughout the year, or throughout the summer, but almost exclusively on summer weekends. The Transportation Agencies' lack of candor about the potential success of such a solution was further compounded because all future NEPA documents simply included the assertion that the alternative was eliminated because it would have just 1%, or a "minimal", impact on congestion.[228] The larger, 28% impact on summer weekend congestion was excluded.[229]

The Transportation Agencies must publish a Supplemental EIS that takes hard look at this alternative. First, the Transportation Agencies must re-visit the alternative in light of changed projections of traffic and socio-economic growth. Second, the Transportation Agencies must expand the alternative so that it looks at shifting some rental change overs to weekdays, Monday-Thursday. Third, the Transportation Agencies must express clearly in the EIS how this solution will assist with peak days of congestion on summer weekends and not dilute the impact of the alternative by considering its impact across an entire year. Fourth, as discussed further below, the Transportation Agencies must consider how this alternative will work in combination with other alternative solutions to meet the purpose and need established by the Transportation Agencies.

As they re-study the shifting-rental-times alternative, the Transportation Agencies should also consider how evolving vacation habits may make this solution more workable than it may have been in 2009.[230] Anecdotal evidence from property

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[225] 2009 Alternatives Report at 37-38 (Exhibit 120).

[226] *Id*.

[227] *Id*.

[228] DEIS at 2-40; FEIS at 2-53; Draft Reevaluation at 44 (Exhibit 1).

[229] *Id*.

[230] Numerous Outer Banks Rental companies now offer Friday and Sunday rentals in addition to the more traditional Saturday rentals and/or encourage people to start their rental on Friday or Sunday in order to avoid traffic. *See, e.g.*, Sun Realty, www.sunrealtync.com/friday-friday-rentals-on-the-outer-banks (last visited Dec. 14, 2016) (Exhibit 126); Southern Shores Realty, www.southernshores.com/friday-to-friday-rentals, (last visited Dec. 14, 2016) (Exhibit 127); Rent A Beach, www.rentabeach.com/friday-to-friday html, (last visited Dec. 14, 2016) (Exhibit

owners who rent houses in the Outer Banks suggest that rental switch over times may be starting to shift independently of any policies. According to these property owners, there is an ongoing switch from the traditional property rental companies to companies like VBRO who offer more flexible rental arrangements. This shift is in accordance with market preferences and the changing way that people work and vacation.[231] People are increasingly looking for shorter stays, and booking their vacations later in the season.[232]

Even if some reluctance remains on the part of rental home owners to switch away from the Saturday to Saturday rental market, one way to potentially implement this alternative would be to provide monetary incentives for rental companies willing to make the shift. Such a program would be significantly less costly as well as less destructive to the environment than the construction of a $600 million Bridge.

> ***Response:*** *Section 3.3.4 of this reevaluation study report revisits the potential travel benefits of shifting rental times, including use of the new 2040 traffic forecasts, 2016 HCM, and the assumption that rental start times were spread out evenly over seven days per week. The viability of shifting rental times as a reasonable alternative also is discussed, including the use of monetary incentives. It remains an unreasonable alternative.*
>
> *The generation of congested annual VMT numbers involved no averaging. It is sum of all miles traveled under congested conditions by each vehicle over the course of the year.*

30. **Comment. Small-Scale Solutions.** The Transportation Agencies should also use a Supplemental EIS to consider how a number of small scale solutions could play a role in augmenting mobility and reducing congestion. A shuttle service along NC 12

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128); Atlantic Realty of the Outer Banks, www.atlanticrealty-nc.com/vacation-rentals/fridaycheck-ins (last visited Dec. 14, 2016) (Exhibit 129); Rent A Beach, www.rentabeach.com/sunday-tosunday.html, (last visited Dec. 14, 2016) (Exhibit 130); Beach Realty & Construction, www.beachrealtync.com/sunday-turnover-outer-banks-rentals (last visited Dec. 14, 2016) (Exhibit 131).

[231] Kipp Taban, *"There's Something Strange Going On This Year"*, OUTER BANKS SENTINEL (Aug. 30, 2016) *available at* www.obsentinel.com/news/there-s-something-strange-going-on-this-year/article 120cecbc-58c5-11e6-b524-cb2aaa8299c6.html#.V6DQVOFxgOE.facebook (Exhibit 132); Independent Traveler, Vacation Tips, *available at* www.independenttraveler.com/travel-tips/hotel-and-b-and-b/vacation-rentals-right-for-you (last visited Dec. 14, 2016) (Exhibit 133); Holiday Lettings, Flexible Changeovers, *available at* www.holidaylettings.co.uk/resources/owner-advice/managing-rentals/flexible-changeover-days/a-1-32-1659/ (last visited Dec. 14, 2016) (Exhibit 134).

[232] *Id*.

could help alleviate some of the traffic that stems from tourists taking outings. The linear nature of the OBX makes it particularly suited to such a service. Similarly, improved bike and pedestrian facilities could help take cars off the roads while also providing needed safety improvements and an economic boon to the tourist economy. Many suggestions for the types of public transportation solutions that should be explored were catalogued in 2006.[233] This study should be updated and considered in the context of a comprehensive transportation solution for the Northern Outer Banks that does not include the Mid-Currituck Bridge.

Several other solutions for summer congestion relief were discussed at a meeting between the Transportation Agencies and Currituck County in December 2014.[234] These solutions, including the promotion of alternative routes, the use of police officers, better signage, and the use of ferry and bus shuttles should all be expanded and considered as part of a comprehensive set of alternatives to the Bridge. Follow-up meetings were held again in February 2015, and in spring of 2016.[235] A number of additional small-scale improvements were suggested during those meetings, and some success was noted from their implementation.[236] The Currituck Chamber also has recommendations as to how to improve traffic flow.[237]

The Transportation Agencies recently employed a similar non-traditional approach to improving congestion with the Fortify project in Wake County.[238] In order to alleviate congestion during multi-year construction, NCDOT increased public transit, working with local businesses to alter commuting patterns and employing a heavy use of social media to encourage the use of alternative routes, non-peak travel, and non-highway transportation. [239]

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[233] Jud Lawrie and Thomas Cook, FINAL REPORT, OUTER BANKS TRANSPORTATION STUDY (Feb. 2006) (Exhibit 135).

[234] Email from Donna Creef, Dare County Planning Director, to Bobby Outen Dare County Manager (Dec. 16, 2014) (Exhibit 136).

[235] Email from Jerry Jennings, NCDOT, to Jason Davison and Anthony Roper, NCDOT (Apr. 21, 2016) (Exhibit 137).

[236] Email from Paul O'Neal to Peter Rascoe (Apr. 22, 2016) (Exhibit 138).

[237] Currituck Chamber Talking Points (Sep. 29, 2015) (Exhibit 139).

[238] NCDOT, *Fortify* website, www ncdot.gov/fortifync/ resources/docs/Fortify FAQ.pdf (last visited Dec. 16 2016) (Exhibit 140).

[239] NCDOT, *Fortify Powerpoint Presentation*, *available at* http://ncdot.gov/fortifync/ resources/docs/NCDOTPowerPointFORTIFY1182013.ppt (Exhibit 141); NCDOT, *Fortify: Driver Information*, *available at* http://ncdot.gov/fortifync/driver-info/ (Exhibit 142); Dawn Curry, *Massive I-40/440 rebuild means Raleigh must 'Fortify' through 2016*, TRIANGLE BUSINESS JOURNAL (Oct. 28, 2013) (Exhibit 143); Bruce Siceloff, *Road Worrier: NCDOT says not to worry about 3 years of Beltline misery – be happy!*, NEWS & OBSERVER (Oct. 28, 2013) (Exhibit 144).

Response: *This reevaluation study report revisits the Bus Transit Alternative in Section 3.3.6.*

In terms of bicycle facilities, Southern Shore and Duck already provide for pedestrians and cyclists in the project area along the length of US 158 and NC 12, consisting of a multi-use trail except in the Duck commercial area where there is a wide paved shoulder. Currituck County has a multi-use trail along most of the length of NC 12.

The ferry alternative is revisited in Section 3.3.7 of this reevaluation study report, including a combination of the ferry alternative and ER2.

The meeting between the Transportation Agencies and Currituck County in December 2014 was held and the "Wright Memorial Bridge Reduction Initiative Group" referenced by the commenter was formed primarily to identify short-term opportunities to mitigate to the extent possible existing traffic congestion until a long-term solution, such as STIP project R-3419 (access improvements on US 158 from the Wight Memorial Bridge to US 64) and the two alternatives examined in this reevaluation ER2 and the Mid-Currituck Bridge. There was no expectation that they would be a part of a long-term solution.

There are no alternate through routes to NC 12 with one exception. Two alternatives to NC 12 existing between US 158 and East Dogwood Trail, a distance of 2.3 miles of the 5.4 miles of NC 12 proposed for the addition of a center turn lane with the ER2 revised design. There are two ways to reach East Dogwood Trail from US 158. Juniper Trail and South Dogwood Trail both intersect with US 158 and offer a route to East Dogwood Trail and then NC 12. The streets are local neighborhood streets and not designed for through traffic. They are not state maintained roads but are maintained by the Town of Southern Shores. The routes are circuitous. Southern Shores actively discourages the use of these local streets by through traffic via speed bumps, signage, and police enforcement. Any through traffic using these local streets still have to return to NC 12 in a highly congested area. The original and revised ER2 US 158 superstreet designs to not provide full signalized intersections at these streets. To do so would reduce the capacity of the US 158 improvements. Added traffic turning between NC 12 and East Dogwood Trail would contribute to congestion on NC 12. For these reasons, promoting and/or improving one or both routes to carry through travelers is not a reasonable option.

While encouraging Outer Banks visitors coming from the north to enter the Outer Banks from US 64 rather than US 158, is a worthy short-term program, its success depends on heavy congestion on US 158 in the project area to provide an incentive for visitors coming from the north to take the longer and more circuitous route of US 64. Thus, it is not a reasonable long-term approach to substantially reducing congestion in the project area.

Manned traffic control can be useful for short periods of time where there are specialized events or opportunities when there is a one- to two-hour spike in traffic. In the summer, congestion in the project area occurs over many hours. Thus, it is not a reasonable long-term approach to substantially reducing congestion in the project area.

The Fortify project was the rebuilding of I-40/I-440 on the south side of Raleigh. The purpose of the programs mentioned by the commenter was to divert some peak period commuters to other routes and transit during the rebuilding of I-40 in south Raleigh when the number of travel lanes was reduced to six. It was considered successful in terms diverting traffic to alternative routes during the time when the capacity of I-40/I-440 was reduced by construction. The bus service added by the Fortify had low ridership. The program was to meet a short-term need and was discontinued when the I-40/I-440 project was completed. Basically, the program made widely known other routes and other ways to avoid the additional peak period congestion when drivers were motivated by that congestion to seek alternatives. When construction ended, the motivation to seek alternatives ended and so did the Fortify program that was taking advantage of that motivation.

31. **Comment: Combinations of Alternatives.** The Transportation Agencies' analysis of the Bridge has been flawed from its inception because it fails to look at how combinations of alternative solutions can work together to meet the purpose and need. *See Rankin v. Coleman*, 394 F. Supp. 647, 657-59 (E.D.N.C. 1975). For example, the Transportation Agencies dismissed alternatives such as ferries and shifting rental times because, standing alone, the Transportation Agencies argued they would not meet the established purpose and need. In the Supplemental EIS, the Transportation Agencies must consider how a combinations of smaller scale solutions, including those set out in Improved ER2, can work together to meet the project need.

    Response: *This reevaluation study report considers a composite alternative in Section 3.3.9. The composite alternative is a combination of ER2 road improvements, shifting rental times evenly over the summer week, bus transit, and a ferry. It was found that adding these various alternatives together would result in additional travel benefits over any single alternative, but the difference would be small. When one also considers the cost of operating a ferry system (Section 3.3.7.7), the notable community and dredging impacts of a ferry system (Section 3.3.7.5), and that shifting rental times is not reasonable to implement (Section 3.3.4), as well as the potential cost of operating a bus system, the Composite Alternative is not a reasonable alternative.*

VI. IMPACTS ANALYSIS

32. **Comment: Direct Impacts.** As detailed in our previous comments, construction of the Mid-Currituck Bridge will result in a number of harmful direct impacts to the

natural environment. Draining and fill of wetlands to make way for the proposed bridge will reduce habitat for waterfowl and their food sources. The Bridge will create 71.5 acres of additional impervious surface, and runoff from the Bridge will pollute the waters used by waterfowl, fish and other species. Increased traffic that will accompany the Bridge will increase bird-vehicle collisions, and increased noise and visual disturbance is likely to disrupt waterfowl and potentially cause sensitive species to abandon the area. Shading from the bridge will directly impact existing areas of SAV, and areas of potential future establishment, reducing important fish spawning habitat in the Currituck Sound. Construction may also introduce a range of invasive species into the Sound, including plants such as Phragmites, which are extremely difficult to eliminate. Any discussion of the impacts that is included is overly general in nature and falsely minimizes the effects that these impacts will have on the sensitive resources in the project area, particularly when considered in combination.

In our 2012 comments on the FEIS,[240] we noted that the Transportation Agencies had spent time working with resource agencies to minimize some of the direct environmental impacts of the Bridge. We specifically approved of the decision to bridge Maple Swamp and the commitment to construct the bridge without any dredging and with a moratorium placed on construction during fish spawning. We also, however, noted that these improvements do not change the fact that overall the bridge will result in devastating direct impacts to the Currituck Sound. The FEIS' insufficient analysis of these effects violates NEPA and a Supplemental EIS must be completed to adequately address these impacts.

> ***Response:*** *In the FEIS the draining and draining and fill of wetlands is addressed in Section 3.3.6; additional impervious surface and runoff are addressed in Section 3.3.1.4; water quality is addressed in Section 3.3.1; bird-vehicle collisions are addressed in Section 3.3.3.2; noise and visual disturbance to waterfowl are addressed in Section 3.3.4.4; submerged aquatic vegetation (SAV) impacts are addressed in Section 3.3.7.2; and invasive species addressed in Section 3.3.5. As needed, this material is updated in Section 4.3 of this reevaluation study report to take into consideration the revised designs and new information available since the release of the FEIS.*
>
> *The FHWA and NCDOT disagree with the commenter that the impact assessment is overly general in nature and falsely minimizes the effects that these impacts will have on the sensitive resources in the project area, particularly when considered in combination. The natural resource issues raised by environmental resource and regulatory agencies responsible for enforcing state and federal laws and regulations were addressed in the DEIS. Resource and regulatory agency concerns remaining*

[240] Letter from David Farren to Jennifer Harris at 10 (Mar. 12, 2012) (Exhibit 116).

related to avoidance, minimization, and mitigation of natural resource impacts were addressed in the FEIS or will be addressed during the permit process or other required consolation and coordination processes.

33. **Comment:** There has never been a dispute about the unique and valuable nature of the Sound. As stated by a DCM official, "review agencies . . . recognize the sound as one of the most valuable estuaries on the coast."[241] For decades resource agencies have strongly emphasized how the Bridge would harm the Currituck Sound. As summarized in section I, above, ever since the publication of the initial DEIS in the mid-1990s, resource agencies have noted the impact the bridge would have on wetlands, SAV, water quality, and fish and waterfowl in the Sound. These concerns remain and, if anything, are now stronger because of growing pressures on the Sound.

    Development of the Northern Outer Banks over the past several decades has deteriorated the water quality of the Currituck Sound. Turbidity in the Sound has increased, SAV has decreased, and the overall health of the ecosystem has declined considerably.[242] Fish and waterfowl populations have been harmed, with the waterfowl population dropping sharply from a peak of 305,000 birds in 1976 to a current estimated average of 25,000.[243] At least five fish species have disappeared entirely from the sound since the 1960s.[244] This degradation prompted the Corps to initiate a Currituck Sound Ecosystem Restoration Feasibility Study.[245] According to the Corps' Scoping document for this project, "the decline in water quality from residential development, agriculture, and dredging activities has left the sound in an impaired state."[246] A major purpose of this project was to study water quality and

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[241] Email from Donna Moffitt to Charles Jones and Doug Huggett (Aug. 29, 2000) (Exhibit 145).

[242] CURRITUCK SOUND ESTUARY RESTORATION; A CASE STUDY IN OBJECTIVE SETTING, by S. Kyle McKay, Charles R. Wilson, and Douglas Piatkowski (Nov. 2012), *available at* http://acwc.sdp.sirsi.net/client/search/asset/1013340 (last visited Dec. 14, 2016) (Exhibit 146); *see also* CURRITUCK SOUND ECOSYSTEM RESTORATION STUDY, FEASIBILITY SCOPING MEETING, SEPTEMBER 2, 2011, U.S. Army Corps of Engineers, *available at* www.saw.usace.army.mil/Portals/59/docs/ecosystemrestoration/Currituck%20FSM%20presentation%208.30.11.pdf (last visited Dec. 14, 2016) (Exhibit 147).

[243] CURRITUCK SOUND ECOSYSTEM RESTORATION STUDY, FEASIBILITY SCOPING MEETING, SEPTEMBER 2, 2011, U.S. Army Corps of Engineers, *available at* www.saw.usace.army.mil/Portals/59/docs/ecosystemrestoration/Currituck%20FSM%20presentation%208.30.11.pdf (last visited Dec. 14, 2016) (Exhibit 147).

[244] *Id*.

[245] *See Corps Plans Study to Restore Currituck Sound Ecosystem*, DAILY ADVANCE, by Cindy Beamon (Sep. 30, 2010) (Exhibit 148).

[246] CURRITUCK SOUND ECOSYSTEM RESTORATION STUDY, FEASIBILITY SCOPING MEETING, SEPTEMBER 2, 2011, U.S. Army Corps of Engineers at 39, *available at*

SAV decline and to take action to restore water quality and SAV habitat.[247] While this project was never implemented, a new effort to study the Currituck Sound has been put in place to study environmental stresses on the Sound.[248] EPA has also expressed concern over the current state of the Sound[249] and, as WRC has previously stated, "[i]t is essential to ensure that the implementation of this project does not contribute to the continued decline of the Currituck Sound ecosystem."[250]

Against this backdrop of concern for the health of the Sound, the Transportation Agencies are proposing to build a bridge that would exacerbate the very problems the Corps has previously sought to address. The Bridge would add 71.5 acres of impervious surface, shade 8.7 acres of SAV habitat and potential SAV habitat, and fill 7.9 acres of wetlands.[251] In its presently weakened state, the Sound cannot afford the stress of 7.5 mile long and 50 feet wide bridge. State and federal resource agencies agree.

> ***Response:*** *Currituck Sound, like other major sounds in North Carolina and along the east coast, is a unique and valuable resource. The concerns and issues expressed in this comment, as well as potential direct, indirect, and cumulative effects from this project, including those to Currituck Sound, have been acknowledged, evaluated, and addressed in detail in the FEIS and supporting documents. The primary source "Currituck Sound Ecosystem Restoration Study, Feasibility Scoping Meeting, September 2, 2011" (U.S. Army Corps of Engineers, September 2011) cited in the comment indicates that many of the factors affecting the sound are the result of a complex interaction of anthropogenic and natural sources.*
>
> *The comment fails to acknowledge this complex interaction. The presence/absence of inlets, influences from other coastal processes (i.e., overwash), climate change, and storms all have greatly affected the changing water chemistry/quality of the sound. Many of the former fish and wildlife populations were associated with the presence of non-native, invasive Eurasian Watermilfoil, which was prevalent in the 1960s but has since declined; the abundance of that species is often cyclic. The same primary*

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www.saw.usace.army.mil/Portals/59/docs/ecosystemrestoration/Currituck%20FSM%20presentation%208.30.11.pdf (last visited Dec. 14, 2016) (Exhibit 147).

[247] *Id*.

[248] *Corps project is taking the pulse of the Currituck Sound*, by Catherine Kozak, outerbanksvoice.com (Jan. 21, 2016), *available at* http://outerbanksvoice.com/2016/01/21/corps-project-is-taking-the-pulse-of-the-currituck-sound/ (last visited Dec. 14, 2016) (Exhibit 149).

[249] Appendix C, USEPA Agency Letter (Apr. 15, 2011) on Stormwater Management and FHWA/NCTA Response at C-6 (Exhibit 150).

[250] Memorandum from Travis Wilson to Melba McGee (Feb. 27, 2012) (Exhibit 151).

[251] FEIS at Table S-1.

source cited in the comment indicates that water quality of Currituck Sound is better than previously presented.

Regarding key concerns affecting water quality of the sound, the FEIS Preferred Alternative would, as documented, contribute new impervious surface and shade over Currituck Sound. The project has been placed to avoid and minimize impacts to wetlands and SAV that are important factors affecting the water quality of the sound, and mitigation would be provided as required to offset and minimize adverse impacts.

34. **Comment:** Before the FEIS was issued NCTA summarized the concerns of various resource agencies with how stormwater runoff had been addressed in the DEIS:[252]

USEPA

- Noted that the DEIS does not fully address the fact that water quality in Currituck Sound has declined substantially in the last several decades primarily due to an increase in turbidity and nutrient loading from non-point source runoff.
- Stated concern for degradation of water quality in Currituck Sound.
- Stated that a full collection and treatment system is needed for any of the bridge alternatives.

NMFS

- Recommended that a stormwater management plan be a high priority in the project design and stated the need for a concerted effort to address runoff from a new bridge.
- Noted a need to provide additional treatment to a portion of the existing runoff into the Sound as well as full treatment of all new runoff from the proposed highway improvements.

NCDENR-DCM

- Requested more detail regarding stormwater management.
- Noted need for revised stormwater management design.

NCDENR-DWQ

[252] Email from Tracy Roberts to Matthew Lauffer (Jun. 23, 2010) (Exhibit 152).

- Was concerned with the effects on benthic macroinvertebrates, SAV, fish and wildlife, and overall water quality of untreated stormwater runoff from the bridge.

- Stated that in order to obtain a 401 Water Quality Certification, the NCTA will have to provide reasonable assurance to DWQ that the associated water protection criteria are met.

- Noted that details on the characteristics, location, and impacts of off-site bridge water treatment components are needed.

- Noted that an operation and maintenance agreement would be needed for stormwater treatment using deck filters and perhaps some detention basin options.

The FEIS did not adequately address these concerns, stating simply that a stormwater management plan will be created in the future and that water quality in the Sound will be "monitored."[253]

The resource agencies also have consistently stated concerns regarding the bridge's impact on SAV habitat, dredging, stormwater management, and impacts to SAV from bridge shading and pile driving.[254] Indeed, NCDMF stated its opposition to the preferred alternative largely because of its impact on SAV,[255] and agencies have stated a strong preference for in-kind mitigation for SAV instead of other proposed measures.[256] Agencies have also expressed doubt over the Transportation Agencies' proposed solutions to address direct impacts of the bridge, including the proposed

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[253] FEIS at 2-30.

[254] CDG Mid-Currituck Bridge Project LEDPA Achievement Process, Submerged Aquatic Vegetation (Apr. 2011) (Exhibit 153); Survey of the Submerged Aquatic Vegetation in the Proposed Alignment for the Mid-Currituck Bridge, A Report to the North Carolina Turnpike Authority (Oct. 29, 2010) (Exhibit 154); Letter from Kevin Hart to Melba McGee (Feb. 23, 2012) (Exhibit 155); *see also* Memorandum from Charles Owens to Cathy Brittingham (Mar. 5, 2012) at 12-13 (Exhibit 156); Letter from David Wainwright to Jennifer Harris (Nov. 29, 2010) (Exhibit 157); Letter from Doug Huggett, Major Permits and Consistency Coordinator, DCM, to Melba McGee, Environmental Coordinator, NCDENR (Mar. 5, 2012) (Exhibit 158); Turnpike Environmental Agency Coordination Meeting at 3-4 (Jan. 20, 2011) (Exhibit 159); Letter from Gregory Hogue to Jennifer Harris (May 25, 2010) (Exhibit 160).

[255] Letter from Kevin Hart to Melba McGee (Feb. 23, 2012) (Exhibit 161); *see also* NCTA Meeting Summary (Apr. 6, 2011) (noting that agencies had raised SAV as an issue) (Exhibit 162).

[256] NCTA Meeting Summary (Apr. 6, 2011) (Exhibit 162); *see also* TEAC Meeting Minutes (Jul. 8, 2008) (Exhibit 163).

stormwater management plan.[257] As stated by NCWRC, "the impacts associated with the preferred alternative are substantial and continued efforts to avoid and minimize impacts are necessary."[258]

> ***Response:*** *The bridge project cannot proceed without a stormwater management plan acceptable to the environmental resource and regulatory agencies. The customary time for developing the details of such a plan is during the permit process. A comparison of Section 2.1.7 of the DEIS with Section 2.1.7 of the FEIS shows that between the DEIS and the FEIS stormwater management planning was substantially advanced. The additional stormwater management planning was done in association with state and federal environmental resource and regulatory agencies. Additional possible approaches are included in Section 1.3.4 of the* Study Report. *Finalizing a stormwater management plan will occur after the release of the ROD.*

35. Comment: In addition to these long-standing concerns, USFWS has also expressed concern about bird-vehicle collisions, and has stated that it would like to see avoidance measures put in place.[259] In particular, USFWS noted that the California Department of Transportation plans to utilize a 14' tall bird rail/fence design that will force migratory birds to fly over the traffic instead of through the line of traffic and suggested that a similar design could be utilized for the proposed MCB. USFWS had previously noted its concern about bird-vehicle collisions and other negative effects of the bridge on waterfowl when commenting on the DEIS.[260] In those comments, FWS noted that "[t]he evaluation of alternatives only included two sentences, in the entire DEIS, on how waterfowl may be affected . . . This level of analysis is inadequate to evaluate the alternatives for potential impacts to wintering and breeding waterfowl in the DEIS."[261] The Supplemental EIS must address this new information provided by USFWS, which is ignored in the Draft Reevaluation.

> ***Response:*** *In the context of addressing bird mortality on Phase I of the Bonner Bridge Replacement Project, NCDOT conducted a bird mortality study on bridges in the Outer Banks area, including the Wright Memorial Bridge, which crosses the southern end of Currituck Sound. The results are documented in a February 4, 2013 memorandum by NCDOT's Natural Environment Section. Data gathered from this study provided background data for bridge design considerations. Data from 25*

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[257] CDG, LEDPA Achievement Process, Stormwater Management (Mar. 2011) (Exhibit 164); *see* Preferred Alternative Report at 12 (Exhibit 165); Letter from Heinz Mueller to Jennifer Harris (Mar. 12, 2012), attachment A at 6-7 (Exhibit 166).

[258] Memorandum from Travis Wilson to Melba McGee (Feb. 27, 2012) (Exhibit 151).

[259] Email from Gary Jordan to Tracy Roberts (Feb. 6, 2012) (Exhibit 167).

[260] *See* Memorandum from Supervisory Wildlife Biologist to Gary Jordan (May 4, 2010) (Exhibit 168).

[261] *Id*.; *see also* Meeting Summary Notes on Wildlife Crossing Structures and Mid-Currituck Bridge Study (Jul. 30, 2009) (Exhibit 169).

surveys of these six bridges conducted between December 2011 and December 2012, showed an average of 27.4 dead birds per mile, with gulls (five species) comprising about 88 percent of the total mortalities. From this same referenced data set, an average of 11.1 dead birds per mile was found along the 2.8-mile-long Wright Memorial Bridge. Of the 31 total dead birds found along the Wright Memorial Bridge during this period, 26 (84 percent) were gull species and two were unidentified species. For the Bonner Bridge Replacement project, NCDOT and US Fish and Wildlife Service (USFWS) agreed that because gulls were the predominate species killed on area bridges that measures to reduce potential bird morality on the new bridge over Oregon Inlet were not needed. NCDOT has determined that the same conclusion is appropriate for a Mid-Currituck Bridge.

36. **Comment: Indirect and Cumulative Effects Analysis.** In our comments on the FEIS, we noted that the Transportation Agencies' analysis failed to provide a true "No-Build" scenario for purposes of analyzing indirect effects, but instead assumes the existence of the Bridge when forecasting the baseline of future development in the project area. The Draft Reevaluation doubles down on this flawed analysis, while also suggesting that reduced traffic forecasts further close the gap between a true "No-Build" scenario and a scenario where NCDOT's Preferred Alternative is constructed.[262]

    Regulations promulgated by the Council on Environmental Quality ("CEQ") require each EIS to include "the alternative of no action," 40 C.F.R. § 1502.14(d); § 1508.25(b)(1). This alternative must be presented in a comparative fashion so as to "sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public." 40 C.F.R. § 1502.14. A true "No-Build" scenario should present a clear picture of what would occur if the Mid-Currituck Bridge were not to be built. All impacts that result from building the Bridge should be based from this "No-Build" baseline and should be reported and analyzed accordingly.

    Response: *See the response to the commenter's comments 8 to 11 in the response to FEIS comments in Appendix B of this reevaluation study report. The responses to FEIS comments are published for the first time in this reevaluation. They typically would be presented in the ROD. No ROD has yet been released on this project. Updated information related to the impact on planned and expected development of the No-Build Alternative and ER2 is presented in Sections 2.8 and 4.6 of this reevaluation study report.*

37. **Comment:** The current FEIS and Draft Reevaluation do not follow this legally required approach. Rather than using a "No-Build" scenario as the baseline from

[262] Draft Reevaluation at 79-80 (Exhibit 1).

which to calculate impacts, the FEIS implicitly uses a "Build" scenario. The analysis of alternatives and impacts is based on a scenario that assumes "full build-out" of commercial and residential development[263] despite the fact that "full build-out" is only expected to occur if the bridge is constructed. Relying on this flawed baseline, the FEIS repeatedly reports that construction of a seven mile bridge out to a remote barrier island would result in *no induced growth or development on the barrier island*, while simultaneously reporting that failure to construct the bridge would inhibit development.[264] The FEIS states:

> For the NC 12-accessible Outer Banks, there would be no reasonably foreseeable change in the overall type and density of development with implementation of the detailed study alternatives, including the Preferred Alternative, compared to the No-Build Alternative. Negligible or no increase in the demand for houses and businesses throughout the Outer Banks resort area would be foreseeable over the No-Build Alternative.[265]

The FEIS then goes on to state, however, that the Bridge alternative would result in substantially more growth than the No-Build alternative. Specifically, it states that the No-Build alternative could result in 70 percent "build-out", and that the Bridge would result in 86 percent "build-out" in the region, but that the 86 percent build out should be considered the baseline.[266] As stated by an NCDOT employee, however, "It can be argued that the higher percentages of build-out . . . with the bridge alternatives are the induced changes of the study alternatives."[267]

> *Response: See the response to the similar comment 8 in the response to FEIS comments in Appendix B of this reevaluation study report. Since the development "baseline" used was planned and expected development, including full build-out in the NC 12 accessible area, a conclusion that the bridge would not induce development beyond that point is reasonable. As the commenter noted, the indirect and cumulative impact assessment in the FEIS did conclude that with the No-Build Alternative and ER2 would result in less than planned and expected development.*
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> *The NCDOT staff comment referenced by the commenters was a comment made on a review draft of the Indirect and Cumulative Effects (ICE) Technical Report. The*

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[263] *See, e.g.*, Stakeholder Involvement FEIS Technical Report at 3-12 (explaining that "the project's traffic forecasts assume full build-out of the NC 12-accessible Outer Banks north of US 158 in Dare and Currituck counties") (Exhibit 103).

[264] *See, e.g.*, Mid-Currituck Bridge, FEIS at 3-107 to 3-114; Stakeholder Involvement FEIS Technical Report at 3-11 to 3-13 (Exhibit 103).

[265] FEIS at 3-109.

[266] FEIS at 3-109.

[267] Herman Huang, Comment on INDIRECT AND CUMULATIVE EFFECTS TECHNICAL REPORT, at 6-5 (May 2011) (Exhibit 170).

commenter indicates that the difference in development levels between lower development levels of the No-Build Alternative and ER2 and higher levels of the Preferred Alternative should be considered development induced by the Preferred Alternative. However, the baseline of future development used for project planning is the "expected and planned for development" as expressed in the local Coastal Area Management Act (CAMA) plans. This development is the level of development assumed with the Preferred Alternative and other bridge alternatives. With this starting point, it was concluded in the indirect impact assessment that the induced change in development levels resulting from severe traffic would be the less than "expected and planned development" identified with the No-Build Alternative and ER2. This impact of this potential lower level of development was assessed in the indirect and cumulative impact assessment. The concern of the commenter that appropriate consideration of the impacts of different levels of development with the No-Build Alternative, ER2, and the Preferred Alternative are thus addressed in the indirect and cumulative impact assessment. This approach was discussed in the context of a conference call with the NCDOT commenter prior to the completion of the ICE Technical Memorandum and he agreed. Also, changes were made in the introduction to Section 4.2.3 and in Section 4.2.3.5 for the final ICE Technical Memorandum to further clarify the analysis approach.

38. **Comment:** Not only is the FEIS itself a self-contradictory document in this respect, but other documents prepared by the Transportation Agencies also repeatedly acknowledge that construction of the Mid-Currituck Bridge *will* encourage growth. For example, the 2011 Traffic and Revenue study states that construction of the bridge "could greatly facilitate the continued growth within the area."[268] The report explains that the bridge "will significantly increase the level of access to this key vacation destination."[269] Indeed, the report goes as far as to state that "the project presents a unique marketing opportunity to leverage the existing Outer Banks travel/tourism industry with tailored marketing strategies to highlight substantial travel time savings, cost savings, and increased accessibility to this beautiful and unique destination."[270]

    Thus, when it comes to examining environmental impacts, the Transportation Agencies would have us believe that construction of the Bridge would make not the

[268] Traffic and Revenue study at 2 (Exhibit 84); *see also* ACS Infrastructure Development, BRIDGE LENDERS' TRAFFIC CONSULTANT REPORT 3 (Oct. 2011) (Exhibit 85).

[269] *Id.* at 11.

[270] *Id*.

slightest of differences to development.[271] When attempting to justify the need for the project, however, or make clear that substantial toll revenues will be generated as a result of construction, the Transportation Agencies attest that construction of the Bridge is an important mechanism to facilitate tourism and additional development. These two contradictory positions cannot be reconciled. Moreover, it is clear which scenario is more likely. As we explained in our comments on the DEIS,[272] the idea that transportation improvements encourage growth and development in areas that were previously difficult to access is nothing new and has been carefully documented by transportation experts[273] and recognized by the courts.[274]

> ***Response:*** *As indicated in response to the commenter's comment 9 on the FEIS. The FEIS was prepared independent of the Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts (Currituck Development Group, July 2011). Irrespective of the words chosen by the firm that prepared the study, the planned and expected development levels assumed for the FEIS traffic forecasts and the July 2011 traffic and revenue forecast are consistent with only about a 2 percent difference. The traffic forecasts in the FEIS assumed 13,122 units in 2035, whereas the July 2011 forecast assumed 13,376 units in 2035.*
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> *It is noted that none of the three examples from the study provided in the comment conclude that the bridge would encourage growth beyond what is planned and expected. The first example says that the bridge will facilitate continued growth, which is in keeping with the finding of the indirect and cumulative impact assessment that with the No-Build Alternative and ER2 growth would be constrained from what is planned and expected. Furthermore, the full sentence on page 2 of the report states: "The new bridge could greatly facilitate the continued*

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[271] Consultants for the Transportation Agencies have, however, noted that the Bridge will lead to increased beach driving in Carova. *See* Email from Daniel Marcucci to John Page and Katharine Braly (Apr. 18, 2011) (Exhibit 171).

[272] Stakeholder Involvement FEIS Technical Report at C7-C10 (Exhibit 103).

[273] *See, e.g.,* Robert B. Noland, A Review of the Evidence for Induced Travel and Changes in Transportation and Environmental Policy in the United States and the United Kingdom, (Feb. 2001) *available at* www.researchgatenet/publication/222574378_A_review_of_the_evidence_for_induced_travel_and_changes_in_transportation_and_environmental_policy_in_the_US_and_the_UK (Exhibit 172); Gilles Duranton and Matthew A. Turner, The Fundamental Law of Road Congestion: Evidence from US cities, American Economic Review, American Economic Association, vol. 101(6) (Oct. 2011) (Exhibit 173).

[274] *See, e.g.*, *Mullin v. Skinner*, 756 F. Supp. 904, 917 (E.D.N.C. 1990); *City of Davis v. Coleman*, 521 F.2d 661 (9th Cir. 1975); *Conservation Law Found. v. Fed. Highway Admin*, 630 F. Supp. 2d 183 (D.N.H. 2007); *Highway J Citizens Group v. U.S. DOT*, 656 F. Supp. 2d 868 (E.D. Wis. 2009); *N.C. Alliance for Transp. Reform v. U.S. DOT*, 151 F. Supp. 2d 661 (M.D.N.C. 2001); *Sierra Club v. U.S. DOT*, 962 F. Supp. 1037 (N.D. Ill. 1997).

growth within the area, which are [sic] consistent with local land use and transportation plans." To leave off the final phrase as done by the commenter misrepresents the statement made.

The second quote from the study indicates that the bridge will increase the level of access to the Currituck Outer Banks. This is consistent with the findings in Table 2-3 of the FEIS that the bridge will reduce travel time and congested travel.

The third quote from the study is focused on the opportunity to coordinate already on-going Outer Banks marketing efforts with highlighting the benefits (travel time savings and reduced time in congested traffic) of paying a toll and using the bridge to reach the Currituck Outer Banks. This is made clear on page 90 of the study where the same statement is made with an addition, so it reads: "the project presents a unique marketing opportunity to leverage the existing Outer Banks travel/tourism industry with tailored marketing strategies, with 82% of forecast Mid-Currituck Bridge revenues from visitors to the area in the Peak Season, 77% in the Shoulder Peak Season and 58% in the Off-Peak Season."

One sentence from the Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts (Currituck Development Group, July 2011) not quoted in the comment might also be interpreted as supporting the idea of the bridge inducing development beyond what is planned and expected: "As a result, it [the bridge project] could provide opportunities for sustainable additional development of the northern part of the Outer Banks and the mainland." Again, however, this statement is not inconsistent with the finding of the indirect and cumulative impact assessment that with the No-Build Alternative and ER2, growth would be constrained from what is planned and expected.

Thus, the FEIS and the Mid-Currituck Bridge Final Report Traffic and Revenue Forecasts are not contradictory positions.

The FEIS concludes there are three ways that the bridge would affect development.

1. *It would provide additional road capacity that would eliminate the potential constraint on development associated with the No-Build Alternative and ER2 such that planned and expected development levels can occur.*

2. *It would induce develop on the mainland in the US 158/bridge interchange area.*

3. *It would change the order that Outer Banks development would occur in response to market demand for vacation homes, with planned and expected development occurring sooner in Currituck County than would occur without the bridge.*

39. **Comment:** Local government entities and members of the public have also recognized that the Bridge will increase development of the Currituck mainland and the Northern Outer Banks. The Dare County Board of Commissioners, the Currituck County Board of Commissioners, the Town of Southern Shores, the Town of Kill Devil Hills, and the Albemarle RPO Transportation Advisory Committee have all adopted resolutions and policies supporting the Mid-Currituck Bridge because of, among other things, the economic development it would bring to the area.[275] Members of these and other entities have also written to members of the General Assembly and to NCDOT, urging them to pursue continued funding for the bridge on the ground that it would spur economic development in the area.[276] High-ranking

[275] Dare County, Resolution (Jan. 22, 2013) (Exhibit 174); Town of Southern Shores, Resolution (Apr. 5, 2011), (Exhibit 175); Albemarle Rural Planning Organization, Resolution (Jun. 18, 2014) (Exhibit 176); Town of Kill Devil Hills, Resolution (Feb. 11, 2013) (Exhibit 177); Currituck County, Resolution (Feb. 7, 2011) (Exhibit 178); Currituck County Board of Commissioners, Currituck County 2006 Land Use Plan 9-12 (2006) (Exhibit 179). Local elected officials have also acknowledged the importance of the Bridge for economic development. *See*, Email from Representative Bob Steinburg to Carolyn Riggs (May 9, 2013) (Exhibit 180).

[276] Letter from Warren Judge, Chairman, Dare County Board of Commissioners, to Joint Legislative Transportation Oversight Committee (Oct. 2, 2012) (Exhibit 181); Letter from Lloyd Griffin, ARPO, to Kerry Morrow, NCDOT (Nov. 17, 2014) (Exhibit 182); Letter from Warren Judge, Dare County Board of Commissioners, to Phil Berger, President Pro Tempore, North Carolina Senate (Jun. 13, 2012) (Exhibit 183); Letter from John Rorer, Chairman, Currituck County Board of Commissioners, to Phil Berger, President Pro Tempore, North Carolina Senate (Jun. 12, 2012) (stating that the Bridge "is vitally important to the economic growth and general well-being of Currituck County…") (Exhibit 184); Letter from Christopher Layton, Manager, Town of Duck, to Julia Howard, NCGA (May 1, 2013) (Exhibit 185); Undated letter from the Mayor of the Town of Southern Shores to Kathy Harrington, North Carolina Senate (Exhibit 186); Letter from Dave Wessel, Mayor, Town of Duck, to Jeff Barnhart, Appropriations Chair, North Carolina House of Representatives (Mar. 28, 2011) (Exhibit 187); Letter from Dave Wessel, Mayor, Town of Duck, to Chris Militscher, EPA (Jan. 10, 2011) (Exhibit 188); Warren Judge, Dare County Board of Commissioners Presentation at Slide 15 (Oct. 4, 2012) (Exhibit 189); *see also* E-mail from Denise Walsh, Town of Duck, to Dorothy Killingsworth, Dare County (May 1, 2013) (Exhibit 190); E-mail from Peter Bishop, Currituck County, to Warren Judge, Dare County Board of Commissioners (Oct. 2, 2012) (Exhibit 191); Mid-County Bridge Letter Instructions (Exhibit 192); E-mail from Dan Scanlon, Manager, Currituck County (Nov. 19, 2014) (Exhibit 193); E-mail from Owen Etheridge, Chairman, Currituck Board of Commissioners, to Shelton Harrell, managing partner, Lynberg & Watkins, APC (Jun. 2, 2011) (Exhibit 194); E-mail from Denise Walsh, public information officer, Town of Duck, to Jeff Smith, UNC-TV (May 14, 2013) (Exhibit 195); Sample letter to Pat McCrory, Governor, North Carolina (Exhibit 196); Mid-Currituck Bridge (MCB) Talking Points, Dare County (Exhibit 197) Letter from Warren Judge, Dare County Board of Commissioners, to Phil Berger, President Pro Tempore, North Carolina Senate (Jun. 13, 2012); Email from Michelle La Motte, Delta

members of local governmental entities have delivered presentations and given interviews with the same message.[277] Local business groups have also been strong supporters of the Bridge due to the economic growth it would bring to the Northern Outer Banks.[278] Finally, the North Carolina State Travel and Tourism Board has been particularly vocal about the economic growth that would be driven by the Bridge, calling the Bridge "one of the highest priority Tourism-development infrastructure projects within the State of North Carolina."[279] The Transportation Agencies have failed to consider the input from local governments and citizens who acknowledge the significant growth the bridge will bring to the Currituck mainland and the Northern Outer Banks.[280]

> ***Response:*** *The letters and resolutions referenced by the commenter mention economic development benefits associated with the bridge but do not describe its nature or quantity. Without such information, the positions expressed are opinion and not something upon which one can base a conclusion related to reasonably foreseeable future development. In determining reasonably foreseeable development levels, the study team relied on official land use plans, subdivision and development ordinances, and economic development plans. Section 4.2.3 "Potential for Development Location, Rate, or Type in the Road-Accessible Outer Banks to Change" in the Indirect and Cumulative Effects Technical Report (East Carolina University and Parsons Brinckerhoff, 2011) presents in detail how findings related to future development levels with and without a bridge were developed, including a discussion of how and why the No-Build Alternative and ER2 would result in less than planned and expected development levels. It was found that the bridge would allow planned and expected development levels to occur, including full build-out of the NC 12-accessible area along NC 12.*

40. **Comment:** The Transportation Agencies have a duty under NEPA to carefully examine alternatives to the project and the impacts that will result from those

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Associates, to Warren Judge, Dare County Board of Commissioners (Sep. 25, 2009) (Exhibit 198).

[277] [footnote note included in the original letter]

[278] E-mail from John Neighbors, Kitty Dunes Realty Company, to Tim Spear, NCGA (Oct. 4, 2012) (Exhibit 199); Sample Letter from Outer Banks Chamber of Commerce to Phil Berger, President Pro Tempore, North Carolina Senate (Exhibit 200); E-mail from Michael Lancsek, Realtor, RE/MAX Ocean Realty, to Donna Creef, Planning Director, Dare County (Apr. 21, 2010) (Exhibit 201); Video Interview of Judy Randall, Randall Travel & Marketing (Oct. 3, 2012) (Exhibit 202); E-mail from Karen Brown, President, Outer Banks Chamber of Commerce, to Denise Walsh, public information officer, Town of Duck (Nov. 21, 2014) (Exhibit 203).

[279] NCTTB, Resolution (May 14, 2013) (Exhibit 204); *see also* Video Interview of Josh Bass, NCSTTB (Oct. 3, 2012) (Exhibit 205).

[280] *See* Summary of Public Participation and Comment, Handout 21 – Jun. 28, 2010 at 4-7 (Exhibit 206).

alternatives. 40 C.F.R. § 1502.14. These impacts must be analyzed from a base scenario which shows what would be likely to occur if the project was not constructed. 40 C.F.R. § 1502.14 (d). The Fourth Circuit has made clear that operating from a misstated baseline can lead to an arbitrary and capricious decision. *Friends of Back Bay v. U.S. Army Corps of Engineers*, 681 F.3d 581, 588 (4th Cir. 2012). If, as the FEIS states, development would be inhibited by a failure to construct the Bridge, then full build-out is not a reasonable baseline from which to measure impacts and compare alternatives. Accordingly, if the Transportation Agencies wish to move forward with this project, they must prepare a Supplemental EIS that is founded on a realistic "No-Build" baseline. Failure to do this infects all aspects of the EIS and renders the NEPA analysis inadequate. *See N. Carolina Wildlife Fed'n v. N. Carolina Dep't of Transp.*, 677 F.3d 596, 603 (4th Cir. 2012) ("[C]ourts not infrequently find NEPA violations when an agency miscalculates the 'no build' baseline or when the baseline assumes the existence of a proposed project").

Response: *The starting point for planning a new transportation project is to assess and analyze land use plans and development trends, and determine through local input, the level of development needs to be served and how well will the various alternatives serve that development. This was done in the development of alternatives for the Mid-Currituck Bridge project. This starting point is particularly appropriate for assessing the Mid-Currituck Bridge project because planned and expected development is known. The bridge would not bring traffic into an area of mostly vacant and unimproved land with its future land use only defined in general terms. Rather, as discussed in Section 4.2.3 of the Indirect and Cumulative Effects Technical Report (East Carolina University and Parsons Brinckerhoff, 2011), the road-accessible portion of the Outer Banks is already subdivided and substantially developed today. Current development regulations and past trends associated with the implementation of local land use plans are indicative of the local jurisdictions' commitments to implement these plans as they stand. In the Currituck County Outer Banks, Planned Unit Developments (PUDs) prevail. Although vacant parcels may exist within the PUDs, their future development must be in accordance with requirements determined with the county in their establishment. Dense development is prohibited. Most lots that are available for sale and development are scattered in various subdivision and not concentrated in a single area where they might be re-consolidated.*

NCDOT chose not to use development levels constrained by traffic congestion as its starting point for the reasons noted in the first paragraph of this response. If NCDOT had done so, the occurrence of planned and expected development as opposed to constrained development would have been discussed in the indirect and cumulative impact assessment as an indirect impact. Under NCDOT's approach the lower development levels of the No-Build Alternative and ER2 were assessed as an indirect impact. Either starting results in the assessment of indirect and cumulative

impacts at three different development levels (No-Build Alternative, ER2, and the Preferred Alternative), which the commenter desires.

41. **Comment: Cumulative Impacts.** NEPA requires that an EIS disclose not just the direct and indirect impacts of a specific project, but also the cumulative impacts of the project when considered in conjunction with other "past, present, and reasonably foreseeable future actions regardless of what agency . . . or person undertakes such other actions." 40 C.F.R. § 1508.25(a)(2). Cumulative impacts may result from "individually minor but collectively significant actions taking place over a period of time." Id. § 1508.7. In determining whether a project will have a "significant" impact on the environment, an agency must consider "[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts." Id. § 1508.27(b)(7). "The purpose of the cumulative impact analysis is to provide readers with a complete understanding of the environmental effects a proposed action will cause." *N.C. Alliance for Transp. Reform, Inc. v. US DOT*, 151 F. Supp. 2d 661, 698 (M.D.N.C. 2001).

    In addition to the problems with the ICE analysis noted in our comments on the FEIS, the Draft Reevaluation fails to take into account several developments since the FEIS was issued: the development of an 80-acre water park in lower Currituck; a proposed land swap between USFWS and Currituck County; and the creation of a community park in Currituck County that aims to attract a "critical mass"[281] of residents to the area. These projects, in combination with the proposed Bridge, would further induce development of the Currituck Mainland and Northern Outer Banks, putting additional stresses on natural resources and the environment.

    Response: *The water park, the proposed land swap, and the community park (in the context of other airport area development plans) in Currituck County are addressed in the cumulative impacts discussion in Sections 4.6.1 and 4.6.2 of this reevaluation study report.*

42. **Comment:** Construction is in progress on an 80-acre, 45 million dollar waterpark in lower Currituck County scheduled to open by Memorial Day 2017.[282] The park,

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[281] *See Scanlon: Park is a 'gold mine,'* by William F. West, DailyAdvance.com (Nov. 27, 2016), *available at* www.dailyadvance.com/News/2016/11/27/Scanlon-Park-is-a-gold-mine.html (last visited Dec. 9, 2016) (Exhibit 207).

[282] *Water park in lower Currituck plans opening next summer*, by Sam Walker, outerbanksvoice.com (Jul. 27, 2016), *available at* http://outerbanksvoice.com/2016/07/27/water-park-in-lower-currituck-county-to-open-next-summer/ (last visited Dec. 14, 2016) (Exhibit 208); *Currituck waterpark eyes May opening*, by Mike Bollinger, DailyAdvance.com (Oct. 26, 2016), *available at* www.dailyadvance.com/News/2016/10/26/Currituckwaterpark-eyes-May-2017-opening.html (last visited Dec. 14, 2016) (Exhibit 209).

located three miles north of the Wright Memorial Bridge, will consume 76,000 gallons of water per day, create 200 full-time and seasonal jobs, and draw up to 5,000 guests daily.[283] The company developing the park is promising major economic impacts from the park, including "direct and indirect economic impacts through suppliers, real estate services, retail, food service, health care and more."[284] The park will operate from Memorial Day through Labor Day[285]—the height of tourist season in the Outer Banks, when stresses on the area's natural resources are at their peak. The park could have even larger, long-term impacts on development in lower Currituck. In an article in Daily Advance about the park, Currituck Economic Development Advisory Board Vice Chairwoman Barbara Courtney stated, "My vision is that in five years, this end of the county is going to be booming . . . . When you can bring something big into an area, others seem to follow."[286]

Response: *The water park is addressed in the cumulative impacts discussion in Section 4.6.2 of this reevaluation study report.*

43. **Comment:** A deal is in progress between Currituck County and USFWS that will ultimately remove a sensitive portion of the Currituck National Wildlife Refuge from federal protection and place it in the hands of Currituck County.[287] Under the terms of the agreement, the county will spend nearly one-million dollars to purchase 380 acres of marsh land adjacent to Mackay Island National Wildlife Refuge, then swap that land for 700 acres of land owned by USFWS that is part of the Currituck National Wildlife Refuge.[288] Currituck County initiated the land swap because it

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[283] *Water park in lower Currituck plans opening next summer*, by Sam Walker, outerbanksvoice.com (Jul. 27, 2016), *available at* http://outerbanksvoice.com/2016/07/27/water-park-in-lower-currituck-county-to-open-next-summer/ (last visited Dec. 14, 2016) (Exhibit 208).

[284] *Construction of H2OBX Waterpark begins in Currituck*, by Sam Walker, outerbanksvoice.com (Oct. 25, 2016), *available at* http://outerbanksvoice.com/2016/10/25/construction-of-h2obx-waterpark-in-lower-currituck-begins/(last visited Dec. 14, 2016) (Exhibit 210).

[285] *Currituck waterpark eyes May opening*, by Mike Bollinger, DailyAdvance.com (Oct. 26, 2016), *available at* www.dailyadvance.com/News/2016/10/26/Currituck-waterpark-eyes-May-2017-opening.html (last visited Dec. 14, 2016) (Exhibit 209).

[286] *Id*.

[287] *Currituck land deal could protect beach driving privileges and offer haven for wild horses*, by Jeff Hampton, pilotonline.com (Mar. 2, 2016), *available at h*ttp://pilotonline.com/news/local/environment/currituck-land-dealcould-protect-beach-driving-privileges-and-offer/article b46aad91-2268-5a9d-9849-b9a089d572ed html (last visited Dec. 14, 2016) (Exhibit 211); *see also* Letter from Bill Holman, NC State Director, The Conservation Fund, to David Griggs, Chairman, Currituck County Board of Commissioners (Jan. 4, 2016) (Exhibit 212).

[288] Resolution of the Currituck County Board of Commissioners (Oct. 3, 2016) (Exhibit 213); Minutes of Oct. 3, 2016 Meeting of Currituck County Board of Commissioners at 16-17 (Exhibit 214).

feared USFWS may ultimately limit beach driving in the refuge and wanted to take control of the area before USFWS created any restrictions.[289] If the deal is completed, Currituck County has stated it intends to develop three acres of refuge area into a "day-use facility." In addition to direct environmental impacts, this facility would, in combination with the proposed bridge, doubtless attract increased day-trippers and other tourists to Carova.[290]

Response: *The land swap between USFWS and Currituck County is addressed in the cumulative impacts discussion in Section 4.6.1 of this reevaluation study report.*

44. **Comment:** Currituck County recently completed development of a community park site near the Currituck County airport that houses sports fields, a YMCA, a healthcare facility, a cooperative extension center, and a community college training center.[291] Currituck County Manager Dan Scanlon has said he hopes the park will help create a "critical mass" to drive development of hotels, restaurants, and "all kinds of related developments."[292] Scanlon also emphasized the park's proximity to the site of the proposed bridge and says he hopes the park could draw thousands of people per weekend.[293]

Response: *The community park (in the context of other airport area development plans) is addressed in the cumulative impacts discussion in Section 4.6.2 of this reevaluation study report.*

45. **Comment:** Each of these projects, in combination with the proposed bridge, has the potential to induce further development and increase stress on the area's limited natural resources. The transportation agencies must complete a reasoned ICE analysis as part of a Supplemental EIS that takes into account these major new

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[289] *Everyone wins in Currituck County USFW Landswap*, posted by Brindley Beach Vacation and Sales, brindleybeach.com (Mar. 2, 2016), *available at* www.brindleybeach.com/blog/everyone-wins-in-currituckcounty-usfw-landswap (last visited Dec. 14, 2016) (Exhibit 215); *Land swap would give Currituck control of northern beaches*, by Dee Langston (Feb. 23, 2016), *available at* http://outerbanksvoice.com/2016/02/23/land-swapwould-give-currituck-control-of-northern-beaches/ (last visited Dec. 14, 2016) (Exhibit 216).

[290] *Land swap would give Currituck control of northern beaches*, by Dee Langston (Feb. 23, 2016), *available at* http://outerbanksvoice.com/2016/02/23/land-swap-would-give-currituck-control-of-northern-beaches/ (last visited Dec. 14, 2016) (Exhibit 216); *see also* Email from Jennifer Harris to Tracy Roberts pages 2-3 (Jun. 29, 2010) (Exhibit 217).

[291] *Scanlon: Park is a 'gold mine,'* by William F. West, DailyAdvance.com (Nov. 27, 2016), *available at* www.dailyadvance.com/News/2016/11/27/Scanlon-Park-is-a-gold-mine.html (last visited Dec. 9, 2016) (Exhibit 207).

[292] *Id*.

[293] *Id*.

developments in the area. In addition, because the waterpark and community park are expected to draw significant numbers of visitors, NCDOT should analyze how patterns of traffic may change once these facilities are set in place and how those developments will affect the need for, and success of, different project alternatives.

> ***Response:*** *The water park (including its potential traffic impacts), the proposed land swap, and the community park (in the context of other airport area development plans and including its potential traffic impacts) in Currituck County are addressed in the cumulative impacts discussion in Sections 4.6.1 and 4.6.2 of this reevaluation study report.*

46. Comment: The Draft Reevaluation also fails to make any mention of the proposed new Interstate, I- 87 which would connect Raleigh and Norfolk.[294] This proposed Interstate, which was unveiled by Governor McCrory in October 2016, could impact the project study area by decreasing travel time to northeastern NC from major population centers such as Raleigh and Norfolk.[295] In the Supplemental EIS, the Transportation agencies should determine what affect this new interstate might have when combined with the increased access that would be occasioned by the Bridge.

> ***Response:*** *As indicated in the newspaper article referenced by the commenter, I-87 would serve traffic moving between Raleigh and Norfolk. The project would essentially convert existing US 17 to from Williamston and Norfolk to an interstate. US 64 from Raleigh to Williamston, also would be included in I-87 and is a limited access highway. Some parts of US 17 around Elizabeth City, Edenton and Windsor already meet interstate standards.*
>
> *The highway is not funded and has no timeline for construction. It is not in the 2018 to 2027 STIP. No study has been done on the interstate's economic effects. It is expected to take as long as two decades to complete. The project is thus, not a reasonably foreseeable future action.*

VII. SEA LEVEL RISE AND CEQ REGULATIONS

47. **Comment:** To date, the Transportation Agencies have not conducted a thorough analysis of how the Bridge may impact, and be impacted by, climate change. There

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[294] Jeff Hampton, *New $1 Billion, 213 mile interstate planned to connect Norfolk and Raleigh*, pilotonline.com(Jun. 9, 2016), *available at* http://pilotonline.com/news/local/transportation/new-billion--mile-interstate-planned-to connect-norfolk-and/article b621ca2d-0824-5d08-9ca8-636230f8475b html (last visited Dec. 15, 2016) (Exhibit 218).

[295] Ken Watling, *Governor McCrory Unveils Future 1-87 in Edenton*, WNCT 9 (Oct. 24, 2016), *available at* http://wnct.com/2016/10/24/governor-mccrory-unveils-future-i-87-in-edenton/ (last visited Dec. 15, 2016) (Exhibit 219).

is no discussion in the EIS or Draft Reevaluation about the extent to which construction of the Bridge may contribute to greenhouse gas emissions and associated impacts to climate change.

On August 1, 2016, the CEQ published new guidance on "CONSIDERATION OF GREENHOUSE GAS EMISSIONS AND THE EFFECTS OF CLIMATE CHANGE IN NATIONAL ENVIRONMENTAL POLICY ACT REVIEWS."[296] The new guidelines require federal agencies to consider "the effects of greenhouse gas (GHG) emissions and climate change when evaluating proposed Federal actions" under NEPA.

First, the regulations explain that Federal Agencies should "consider the extent to which a proposed action and its reasonable alternatives would contribute to climate change, through GHG emissions." The regulations further direct the Agencies to "take into account the ways in which a changing climate may impact the proposed action and any alternative actions, change the action's environmental effects over the lifetime of those effects, and alter the overall environmental implications of such actions."[297]

In the past, agency personnel charged with the study of the Mid-Currituck Bridge have asserted that it would not be appropriate to study the impacts of this one project on climate change, because climate change is a global problem and the impact of this one road project will be minimal in the larger scheme and therefore unworthy of study.[298] The new guidance directly rejects this approach noting, "a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA." Rather, the guidance states that agencies should "use the projected GHG emissions associated with proposed actions as a proxy for assessing proposed actions' potential effects on climate change in NEPA analysis." No such analysis has yet been performed for the Mid-Currituck Bridge, yet it is likely the Bridge—by increasing access and encouraging travel, as well as by inducing growth on the Outer Banks— will lead to additional GHG emissions from vehicles. CEQ has provided a list of GHG accounting tools on its website and we urge NCDOT to make use of them in a Supplemental EIS.[299]

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[296] Council on Environmental Quality, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews (Aug. 1 2016) (Exhibit 220) [*hereinafter* GHG Guidance].

[297] *Id*.

[298] *See, e.g.*, FEIS for the Garden Parkway at 2-35- 2-36 (Exhibit 221).

[299] Council on Environmental Quality, GREENHOUSE GAS ACCOUNTING TOOLS, (last visited Dec. 14, 2016) (Exhibit 222).

Response: *On August 1, 2016, the President's Council on Environmental Quality (CEQ) issued final guidance to assist federal agencies in their consideration of the effects of greenhouse gas (GHG) emissions and climate change when evaluating proposed federal actions in accordance with National Environmental Policy Act (NEPA) and associated CEQ implementing regulations. The guidance was withdrawn on April 5, 2017 and is no longer applicable to this project. One aspect of the withdrawn guidance is consideration of the effects of climate change on a proposed action and its environmental impacts. This was done in part in the FEIS by the consideration of accelerated sea level rise in Section 3.4.4, as well as Section 4.4.4 of this reevaluation study report.*

48. **Comment:** In addition to requiring Agencies to study the impact of projects on climate change, the guidance also makes clear that NEPA requires agencies to consider "the effects of climate change on a proposed project and its environmental impacts." The NEPA documents for the Mid-Currituck Bridge have failed to do this, however. The Draft Reevaluation does contain some glancing reference to sea level rise, noting somewhat absurdly that under current projections of sea level rise the Corolla area will ultimately be cut off, making the Bridge as an alternative egress between the Outer Banks and the mainland all the more necessary.[300] This brief mention of sea-level rise as an illogical justification for why the Bridge should be built is not sufficient to satisfy NEPA. The Bridge is expected to last for at least 50 years, and NCDOT should carefully consider how sea-level rise projections will play out during this time period. The analysis should extend to the increased development pressure that will be placed on the Outer Banks and the increased traffic that will result on NC 12, as well as other direct and indirect environmental impacts. The analysis should then be presented to the public in the Supplemental EIS so that citizens and decision-makers can weigh-in on whether the project is a wise use of taxpayer dollars.

    CEQ has stated that in cases where an FEIS has been completed an agency need not go back and revisit its analysis based on the new guidance.[301] The guidance makes clear, however, that it does not expand current NEPA law, but rather clarifies what is already required.[302] In other words, the guidance merely spells out what was already legally mandated by NEPA. Where then, as is the case with the Mid-Currituck Bridge, the agency is engaged in additional NEPA analysis subsequent to the release of the guidance, it is appropriate for the agency to follow its strictures to the fullest extent possible. Such analysis is even more necessary in this case because the NEPA

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[300] FEIS at 3-82-3-84; Draft Reevaluation at 75 (Exhibit 1).

[301] GHG Guidance at 33–34 (Exhibit 220).

[302] *Id*. at 2.

documents do, in fact, reference sea level rise as a justification for Bridge construction.

Response: *The reference to sea level rise creating a breach at the Dare and Currituck County line and the advantage of the alternate access offered by a Mid-Currituck Bridge was only one part of the sea level rise analysis presented in the FEIS. It was presented as a project benefit but not as a justification for the bridge project. As stated in Section 3.4.4 of the FEIS when considering the various accelerated sea level rise scenarios between 2.4 inches and 23.2 inches portions of the existing project area road network (including those sections of US 158 and NC 12 improved by ER2 and the Preferred Alternative) would be inundated (permanently under water for 1.5 to 2.5 miles) or at risk during a storm surge (3.8 to 7.7 miles).*

Portions of the Mid-Currituck Bridge interchange area with US 158 would be at risk during a storm surge. Areas likely to be inundated along the bridge corridor would be bridged. Impacts to the Preferred Alternative also were considered with a 1-meter (39.4-inch) sea level rise. The only parts of the Preferred Alternative that would be affected by 1 meter of sea level rise are roadway components on the mainland along US 158 in the Waterlily Road area.

As discussed in Section 4.4.4 of this reevaluation study report, In March 2015, a draft update to the 2010 North Carolina Sea Level Rise Assessment Report and a 2012 Addendum was released by the NC Coastal Resources Commission Science Panel was released. It included an assessment of potential sea level rise over 30 years (2015 to 2045). The highest estimate in that report for sea level rise by 2045 was 10.6 inches. If that highest rate of sea level rise continued over 50 years, the sea level rise would be 17.7 inches, below the 23.2 inches and 39.4 inches discussed in the FEIS.

It is acknowledged that there are risks and uncertainty in the future regarding sea level rise and storm events. While NCTA and FHWA are aware of the risks and vulnerability, the Mid-Currituck Project is still a useful project.

VIII. THE TRANSPORTATION AGENCIES MUST USE NEPA AS INTENDED, TO FOSTER GOOD DECISONMAKING, AND NOT TO JUSTIFY PREDETERMINED OUTCOMES

49. **Comment:** In 2015, because more than three years had passed since the Transportation Agencies published the FEIS, the agencies began work on a formal "reevaluation," a draft of which is referenced by these comments. A reevaluation is a legally required step intended to determine whether or not a Supplemental EIS is required. FHWA guidance notes that during a reevaluation "FHWA must assure that the environmental documentation for the proposed action is still valid, prior to

proceeding with major project approvals or authorizations."[303] The guidance goes on to note that this task is accomplished by "an assessment of any changes which may have occurred in either the project's concept or the affected environment, and a determination of what effects these changes might have on the validity of the environmental documentation."[304] The guidance further stresses that the written reevaluation "must demonstrate that the information presented in the Draft EIS is an accurate analysis of the anticipated project impacts."[305]

Like the rest of the NEPA process, the reevaluation process should be performed in good faith and not as an exercise in predetermination. The Council on Environmental Quality's NEPA regulations specifically require that an EIS be more than merely a "disclosure document," stating that an "environmental impact statement shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made." 40 C.F.R. §§ 1502.1, 1502.2(g). And the United States Court of Appeals for the Fourth Circuit itself has recognized that NEPA requires action and study based on "good faith objectivity." *Fayetteville Area Chamber of Commerce v. Volpe*, 515 F.2d 1021, 1026 (4th Cir.1975). As that court noted, the "broad dissemination of information mandated by NEPA" allows "the public and other government agencies to react to the effects of a proposed action at a meaningful time." *Id*. at 601-02 (citing *Robertson*, 490 U.S. at 349).

In the case of the Mid-Currituck Bridge, however, the Transportation Agencies' actions make clear that despite the many changes that have occurred since publication of the FEIS in 2012, NCDOT determined at the very outset of the reevaluation process that it would conclude no Supplemental EIS was necessary.[306] Rather than use the NEPA process to carefully consider changed circumstances, the Transportation Agencies have continued to treat NEPA as a mere paper exercise to justify a decision "already made." 40 C.F.R. § 1502.2(g). Thus, before any work on the reevaluation commenced, the agency had already pre-determined that it would find no changes, and no significant new information or circumstances. A draft of the reevaluation from September 2016 shows the same.[307]

NEPA requires preparation of a Supplemental EIS when "(1) [c]hanges to the proposed action would result in significant environmental impacts that were not

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[303] FHWA Guidance, NEPA AND TRANSPORTATION DECISIONMAKING, *available at* www.environment.fhwa.dot.gov/projdev/tdmpdo.asp (last visited Dec. 19, 2016) (Exhibit 223).

[304] *Id*.

[305] *Id*.

[306] Mid-Currituck Bridge Project Schedule (Exhibit 224); *see also* Email from Carr McLamb, NCDOT, to Kym Hunter, SELC (Oct. 12, 2016) (Exhibit 225).

[307] NCDOT, Partial Draft Reevaluation of the Final Environmental Impact Statement, (Aug. 3, 2015) (Exhibit 226).

evaluated in the EIS;" or when "(2) [n]ew information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS." Many of the changes that have occurred since 2012 demand publication of a Supplemental EIS. New funding constraints limit the amount of funding available for construction of the Bridge, while additional financial flexibility renders project alternatives easier to fund. Significantly altered traffic forecasts call into question the need for the Bridge and have rendered less expensive and less destructive alternatives even more viable than they were in the past. This change to the range of alternatives demands publication of a Supplemental EIS. *See Alaska Wilderness Recreation and Tourism Ass'n v. Morrison*, 67 F.3d 723 (9th Cir.1995) (noting that "[b]ecause the consideration of alternatives is the heart of the environmental impact statement," the cancellation of a contract which removed constraints on the range of available alternatives was a substantial change" that required publication of a Supplemental EIS).

> ***Response:*** *The decision that a SEIS is not needed that is presented in Section 3.0 of the Reevaluation of the Final Environmental Impact Statement report is based on the findings contained in that signed report and this reevaluation study report. The schedule referenced by the commenter was prepared to answer the question: When could environmental studies be completed assuming the reevaluation concluded that a SEIS was not needed? It was understood that no decision could be made on the need for a SEIS until after the reevaluation was complete. The e-mail referenced was sent in October 2016. The answer to the question ("Does NCDOT still intend to produce just a reevaluation and not a SEIS?") asked of NCDOT's General Counsel was "At this time, yes." A decision on whether to release a ROD or prepare a SEIS had not been made at the time of the e-mail exchange because the reevaluation was not complete. It would have been premature at that time to indicate NCDOT intended to prepare a SEIS. The September 2016 reevaluation report referenced by the commenter was a first draft provided to NCDOT and FHWA staff for review. The conclusions in the first draft of the reevaluation were based on the findings contained in that draft and were subject to change based on review comments. None of these items indicate that a final decision was made prematurely on whether a SEIS was needed. The final decision came when the reevaluation was complete and signed by the FHWA. The changes since 2012, noted in the final paragraph of this comment, are considered in this reevaluation study report.*

50. **Comment:** Similarly, new projections of traffic and socio-economic growth show that baseline conditions will be significantly different than those presented in the EIS. As a result, a new review of the environmental impact of the Bridge will present a "seriously different" picture to that previously set out to the public. *See Louisiana Wildlife Federation, Inc. v. York*, 761 F.2d 1044 (5th Cir 2009) (holding that a significant change to the assumption of baseline conditions "present[ed] a seriously different picture of the environmental impact of the proposed project from what was previously envisioned, it [wa]s significant new information and [wa]s sufficient to

require an agency to supplement an original EIS"). Furthermore, the Transportation Agencies must consider the project's effect in conjunction with continued deterioration of the Currituck Sound, increased development of the Northern Outer Banks, the proposed land swap between Currituck County and USFWS, and new economic development projects on the Currituck Mainland. *See, e.g., Portland Audubon Soc. V. Babbitt*, 998 F.2d 705 (9th Cir. 1993).

> ***Response:*** *The new review of the environmental impact of the Mid-Currituck Bridge in this reevaluation study report found that for the most part because of design revisions made to take into consideration the new traffic forecasts and changes in the project setting, that the environmental impacts are generally unchanged or less. As summarized in the Section 2.7 of the Reevaluation of the Final Environmental Impact Statement report, increased impacts are:*
>
> - *Two new threatened and endangered species in the project area not addressed in the FEIS; for both species, the biological conclusion is "May Affect, Not Likely to Adversely Affect"*
> - *Impacts to cultivated agricultural land increased from 15.3 acres to 22.0 acres, although the use of prime farmland soils and state and locally important farmland soils decreased*
> - *Wetland clearing associated with the Maple Swamp bridge increased from 25.4 to 32.9 acres*
>
> *Updated information on the condition of Currituck Sound and northern Outer Banks development, as well as the Currituck County/USFWS land swap and recent economic development projects on the mainland are considered in the reevaluation.*

51. **Comment:** The Transportation Agencies' actions outside of the NEPA process similarly make clear that it has been undercutting the objective NEPA process, and that rather than engaging in thoughtful decision-making, the agency has been pursuing steps to build the Bridge before any Record of Decision has been published. A $5.6 million property was purchased in 2015 to make way for the Bridge landing site on the Outer Banks.[308] This property was purchased even while the reevaluation, which should carefully consider alternatives, was still underway. While MAP- 21 made it permissible to purchase right-of-way while a NEPA process is ongoing, the statute demands that the purchase of the property "will not limit the choice of reasonable alternatives for the project or otherwise influence the decision of

[308] Memo from Calvin Legget, NCDOT, to Majed-Al Ghandour, NCDOT (Mar. 17, 2015) (Exhibit 75); Northeastern North Carolina Properties, LLC, Summary Statement/Contingent Offer to Purchase Real Property due to the Acquisition of Right of Way and Damages, (Feb. 17, 2015) (Exhibit 227).

the Secretary [of Transportation] on any approval required for the project." 23 U.S.C.A. § 108. Spending $5.6 million on property that can only be used to construct the Mid-Currituck Bridge has certainly served to further cement the Transportation Agencies' predetermined decision to construct the Bridge, even when a thorough, objective review of up-to-date, accurate data would show it to be no longer necessary or the best choice for the Currituck Outer Banks.

> ***Response:*** *The purchase of the property does not limit the choice of reasonable options because the property can be sold if a decision is made not to build the bridge project.*

52. **Comment:** Moreover, documents show that rather than take the objective hard look NEPA requires, NCDOT was actively reaching out to proponents of the Bridge and asking that they contact local, state, and federal officials to support the project.[309] This practice mirrored statements made by NC Transportation Secretary Tata during the STI process (which should also be objective), assuring citizens and leaders along the Outer Banks that the project would score well before the data driven process had even begun.[310]

> ***Response:*** *The commenter letter included two attachments. The first is what appears to be an undated telephone record of a conversation with a NCDOT staff member kept by a citizen who is a proponent of the bridge project. The note indicates that the NCDOT staff member was returning the citizen's call and did not initiate the call. Further, the note indicates that the FEIS was expected to be released around February and thus it predates the FEIS and has nothing to do with the current reevaluation. The second is a newspaper article from 2013 referencing the General Assembly plan to lift the dedicated "gap" funds for the project and references the then Secretary Tata reassuring a state representative that the project would still be built. Since the comment predates the implementation of the STI process, it reflects only the opinion of the then Secretary.*

53. **Comment:** NEPA is an important process. It demands that the public, resource agencies, and all local and state decision-makers can be fully informed about a range of alternative solutions before any final decision is made. The attempt to fix traffic congestion on the Outer Banks provides a perfect example as to why this process is so essential. Numerous alternative solutions are available and each have their costs and their benefits. The Transportation Agencies must ensure that the merits of each are fully explored in a new, accurate, up-to-date document that takes a true, objective look at the best solution for the future.

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[309] *See, e.g.*, Town of Duck, Update on the Mid-Currituck Bridge (Exhibit 228).

[310] Catherine Kozak, *Bridge projects still kicking, Proponents say*, Coastal Review Online (Apr. 18, 2013) (Exhibit 229).

And NEPA serves another role: it is a springboard for public comment. Here, a group of local citizens and visitors to the Outer Banks have worked with a transportation expert to look at how traffic congestion may be ameliorated for a low financial cost and with as little degradation as possible to the character of the Northern Outer Banks. We urge the Transportation agencies to take a hard look at this plan.

> ***Response:*** *FHWA and NCDOT agree that NEPA is an important process. The range of alternatives examined in 2009 Alternatives Screening Report that led to decisions on the detailed study alternatives assessed in the DEIS and FEIS were all revisited in Section 3.3 of this reevaluation study report, as well as suggestions made by this commenter. This reevaluation also considers a revised design for the widening existing road alternatives, although it differs from the one proposed by Mr. Kulash that is referenced in this comment. See the response to the similar comment 26 made by the Southern Environmental Law Center, which includes a description of the differences between Mr. Kulash's proposal and the revised design for ER2 (the widening existing roads alternative), and Section 1.2.3 of this reevaluation study report, which describes the revised ER2 design.*

D.2 No MCB

1. **Comment:** We write today to ask that you seriously consider a newly developed alternative submitted by our group to your Department in December. This alternative, a summary of which is attached, stems from our in-depth experience as to the true transportation concerns in Currituck County and the Northern Outer Banks. The solutions we proposed were further developed by transportation expert Walter Kulash, who has over 45 years' experience in transportation engineering. We believe the alternative would alleviate traffic congestion on NC 12 without the high fiscal and environmental cost of the bridge.

   > ***Response:*** *This reevaluation considers a revised design for the widening existing road alternative, although it differs from the one proposed by Mr. Kulash. See the response to the similar comment 26 made by the Southern Environmental Law Center and Section 1.2.3 of this reevaluation study report.*

2. Recent findings by NCDOT demonstrate that now is the time to consider a new alternative to the bridge. Funding for the bridge, with cost estimates ranging up to $678 million, appears to be in serious doubt. Only $173 million has been set aside from the project from the STI—leaving the balance to be paid for by tolls. But with DOT's projections of future traffic now severely diminished we do not believe that drivers will be willing to pay a toll high enough (based on some estimates, as high as $50 for a one-way trip) to make the bridge financially viable. North Carolina's scarce transportation resources should be more wisely spent.

Response: A revised financing plan for the Mid-Currituck Bridge project is presented in Section 1.2.5 of this reevaluation study report. An investment grade toll and revenue study is being prepared for the project by an independent party. Such a study is required to support the financing of the Mid-Currituck Bridge project to a level which would be acceptable to toll revenue bond rating agencies and to the United States Department of Transportation (USDOT) in connection with their approval prior to any TIFIA (Transportation Infrastructure Finance and Innovation Act) loans. Prior to completion of that study, any discussion of toll rates is speculation. The key finding of this study will be how much of the bridge project's cost could be financed with toll revenues. If the state and federal motor vehicle tax revenue allocated in the STIP for project construction were found to be inadequate given the amount that could be financed by tolls, then one option could be to decide not to build the bridge.

3. **Comment:** As you know, the proposed bridge would cross the fragile and ecologically significant Currituck Sound, which continues to deteriorate because of development in southeastern Virginia. The Sound has historically been one of the most significant spots for wintering waterfowl on the east coast, and it is cherished for the recreational opportunities it provides. The bridge's construction and use would harm the Sound in an unacceptable manner.

   Response: *The impact of the project on Currituck Sound is addressed in the FEIS, the associated Natural Resources Technical Memorandum (CZR, Incorporated, 2011), and this reevaluation.*

4. **Comment:** In addition to our serious concerns about the environmental impacts of the bridge, we are also concerned about the effect the bridge would have on the natural resources and character of the Currituck mainland and the Outer Banks. The bridge would induce development in a way that has not been properly studied and accounted for. In addition to development, the bridge would also attract more visitors, including day-trippers from southeastern Virginia. This increased development and visitation would place an unsustainable strain on the land and natural resources of our small barrier island.

   Response: *The impact of the project on natural resources and character of the Currituck County mainland and Outer Banks, on development levels, and on day visitors is addressed in the FEIS, the associated technical memorandums, and this reevaluation.*

5. **Comment:** Our group represents part of the strong opposition to the Mid-Currituck Bridge on both the Currituck mainland and the Outer Banks. We hope that your department takes the time to take a thoughtful look at whether this costly and controversial project is truly the best solution. We urge you to consider our new

alternative. We would be happy to meet with you to further discuss our concerns at your convenience.

> ***Response:*** *The commenter's strong opposition to the project is noted. The objective of this reevaluation is to revisit the FEIS and its findings, including the Preferred Alternative recommendation, to assure that the FEIS is still valid, prior to proceeding with project approvals or authorizations. A reevaluation is an assessment of any changes which may have occurred in either the project's concept or the affected environment, and a determination of what effects these changes might have on the validity of the FEIS. See the response above regarding your suggested new alternative.*

Appendix E

Non-Governmental Organization Correspondence Received During Reevaluation Preparation

E. Non-Governmental Organization Correspondence Received During Reevaluation Preparation

SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 919-967-1450 601 WEST ROSEMARY STREET, SUITE 220 CHAPEL HILL, NC 27516-2356 Facsimile 919-929-9421

December 21, 2016

VIA E-MAIL AND FEDEX

Tracy Roberts
North Carolina Department of Transportation
1 South Wilmington Street
Raleigh, NC 27601
teroberts1@ncdot.gov

Mr. John F. Sullivan III, P.E.
Federal Highway Administration
310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601-1418
john.sullivan@dot.gov

RE: Mid-Currituck Bridge NEPA Review

Dear Mr. Roberts and Mr. Sullivan:

E-2

On behalf of No MCB-Concerned Citizens and Visitors Opposed to the Mid-Currituck Bridge and the North Carolina Wildlife Federation, the Southern Environmental Law Center ("SELC") submits the attached comments requesting that the North Carolina Department of Transportation ("NCDOT") and the Federal Highway Administration ("FHWA"), collectively the "Transportation Agencies," prepare a Supplemental Environmental Impact Statement ("EIS") pursuant to the National Environmental Policy Act ("NEPA") for the Mid-Currituck Bridge ("Bridge").

Recent funding changes in North Carolina call into question the financial viability of the Bridge, while new traffic forecasts suggest that the $600 million project is a poor use of limited taxpayer resources. In addition, the comments below identify serious deficiencies in the environmental review that has been performed by the Transportation Agencies to date. These factors combine to make NCDOT's forecasted decision to conduct a mere "reevaluation"[1] of its outdated public disclosure documents not only illegal, but bad public policy.

In light of the diminished funding picture, the shifting demographics on the Outer Banks, changing vacation patterns, and reduced forecasts of traffic and growth, the below comments also offer a new, lower-cost alternative solution that has been carefully designed to alleviate congestion without the expense or environmental harm associated with the $600 million, seven-mile Bridge. The Currituck Sound is one of North Carolina's treasures. As such, we intend this

[1] FHWA & NCDOT, Mid-Currituck Bridge Study, Reevaluation of the Final Environmental Impact Statement, DRAFT (Sept. 2016) (Exhibit 1) [*hereinafter*, Draft Reevaluation].

solution as a means to improve the mobility of both tourists and local residents without destroying the very beauty and unique experience that so many travel from so far to enjoy.

Both the critique of the Transportation Agencies' review and the new proposed set of alternative solutions are supported by a report from Transportation Expert, Walter Kulash, P.E. attached.[2] Mr. Kulash has over 45 years in transportation engineering expertise. Since the 1990s, Mr. Kulash has focused on bringing balance to the design of roads, improving not just their vehicular traffic capacity but also their accommodation of non-motorized travel and their value for local businesses. He has applied this approach, "context sensitive" design, to roads throughout the United States. Mr. Kulash is a licensed engineer in Alabama and Florida and his license is pending in North Carolina.

To ensure good, reasoned decisonmaking, and to comply with NEPA, it is imperative that the Transportation Agencies address the concerns raised in these comments in a Supplemental EIS that is made available for public review and comment. As noted below, there have been significant changes since the last opportunity for public scrutiny when the Final Environmental Impact Statement ("FEIS") was published almost five years ago in early 2012. The many changes that have occurred since deserve a thorough look by both the Transportation Agencies and the public. Moreover, the time is ripe for all stakeholders to coalesce around a cost-effective solution that can be swiftly set in place to ease summer-time traffic woes in the Northern Outer Banks.

These comments address the following key issues:

- A long history of pushback from environmental resource agencies that have consistently found non-bridge alternatives to be less environmentally damaging.
- The limited funding available for the Bridge and new increased flexibility to fund alternative solutions.
- The new expectation that traffic in the study area will be significantly lighter than previously anticipated and the Transportation Agencies' failure to incorporate this fact into their analysis.
- Reliance on an arbitrary 18 hour hurricane evacuation standard to support the project's Purpose and Need that is impossible to satisfy even with the proposed $600 million Bridge.
- The Transportation Agencies' failure to consider in earnest a full range of alternatives, including upgrades to existing roads, ferries, staggered check out times, and small-scale transportation solutions.

[2] Walter Kulash, REVIEW OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT AND DRAFT REEVALUATION OF FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE MID-CURRITUCK BRIDGE, CURRITUCK COUNTY, NC (Dec. 20, 2016) (Exhibit 2) [*hereinafter*, Kulash Report].

- The Transportation Agencies' failure to transparently present the indirect environmental effect of the Bridge on induced development, despite repeated statements from the Transportation Agencies and the local community that the Bridge will cause increased development pressure.

I. HISTORY OF THE BRIDGE

The concept for the Mid-Currituck Bridge (also known as the "Mid-County" Bridge, "MCB" or "the Bridge") first arose in 1975, when NCDOT, at the request of Currituck County, adopted a resolution identifying a bridge crossing the Currituck Sound as the most desirable access route to the Currituck Outer Banks. Over the past forty years, developers have continually pushed for the Bridge project to move forward, but state and federal resource agencies have recognized the Bridge as an unnecessary and environmentally harmful waste of resources.[3] These agencies have consistently noted that the Bridge would lead to increased development in an area that does not have the natural resources to support a larger population and that this added human population would worsen the traffic conditions the Bridge is meant to solve. They have also expressed concern about the direct environmental harm the Bridge and its construction would cause to the Currituck Sound. The arguments against the Bridge, and the key facts underlying them, have only grown stronger with time. The Bridge project has remained alive only because of pressure from elected officials who have sought to manipulate environmental agencies and have the state ignore more reasonable and feasible alternatives.

The state first considered the Bridge as a project alternative to address traffic concerns in the Northern Outer Banks in the 1980s. The state, however, recognized the Bridge as more costly and environmentally harmful than other alternative transportation solutions and ultimately chose to extend NC 12 and widen the Wright Memorial Bridge rather than build a new bridge.[4] In 1989, the North Carolina General Assembly, at the behest of NC Senator Marc Basnight, whose district contained portions of Currituck and Dare Counties, passed legislation adding the Bridge to the North Carolina Intrastate Highway System.[5] NCDOT identified a potential terminus for the Bridge on the Outer Banks in 1991,[6] and local officials began meeting with the Congressional delegation to discuss ways to secure the necessary federal funding.[7] In these early discussions, local officials discussed promoting hurricane evacuation as a way to justify the project.[8]

[3] *See* Howard, Needles, Tammen, and Bergendoff for the North Carolina Department of Transportation, Currituck Sound Transportation Improvement Feasibility Study at 31-32 (Feb. 1989) (Exhibit 3).

[4] *See* Letter from Terry Ruggles, Vice-President, Whalehead Property Owners Association to Roger Schecter, Director, DCM (Feb. 20, 1991) (Exhibit 4).

[5] *See* Letter from Senator Marc Basnight to Gene Gregory, Board of Commissioners (Oct. 3, 2001) (Exhibit 5).

[6] *See* North Carolina Department of Transportation, Environmental Screening For the Eastern Terminus of the Mid-Currituck Sound Bridge, Currituck County, at 2 (Dec. 1991) (Exhibit 6).

[7] *See* Memorandum to Local Elected Officials re Meeting with Congressman Martin Lancaster (Dec. 4, 1992) (Exhibit 7).

[8] *Id.* at 2.

Initial DEIS

In March 1994, NCDOT retained the engineering firm of Parsons, Brinckerhoff, Quade, & Douglas, Inc. to assist with the NEPA process.[9] Shortly thereafter, NCDOT began drafting the formal NEPA Scoping document and holding interagency meetings.[10] The Bridge would be the longest, most expensive bridge ever built in North Carolina.[11]

The Division of Coastal Management ("DCM") commented on the Scoping document in May 1994.[12] In those comments, DCM noted that "the projected need is being pushed by the rapid resort development along the Currituck Outer Banks."[13] DCM expressed skepticism about the project, stating:

> Traffic traveling along NC 12 could be speeded up by adding additional lanes from Southern Shores up to Corolla. During a hurricane evacuation, these additional lanes could be used to get people off the banks faster. Because of the wealth of natural resources in Currituck Sound and the secondary impacts of increasing development pressures in the area, *the bridge option should be the last alternative considered.*[14]

DCM concluded that the secondary impacts of increased development "need to be carefully considered," and also expressed concerns about the Bridge's impact on Maple Swamp, submerged aquatic vegetation ("SAV"), possible archeological sites along the mainland, and waterfowl wintering area.[15] Finally, DCM noted that the bridge could increase off-road vehicle use in the refuge areas north of Corolla, known as Carova.[16] Other agencies concurred with DCM's assessment, including the United States Fish and Wildlife Service ("USFWS"), which also issued extensive comments on the Scoping document.[17]

[9] *See* E-mail from Jennifer Harrison, TIP No. R-2576, NEPA/404 Merger Meeting, Prepared by Parsons Brinckerhoff Quade & Douglas, Inc., Aug. 16, 2001, at 1 (Jul. 31, 2001) (Exhibit 8); *see also* Terry Martin, *Planners, Environmentalists Battle Over Bridge*, WINSTON-SALEM JOURNAL, at E1, E9 (Feb. 20, 1994) (Exhibit 9).

[10] *See* E-mail from Jennifer Harrison, TIP No. R-2576, NEPA/404 Merger Meeting, Prepared by Parsons Brinckerhoff Quade & Douglas, Inc., Aug. 16, 2001, at 1 (Jul. 31, 2001) (Exhibit 8); *see also* Letter from H. Franklin Vick, P.E., Manager, Planning and Environmental Branch, NCDOT, to Terry Wheeler, Manager, Dare County (Apr. 26, 1994) (Exhibit 10).

[11] *See* Terry Martin, *Planners, Environmentalists Battle Over Bridge*, WINSTON-SALEM JOURNAL, at E1, E9 (Feb. 20, 1994) (Exhibit 9).

[12] *See* Memorandum from Pete Colwell to Steve Benton, at 1 (May 27, 1994) (Exhibit 11).

[13] *Id.*

[14] *Id.* (emphasis added).

[15] *Id.*

[16] *Id.*

[17] Letter from David Horning, Acting Field Supervisor, USFWS, to H. Franklin Vick, P.E., Manager, Planning and Environmental Branch, NCDOT (Jun. 13, 1994) (Exhibit 12).

NCDOT held a series of project team meetings to discuss traffic, purpose and need, and preliminary alternatives during late 1994 and early 1995.[18] During this time, federal and state agencies continued to express concerns about the construction of the Bridge and its secondary impacts. For example, USFWS stated that "[c]onstruction of a new bridge between mainland Currituck County and the Outer Banks will adversely affect wetlands and shallow estuarine waters in the project vicinity."[19] USFWS also informed NCDOT and FHWA of the need for a Biological Assessment and included a list of federally-listed endangered, threatened, and candidate species that are known to occur in Currituck County.[20] The North Carolina Wildlife Resources Commission ("WRC") also opposed the Bridge alternatives, stating: "We strongly support the upgrade alternative as a viable option for this project."[21] The upgrade alternatives would make improvements to existing highways, particularly through widening existing highways, in lieu of constructing a bridge.[22]

In response to a request from NCDOT for comments regarding the selection of preliminary alternatives, the United States Army Corps of Engineers ("Corps") expressed concern that "the 'No-Bridge Alternative' is not being evaluated at the same level of review as the bridge alternatives."[23] The Corps, in a position that would remain consistent for years to come, expressed doubt about hurricane evacuation as a purpose of the project. The Corps noted that the Bridge would cause increased human presence on the Currituck Outer Banks, thus vitiating the Bridge's purported ability to decrease hurricane evacuation times.[24] Based in part on conclusions from the 1989 Feasibility Study, the Corps also questioned NCDOT's conclusion that the Bridge would impact the natural and social environments far less than the upgrade alternatives.[25]

The Transportation Agencies completed an initial Draft Environmental Impact Statement ("DEIS") in March 1996 and cited four purposes for the proposed project: (1) to reduce travel times between the Currituck mainland and Outer Banks; (2) to provide better public services on the Outer Banks; (3) to reduce traffic congestion on US 158 and NC 12; and (4) to improve hurricane evacuation.[26] The 1996 DEIS included the following alternatives: no-build; nine

[18] *See* TIP No. R-2576, NEPA/404 Merger Meeting Aug. 16, 2001, Proposed Work Plan Assumptions, prepared by Parsons Brinckerhoff Quade & Douglas, Inc., at 1 (Exhibit 13).

[19] Letter from L.K. Mike Gantt, Supervisor, USFWS, to Roy C. Shelton, Operations Engineer, FHWA, at 1 (Aug. 15, 1995) (Exhibit 14).

[20] *Id*. at 2.

[21] Memorandum from Franklin McBride, Manager, WRC, to Melba McGee, Office of Legislative and Intergovernmental Affairs, at 1 (Feb. 20, 1995) (Exhibit 15).

[22] *Id*. at 2.

[23] Letter from Michael D. Smith, Chief, North Section, Regulatory Branch, USACOE, to H. Franklin Vick, P.E., Manager, Planning and Environmental Branch, NCDOT, at 1 (Feb. 1, 1996) (Exhibit 16).

[24] *Id*.

[25] *Id*. at 2.

[26] Letter from David McCoy, NCDOT, to Walter B. Jones, United States Congress, at 1 (Feb. 14, 2001) (Exhibit 17).

bridge alternatives; and five no-bridge alternatives including widening existing US 158 and NC 12, providing additional public services on the Outer Banks, ferry use, transit, and travel demand management.[27]

In response to the 1996 DEIS, the Corps stated that it "remained [the Corps'] contention that the 'Bridge Alternative' is being presented as the preferred alternative, without ample justification, over the 'No-Bridge Alternatives.'"[28] NCDOT then prepared a revised Purpose and Need Statement, in which the project's primary purpose was to reduce travel time and distance between the Currituck mainland and the Outer Banks. A secondary purpose was to reduce traffic congestion on NC 12 and US 158, providing access to public services, and increasing hurricane evacuation capacity. The revised Purpose and Need Statement did not, however, address the Corps' "concerns regarding the hurricane evacuation and traffic congestion reduction as a valid purpose and need for the project."[29] The Corps continued to express its contention that the Bridge would, "significantly increase hurricane evacuation times and increase normal traffic congestion on NC-12 and US-158."[30]

In a project meeting on May 6, 1997, representatives of the Corps stated that they would concur with the Purpose and Need Statement if it were revised to (1) remove all references to hurricane evacuation, (2) remove all reference to traffic congestion relief on NC 12, and (3) instead discuss hurricane evacuation and congestion relief on portions of NC 12 as beneficial indirect impacts.[31] Subsequently, FHWA and NCDOT staff agreed that the proposed bridge, without further improvements to NC 12, would further congest NC 12 and subsequently hinder hurricane evacuation by allowing more traffic on the Currituck Outer Banks.[32] NCDOT staff agreed to remove hurricane evacuation and potential for traffic congestion from the Purpose and Need Statement. As a result, the Corps finally concurred with the Purpose and Need Statement on August 29, 1997.[33] In the concurrence letter, the Corps reminded the Transportation Agencies: "As your planning process continues, please be reminded that avoidance and minimization of impacts to waters and wetlands must be undertaken to the maximum extent practicable."[34]

[27] *Id.*

[28] Letter from Michael D. Smith, Chief, North Section, Regulatory Branch, USACOE, to H. Franklin Vick, P.E., Manager, Planning and Environmental Branch, NCDOT, at 1 (Mar. 27, 1996) (Exhibit 18).

[29] Letter from David McCoy, NCDOT, to Walter B. Jones, United States Congress, at 1 (Feb. 14, 2001) (Exhibit 17); Letter from Michael D. Smith, Chief, North Section, Regulatory Branch, USACOE, to H. Franklin Vick, P.E., Manager, Planning and Environmental Branch, NCDOT, at 1 (May 13, 1997) (Exhibit 19).

[30] *Id.*

[31] Letter from David McCoy, NCDOT, to Walter B. Jones, United States Congress, at 1 (Feb. 14, 2001) (Exhibit 17).

[32] *See* Storm Evacuation Time, Mid-Currituck Sound Bridge Study, Excerpt from the Jan. 18, 1998, DEIS (Exhibit 20).

[33] Letter from Michael D. Smith, Chief, North Section, Regulatory Branch of USACOE, to H. Franklin Vick, P.E., Manager, Planning and Environmental Branch, Division of Highways, NCDOT (Aug. 29, 1997) (Exhibit 21).

[34] *Id.*

Also in May 1997, the project was placed under North Carolina's Merger process.[35] As a result, a project team of federal and state agencies was assembled to reach concurrence on the project's purpose and need, reasonable and feasible alternatives, preferred alternative, and avoidance and minimization of environmental impacts.[36] The project team consisted of FHWA, USACE, USFWS, U.S. Environmental Protection Agency ("EPA"), National Marine Fisheries ("NMF"), NCDOT, and the North Carolina Department of Environment and Natural Resources ("DENR"), in particular, the Division of Water Quality ("DWQ"), the Division of Coastal Management ("DCM"), WRC, and the Division of Marine Fisheries ("DMF").[37]

In July 1997, NCDOT asked the Merger Team agencies to express in writing whether they concurred with the project's Purpose and Need Statement.[38] In an October 1997 letter, DWQ refused to concur with the Purpose and Need and stated it was not "ready to endorse alternatives to carry forward for public review."[39] DWQ expressed skepticism about the true purpose of the project, stating, "We believe that this new bridge is instead being constructed primarily with future development in mind, to address the desires of those who wish to get onto the Outer Banks more rapidly, or into areas that are currently inaccessible. In other words, we do not believe that a public need has been demonstrated for this bridge." After noting the extensive environmental harm the Bridge would cause, DWQ concluded by stating, "In our opinion, a new bridge across Currituck Sound would easily cause more problems than it could solve." USFWS also expressed doubt about the underlying need for the Bridge, and listed extensive concerns about direct and indirect environmental effects of the project.[40]

Additionally, the National Oceanic and Atmospheric Administration ("NOAA") refused to grant concurrence regarding the selection of the five bridge alternatives as the only feasible and practical alternative for the project, noting, in addition to other concerns, that "cumulative adverse impacts to water quality and fishery resources in Currituck Sound are likely under the bridge construction scenario" and that "construction of a bridge over the sound is not the least environmentally damaging alternative."[41]

[35] FHWA, the Corps, and NCDOT signed a Memorandum of Agreement on May 14, 1997, to provide a Merger Process for transportation projects requiring a Section 404 permit. Memorandum of Understanding, *available at* https://connect.ncdot.gov/resources/Environmental/Compliance%20Guides%20and%20Procedures/Memorandum%20of%20Understanding.pdf (Exhibit 22).

[36] *See* Letter from Lyndo Tippett to Walter B. Jones, United State Congress, at 2-3 (Feb. 14, 2001) (Exhibit 23).

[37] *See id.*

[38] *See* Letter from Michael D. Smith, Chief, North Section, Regulatory Branch of USACOE, to H. Franklin Vick, P.E., Manager, Planning and Environmental Branch, Division of Highways, NCDOT (Aug. 29, 1997) (Exhibit 21).

[39] Letter from Cyndi Bell, NCDWQ, to Mike Bell, USACOE (Oct. 29, 1997) (Exhibit 24).

[40] Letter from John Hefner, USFWS, to Mike Bell, USACOE (Oct. 10, 1997) (Exhibit 25).

[41] *See* Letter from Andreas Mager, Jr., to Colonel Terry R. Youngbluth (Nov. 6, 1997) (Exhibit 26). Additionally, an Apr. 1997 Natural Resources Report prepared for NCDOT by CZR Incorporated notes that the project would have significant impacts on the natural environment on both the Currituck mainland and the Currituck Outer Banks (Exhibit 27).

In its comments, EPA refused to concur with the DEIS' Purpose and Need Statement and noted numerous concerns with the proposed project.[42] EPA's comments focused on the effect of the bridge on the development of the Currituck Outer Banks and flawed logic within the DEIS, stating that "[t]he basic issue that must be addressed is whether it is appropriate for NCDOT/FHWA to consider any alternative that would support levels of Outer Banks development incompatible with long-term environmental quality."[43] With regard to the Bridge's effect on induced growth, EPA stated the Bridge would "promote greater development in a high hazard, storm prone barrier island area," and that this "voids the otherwise justified project purpose."[44] EPA believed that a "shortcut to beach property is likely to create more permanent residents" commuting to nearby metropolitan areas and that this "new commuter market could drive a higher demand and faster development."[45]

EPA also noted that it was inconsistent for the DEIS to include reduced travel costs as a purpose of the project while also intending to fund the project with tolls, as the per-vehicle toll amount would be greater than any fuel cost savings realized from shortened travel distance. EPA further expressed doubt about hurricane evacuation as a valid purpose of the Bridge, stating: "It is likely that the bridge would promote increased day visitations as storms approach, thus complicating evacuation traffic situations."[46] EPA also challenged the DEIS' dismissal of alternatives, questioning why the conclusion from the 1989 Feasibility Study that the Bridge is more expensive and harmful than expansion of Wright Memorial to six lanes is not still valid. With regard to ferries as an alternative, the comments stated: "If very shallow draft ferries are available, they should be investigated."[47]

Finally, EPA expressed concern about direct effects from the Bridge, commenting that it did not believe that "a bridge could be constructed across the sound without causing episodic organic sediment resuspension in excess of water quality turbidity standards." EPA noted that "waters would quickly and negatively respond to pollutant loadings" and that "[l]ong-term pollutant delivery by roadway runoff would likewise be injurious to aquatic life in the sound." In conclusion, EPA urged "NCDOT and FHWA to consider and select more environmentally sound options to serve the transportation needs of the public . . . ."

The USFWS also strongly attacked the project's stated purpose, noting the inconsistency between the DEIS' purpose of reducing travel cost and charging a toll.[48] The comments focused

[42] Letter from Heinz Mueller, Chief, Office of Environmental Assessment, EPA, to Richard Davis, Manager, Planning and Environmental Branch, North Carolina Division of Highways (Apr. 30, 1998) (Exhibit 28).

[43] *Id.*

[44] *Id.*

[45] *Id.*

[46] *Id.*

[47] *Id.*

[48] Letter from Willie R. Taylor, Director, Office of Environmental Policy and Compliance, Department of Interior, to Nicholas L. Graf, P.E., Division Administrator, Federal Highway Administration, at 2 (May 28, 1998) (Exhibit 29). *See also* Memorandum from USFWS Supervisor to FWS Assistant Regional Director (Mar. 31, 1998) (Exhibit 30).

on the DEIS' failure to discuss the "needs that form a compelling foundation" for the Bridge's purposes, noting that the Bridge "would produce a greater influx of day visitors and seasonal residents, but there is no discussion of the *need* of more people on the Outer Banks,"[49] and that the FEIS should present clear and compelling needs for a new bridge which are distinct from the effects of its construction."[50]

Much like EPA, USFWS questioned the DEIS' analysis of alternatives, noting that the DEIS dismissed the five no-bridge alternatives because they were considered in isolation and the document failed to consider a combination of non-bridge alternatives, for example, "initiating a new ferry service and developing local delivery options for services."[51] USFWS also expressed concerns about potential harm to Maple Swamp, as well as the Bridge's overall effect on water quality and SAV in the Currituck Sound.[52]

USFWS also listed as a "major area of concern" secondary impacts in the form of increased rate and level of development in the Currituck Outer Banks. In particular, USFWS noted that "additional human presence on the Currituck Outer Banks poses serious concerns about the quantity and quality of the freshwater supply."[53] USFWS concluded by expressing concern about secondary effects on federally protected species from increased human presence on the Currituck Outer Banks, including the loggerhead sea turtle, the piping plover, the leatherback sea turtle, and the seabeach amaranth.[54]

Finally, the National Marine Fisheries Service ("NMFS") stated its concern "that all of the Build Alternatives described in the DEIS will adversely impact fishery resources found in Currituck Sound" and noted that the "DEIS should include a more detailed analysis of the No-Build Alternative."[55]

State Opposition to the Initial DEIS

State agencies were also uniformly concerned about the project. In its comments, DCM concluded that the Bridge would reduce traffic in the short-term only,[56] stating that "[f]uture development that will be allowed by the bridge will result in congestion on NC-12 returning or exceeding current levels by the year 2020." DCM also posed questions about the effects of cumulative impacts associated with increased development, including effects on the freshwater supply in the Currituck Outer Banks. With regard to direct effects, like the federal agencies,

[49] *Id*. at 2 (emphasis added).

[50] *Id*. at 4.

[51] *Id*. at 3.

[52] *Id*.

[53] *Id*. at 4.

[54] *Id*.

[55] Letter from Andreas Mager, Jr., Assistant Regional Administrator, Habitat Conservation Division, to H. Franklin Vick, P.E., Manager, Planning and Environmental Branch, N.C. Division of Highways (Apr. 16, 1998) (Exhibit 31).

[56] Letter from Lynn Mathis to Melba McGee (Apr. 28, 1998) (Exhibit 32).

DCM expressed concern about effects of the Bridge on Maple Swamp and overall water quality in the Currituck Sound.

The Division of Parks and Recreation's comments noted concerns about both direct and indirect impacts, stating that the environmental costs continue to "far outweigh" the primary benefits of the project and that the Division "strongly support[s] either the No-Build or No-Bridge Alternative."[57] Likewise, DMF stated that it "continues to be concerned with the secondary and cumulative impacts associated with the bridge alternatives."[58]

DWQ raised strong objections to the Bridge alternative, refusing to concur with the Purpose and Need Statement or the Reasonable and Feasible Alternatives.[59] DWQ stated that the No-Build Alternatives were not given adequate consideration and that the costs of the Bridge alternative outweigh its anticipated benefits. Like other agencies, DWQ discussed the direct environmental impacts of the Bridge as well as the secondary and cumulative impacts in the form of increased development and its effect on water supply. DWQ concluded by stating that the "[d]raft EIS provides insufficient information to proceed directly to a Final EIS" and that "a Supplemental Draft Environmental Impact Statement should be prepared in order to address our very serious concerns with the Purpose and Need statement, the Alternatives Analysis, and the lack of tangible proposals to mitigate impacts to aquatic and terrestrial wetland communities."

WRC in its comments focused on the inadequacy of the DEIS' discussion of the environmental consequences of the Bridge alternatives.[60] With regard to secondary impacts, WRC noted that induced development will significantly threaten sensitive estuarine communities and also diminish traditional recreational hunting opportunities. WRC also criticized the DEIS for failing to discuss noise impacts from the Bridge or impacts of increased human activity on wintering waterfowl in Currituck Sound. The comments concluded by requesting that the Transportation Agencies revise the DEIS to address WRC's concerns.

In addition to agency comments, the North Carolina Coastal Federation, a nonprofit organization working to protect and restore the water quality and critically important natural habitats of the North Carolina coast, submitted comments on the DEIS opposing the Bridge. Among other concerns, the Coastal Federation noted that the Bridge would harm a particularly sensitive area, as there are two tributaries of the Currituck Sound designated Inland Primary Nursery Areas by WRC. Additionally, Maple Swamp has a priority ranking from the Natural Heritage Program.[61]

Despite the overwhelming objections from the project team agencies, the Transportation Agencies approved the DEIS without agency concurrence on reasonable and feasible

[57] Letter from Stephen Hall to Melba McGee (Apr. 17, 1998) (Exhibit 33).

[58] Memorandum from P.A. Wojciechowski to Melba McGee (Mar. 9, 1998) (Exhibit 34).

[59] Letter from John Dorney to Mary Kiesau (Apr. 21, 1998) (Exhibit 35).

[60] Memorandum from Franklin McBride, Manager, Habitat Conservation Program with WRC, to Melba McGee (Apr. 27, 1998) (Exhibit 36).

[61] Letter from Coastal Federation to H. Franklin Vick and Cindy Sharer (Jul. 1, 1998) (Exhibit 37).

alternatives. This is despite the fact that the NEPA/404 merger agreement requires agency concurrence at each strategic point in order for the project to move forward.[62]

Two days of public hearings on the proposed project were held on May 26 and May 27, 1998. An overwhelming majority of citizens—61 of the 66 speakers—opposed the project. At a post-hearing meeting in August 1998, NCDOT, FHWA, and the Corps decided to put the project on hold.[63]

Political Pressure and Project Reactivation

The Bridge project should have remained tabled permanently for all of the reasons identified by the project agencies, as none of the key factors underpinning the agencies' objections had changed since the initial DEIS. After languishing for two years, however, federal and state politicians began pushing the project forward once more. In initial conversations, Bridge proponents sought to determine which agencies were responsible for the project not being pursued. According to DCM officials, Congressman Walter B. Jones, whose district included the Currituck Outer Banks, "was telling folks that the main problems were with the state and not the federal agencies."[64] Around the same time, NC Senator Basnight sent a letter to Congressman Jones, asking Congressman Jones to assist with the project at the federal level.[65] Congressman Jones responded to Basnight, stating he would assist with the regulatory process.[66] In particular, Congressman Jones volunteered to "engage" with federal agencies "to ensure that the state is being treated fairly." David McCoy, NC Secretary of Transportation at the time, also received Congressman Jones' correspondence, and responded to Congressman Jones by listing the federal agencies that had expressed concern about the Bridge project.[67] NCDOT stated that it would "appreciate the Congressman's help in advancing this study and helping to persuade the Corps of Engineers to agree with our reasonable and feasible alternatives so that the project can move forward."[68]

In early 2001, Congressman Jones contacted the Corps regarding the status of the project.[69] NCDOT reached out to the Congressman again in February 2001,[70] noting that

[62] *See* Letter from Lyndo Tippett to Walter B. Jones, at 2-3 (Feb. 14, 2001) (Exhibit 23).

[63] At the time of the 1998 DEIS, the estimated cost of the project ranged from $70.5 to $85.9 million. *See* Currituck Sound Area Transportation Study General History and Status (Exhibit 38).

[64] *See* Email from Charles Jones to Donna Moffitt (Aug. 29, 2000) (Exhibit 39).

[65] Letter from Senator Marc Basnight to Congressman Walter B. Jones (Oct. 31, 2000) (Exhibit 40).

[66] Letter from Congressman Walter B. Jones to Senator Marc Basnight (Nov. 14, 2000) (Exhibit 41).

[67] Letter from David McCoy "NCDOT" to Congressman Walter B. Jones (Undated) (Exhibit 17).

[68] E-mail from Rolf Blizzard to Paul Sutherland and Congressman Walter B. Jones (Nov. 22, 2000) (Exhibit 42).

[69] Letter from Congressman Walter B. Jones to Colonel James W. DeLony (Jan. 3, 2001) (Exhibit 43); s*ee also* Letter from Congressman Walter B. Jones to Governor Mike Easley ("I will anticipate hearing which specific federal agencies are improperly holding up which specific reviews, permits or processes.") (Jan. 26, 2001) (Exhibit 44). The Corps responded by noting that USDOT needed to reinitiate the NEPA process in order to move the project forward (Exhibit 45).

[70] Letter from Lyndo Tippett to Congressman Walter B. Jones (Feb. 14, 2001) (Exhibit 23).

"[s]everal articles have appeared in the local newspaper indicating that [NCDOT] has not followed appropriate planning processes, which have resulted in project delays." NCDOT disputed those claims and provided a history of its efforts to move the project forward. NCDOT noted the Corps' opposition to aspects of the Bridge project, including the Corps' conclusion that "the bridge alternative would attract a greater volume of people and reduce the travel time to the Outer Banks, which would lead to additional land development and greater environmental degradation." NCDOT stated it intended to revise the Purpose and Need Statement once again, this time to list hurricane evacuation as the primary purpose of, and need for, the project.

In response to a request from NC Senator Basnight's office about the project's status, Melba McGee with DCM explained in an internal communication that the project had stalled as a result of agency opposition and because the agencies had "recognize[d] the sound as one of the most valuable estuaries on the coast."[71] Ms. McGee concluded that, for the project to move forward, "DOT needs to be willing to investigate an alternative with less impacts."

Local political pressure for the project increased throughout this time period.[72] For example, Bill Richardson, the Currituck County Manager at the time, sent correspondence to the Chiefs of Staff for Congressman Jones and NC Senator Basnight stating: "a key to moving forward in the future is strong liaison [sic] between Congressman Jones' and other federal offices and NCDOT to expedite the review and permitting process and response to concerns." Mr. Richardson also stated the importance of having the project agencies recognize hurricane evacuation as a need for the project. Mr. Richardson proposed "setting up a meeting with US Senators and the entire NC delegation to mobilize our congressional delegation as advocates and advance the project."[73]

When communicating with agencies, local officials continued to stress the importance of the Corps' hurricane evacuation model demonstrating a need for the bridge project.[74] In a September 2001 letter to the Secretary of NCDENR, the Currituck County Economic Development Director stated: "We look forward to having additional information for the DEIS including new data for hurricane evacuations from Corps of Engineers modeling. While we do not know what the results of the modeling will show when projected for future years, we know that the Corps has increased evacuation time by over 50%."[75]

[71] Email from Melba McGee to Donna Moffitt (Aug. 29, 2000) (Exhibit 46).

[72] Email from Bill Richardson, County Manager, to Rolf Blizzard, Chief of Staff for Senator Marc Basnight, and Glenn Downs, Chief of Staff for Congressman Walter B. Jones (Feb. 1, 2001) (Exhibit 47). *See also* Letter from Colonel James W. DeLony, USACOE, to Congressman Walter B. Jones (Oct. 12, 2001) (Exhibit 48).

[73] Email from Bill Richardson, County Manager, to Rolf Blizzard, Chief of Staff for Senator Marc Basnight, and Glenn Downs, Chief of Staff for Congressman Walter Jones (Feb. 1, 2001) (Exhibit 47). *See also* Letter from Colonel James W. DeLony, USACOE, to Congressman Walter B. Jones (Oct. 12, 2001) (Exhibit 48).

[74] Letter from Wayne Leary, Economic Development Director for Town of Currituck, to William G. Ross, Jr., Secretary of NCDENR (Sep. 26, 2001) (Exhibit 49).

[75] *Id.*

In the fall of 2001, NC Senator Basnight increased his efforts to move the project forward. Basnight revealed NCDOT's new strategy for the project in an email to a Currituck County Commissioner, stating:[76]

> Because of the agency concerns, NCDOT believes that the only way this project has a chance of ever being permitted, is to show the agencies that instead of trying to justify building a bridge across Currituck Sound, we are trying to solve a serious transportation problem and that the bridge could be an integral part of that solution. If the agencies however would agree with our position on the bridge and not continue to oppose its construction, such studies would not be necessary.

Basnight also noted that he had been "working with our federal partners in Congress to convince [ ] federal agencies to approve the project as quickly as possible."[77]

In addition to federal and elected officials, local officials in Currituck and Dare Counties increased their advocacy efforts.[78] A group of business leaders in Duck, known as the Duck Community and Business Alliance, hired the national law firm of Akin, Gump, Strauss, Hauer, and Feld, LLP, to create a strategy for supporting the Mid-Currituck Sound Bridge.[79]

The merits of the Bridge project did not change during the two years it lay dormant. The political strength of the development community, however, ensured that the state would revive the project.

Revision of Purpose and Need and Concurrence

On August 16, 2001, NCDOT announced that it was reactivating the Bridge project.[80] NCDOT noted that it would restart the NEPA process with Scoping and would work toward preparing a Supplemental EIS. At a project team meeting, NCDOT presented a Purpose and Need Statement that included hurricane evacuation. Project team agencies noted that their concerns about the project had not changed, and the Corps noted that it had been contacted by Congressman Jones regarding the project.[81]

The merger team engaged in a protracted debate regarding hurricane evacuation as a valid purpose and need throughout 2002 and 2003. The Transportation Agencies insisted that

[76] Letter from Senator Marc Basnight to Gene Gregory, Currituck County Board of Commissioners (Oct. 3, 2001) (Exhibit 5).

[77] *Id*.

[78] Meeting Summary from Reginald Scales (Oct. 31, 2001) (Exhibit 50). This was the last of three meetings local officials held to discuss the status of the project and the proposed work plan. *See* Meeting Agenda, Prepared September 13, 2001 (Exhibit 51).

[79] Memorandum from Akin, Gump, Strauss, Hauer, and Feld, LLP to the Duck Community and Business Alliance (Jan. 23, 2002) (Exhibit 52).

[80] Mid-Currituck Sound Bridge Study, Proposed New Work Plan Assumptions (Aug. 16, 2001) (Exhibit 53).

[81] *See* Memorandum from Reginald Scales to Meeting Participants (Sep. 24, 2001) (Exhibit 54).

hurricane evacuation remain part of the Purpose and Need Statement, while other agencies continued to object, arguing, as before, that the Bridge would increase human presence on the Northern Outer Banks and would not have a net positive effect on hurricane evacuation time.[82] At a meeting in August 2002, the Corps stated that it was "against hurricane evacuation as part of the purpose and need because it was only included to obtain public acceptance for the project."[83] Local officials also acknowledged that they viewed the Bridge as an "economic boon" for the Northern Outer Banks. [84]

As a result of several project team meetings ending in an impasse, and in an attempt to assuage agency concerns about including hurricane evacuation in the Purpose and Need Statement, the Transportation Agencies promised to provide more information about the Corps' hurricane evacuation model at future meetings.[85] Despite there being no new information regarding the legitimacy of hurricane evacuation as a project purpose, the Corps stated at a September 2003 meeting that it was "prepared to sign the concurrence form presented by the NCDOT with hurricane evacuation as a part of the Purpose and Need Statement." Other agencies, however, stated that they would not concur with the Purpose and Need Statement including hurricane evacuation as a purpose until the modeling study was completed. Some agencies suggested that the Statement be revised to note that "if the hurricane evacuation model does not support system improvement(s), then hurricane evacuation will be removed from the Purpose and Need Statement." In response, NCDOT stated that it was "very reluctant" to revise the language. USFWS was unwilling to sign off on the Purpose and Need Statement as written,[86] noting that increased development, and thus increased human presence, as a result of the Bridge would offset any theoretical improvements in hurricane evacuation time the Bridge may provide.[87] The agencies concluded the meeting without concurrence.[88]

In November 2003 the project team agencies, NCDOT, and FHWA finally reached a tentative agreement on a new Purpose and Need Statement for the project, which read:

[82] Letter from John Page, Project Manager, to Dan Scanlon, County Manager (Jun. 25, 2002) (Exhibit 55); Meeting Minutes of May 8, 2002 from Reginald Scales, Parsons Brinckerhoff (Jun. 3, 2002) (Exhibit 56); s*ee also* Revised Draft Summary of the Purpose of the Proposed Action (Jun. 25, 2002) (Exhibit 57); Currituck Sound Area Transportation Study, Southern Shores Meeting (Jul. 18, 2002) (Exhibit 58).

[83] *Id.*

[84] Memorandum for the Record by Paul Sutherland (Feb. 27, 2003) (Exhibit 59).

[85] *See* Email from Cathy Brittingham to Jennifer Harris (Aug. 14, 2003) (Exhibit 60); Memorandum from Reginald Scales to Meeting Participants, Drafted Sep. 16, 2003, Revised Dec. 8, 2003 (Exhibit 61).

[86] *See* Email from Gary Jordan, USFWS, to John Page (Nov. 12, 2003) (noting that USFWS position had not been accurately reflected in meeting minutes) (Exhibit 62).

[87] USFWS also explained its concerns about including hurricane evacuation in subsequent communications after the meeting, stating, "improved transportation could be self-defeating with regard to hurricane evacuation times. If the study could reasonably demonstrate that there would be a net reduction in evacuation times with improved transportation and the accompanying development, then I would not oppose including hurricane evacuation as a purpose and need statement." Email from Gary Jordan, USFWS, to Tonya Caddle (Sep. 29, 2003) (Exhibit 63).

[88] Email from Cathy Brittingham to Merger Team (Aug. 21, 2003) (Exhibit 64); Email from Jennifer Harris, NCDOT, to Merger Team (Sep. 5, 2003) (Exhibit 65).

Develop a range of alternatives which improves the Currituck Sound Area Transportation System and addressed the following needs:[89]

- Need to improve traffic flow on the project area's thoroughfares during the summer weekday peak travel periods.
- Need to reduce travel time for persons traveling between the Currituck County mainland and the Currituck County Outer Banks.
- Need to facilitate coastal evacuation of the northern Outer Banks provided this need is supported by empirical data from the [CORPS] hurricane evacuation model prior to Concurrence Point Number 2. If the modeling indicates that hurricane evacuation is not a need of the transportation system, then it will be removed from the Purpose and Need.[90]

In addition to the revised language regarding hurricane evacuation, some agencies changed their position regarding the Purpose and Need statement due to staff turnover. [91]

The Congressional delegation continued to exert influence as the project moved through the NEPA process, and in August 2005 Congress passed a federal highways bill that included a provision "To perform a study to be performed by East Carolina University to find the feasibility of constructing a mid-Currituck Sound Bridge." The bill appropriated $2,000,000 for the project.[92]

Transition to Turnpike Authority and Second DEIS

Agency jurisdiction for the project changed in 2006, when the North Carolina Turnpike Authority took over the project.[93] NC Senator Basnight said that the state assigned the project to

[89] Memorandum from Reginald Scales to Meeting Participants, Drafted Sep. 16, 2003, Revised Dec. 8, 2003 (Exhibit 61).

[90] EPA added the following statement at the bottom of their concurrence form: "Concurrence with P&N 1&2; conditional concurrence on 3 to allow the study to proceed with the understanding that the modeling input issues will be resolved and it will be removed if not supported prior to concur. Pt.2." Memorandum from Reginald Scales to Meeting Participants, Drafted Sep. 16, 2003, Revised Dec. 8, 2003 (Exhibit 61).

[91] Email from County Manager to Board of Commissioners:

> [T]he Army Corp has developed a new hurricane model that will project for the Eastern part of the state clearance rates for the next 30-40 years for hurricane evacuations. If the model demonstrates that this is a major issue for transportation, then there is concurrence to amend the purpose and need statement to include hurricane evacuation. This is a major point. There has been a major turnover in Merger Team members and I am being told that their replacements [sic] members should be an advantage for moving the project forward.

(Jun. 3, 2005) (Exhibit 66).

[92] *See* Email from George Mannina to Gwenn Cruickshanks and John Wander (Jul. 29, 2005) (Exhibit 67).

[93] The General Assembly created the North Carolina Turnpike Authority in 2002 (S.L. 2002-133). The Turnpike authority was directed to plan and construct three toll projects at its inception. In 2005, the General Assembly increased the number of projects the Turnpike Authority was authorized to construct and added the Mid-Currituck Bridge as one of its authorized projects (S.L. 2005-275, enacting G.S. 136-89.183A).

the Turnpike Authority in "an attempt to remove the obstacles that have delayed the bridge for far too long" because the Authority "has the ability work with the private sector to expedite the project."[94] Basnight also announced that project was estimated to cost $460 million, down from an estimate of over $800 million only one month earlier.[95]

In April 2009, the Turnpike Authority signed a Pre-Development Agreement with the Currituck Development Group, LLC, to design, build, help finance, operate, and maintain the bridge. Senator Basnight passed legislation which assured an annual earmark of $35 million per year to support the "gap" in funding that would not be covered by toll revenue needed to support construction of the Bridge.[96] The Turnpike Authority then issued the second DEIS in March 2010 and the Final Environmental Impact Statement in January 2012.

On July 26, 2012, the chairs of the Joint Legislative Transportation Oversight Committee sent a letter to David Joyner, Executive Director of the Turnpike Authority, regarding financing for the bridge and the "Public Private Partnership," or "P3," agreement. The chairs stated their "concerns about the terms of the agreement for the project, the financial feasibility of the project, and the financial liability the State may be incurring . . . ."[97] The chairs requested a presentation to the committee on these issues and asked the Turnpike Authority not to finalize a deal with Currituck Development Group before the presentation.

In 2013, the North Carolina General Assembly passed the Strategic Mobility Formula, which stripped the Mid-Currituck Bridge of its earmark and demanded that the Bridge be placed in a data-driven scoring process to compete for funding. This process is described in more detail in Section II, below.

Newly Organized Opposition to the Bridge

In 2010, a group of local citizens opposed to the Bridge began meeting to discuss their concerns about the Bridge and what they could do to prevent it from being built. In 2015, the group formalized as an unincorporated nonprofit association under the name NoMCB, Concerned Citizens and Visitors Opposed to the Mid-Currituck Bridge. The group has members from both the Currituck mainland and the Outer Banks. NoMCB maintains a website that provides regular updates to its members[98] and held meetings during the summer and fall of 2016 to organize support against the Bridge. Those meetings took place on both the mainland and in Corolla and were attended by both members and non-members. SELC now represents NoMCB with respect to its opposition to the Bridge.

[94] Letter from Marc Basnight to Gwenn Cruickshanks (Mar. 1, 2007) (Exhibit 68).

[95] "Basnight: Span to cost $460M, begin in 2010," DAILY ADVANCE (Mar. 30, 2007) (Exhibit 69).

[96] N.C. GEN. STAT. § 136-178–79, *repealed by* 2013 N.C. Sess. Laws 183, § 4.9.

[97] Letter from the Chairs of the Joint Legislative Transportation Oversight Committee to David Joyner (Jul. 26, 2012) (Exhibit 70).

[98] NoMCB Website (last visited Dec. 19, 2016), *available at* http://www.nomcb.com/ (Exhibit 71).

II. NEW FUNDING REALITIES RENDER THE BRIDGE UNAFFORDABLE AND DEMAND CONSIDERATION OF LESS COSTLY ALTERNATIVES

Even after forty years of planning, NCDOT still has no clear path forward to pay for the overpriced Mid-Currituck Bridge. Instead, NCDOT continues to obfuscate the true cost of the project and has failed to provide any realistic financial path to construction. At the same time, the Department has failed to consider how other less costly alternatives could be funded under the State's new data-driven funding process.

Project Cost

The cost for the Mid-Currituck Bridge has vacillated widely over the past twenty-five years, with costs ranging up to as high as $808 million.[99] The latest estimate in the Draft Reevaluation places the cost at $568.7–$678.6 million.

In recent years it has been almost impossible for the public to determine the true cost of the Bridge and the extent to which that cost will be borne by taxpayers. The 2012 FEIS put the cost of the Bridge at $500–595 million.[100] Months later, however, in a presentation to the North Carolina General Assembly, former North Carolina Turnpike Authority Executive Director David Joyner estimated the cost at $650 million.[101] At that time, NCDOT expected a relatively small portion of the project cost, $40 million, would be borne by a private partner in the form of a P3 agreement.[102] NCDOT also expected tolls to finance the project. NCDOT's traffic and revenue studies projected toll rates that would vary over time, with rates rising as high as $28 for a one-way trip during peak season. Mr. Joyner told the North Carolina General Assembly that the toll revenue bonds would account for roughly $132 million of the project's cost, while the state would be responsible for appropriation bonds of approximately $464 million. At the time, this nearly half-billion dollar "gap" in toll funding was to be supported by an annual earmark appropriation from the legislature in the amount of $35 million per year for forty years.[103]

In 2013, however, North Carolina decided to move toward an objective, data-driven approach for selecting road projects instead of allowing politicians to choose highways that please special interests. The legislation, known as the Strategic Transportation Investments law ("STI"), eliminated the earmark for the Mid-Currituck Bridge and subjected the project to the

[99] NCDOT, *Financial Feasibility Assessment of the Mid-Currituck Bridge Project*, Handout 24, Aug. 10, 2010 (Exhibit 72). In 2011, internal estimates placed the cost of the Bridge as high as $750 million when bridging Maple Swamp was included into the design.

[100] *FEIS* at xvi.

[101] David Joyner, NCDOT, *The Mid-Currituck Bridge Project*, presentation to the Joint Legislative Transportation Oversight Committee, at slide 7 (Oct. 5, 2012), *available at* http://www.ncleg net/documentsites/committees/JLTOC/2011-12_Biennium/2012-10-05/MidCurrituckDOT.pdf (Exhibit 73).

[102] *Id.* at slide 43.

[103] N.C. GEN. STAT. § 136-178–79, *repealed by* 2013 N.C. Sess. Laws 183, § 4.9.

state's new data-driven scoring system.[104] Under this system, projects compete for funding at three different levels: a "Statewide" level that is composed primarily of large highway projects deemed to be of statewide significance; a "Regional" level that includes highways, as well as some other modal options; and a "Division" level which includes all transportation modes and is limited to the funding allocated to each of NCDOT's fourteen transportation divisions.

The Bridge scored exceptionally poorly when compared objectively to other projects. It garnered just 23.34 points out of a possible 100 in the Statewide Mobility tier,[105] and over 250 other "Statewide" projects achieved a higher score.[106] As a result, the Bridge failed to qualify for funding at either the Statewide or Regional tiers. Despite also achieving a low score at the Division level, Division One and the local RPO prioritized the project by awarding the Bridge the maximum number of local input points.[107]

When the project was submitted to the STI process for scoring, it was assigned an overall project cost of just $440 million—a significantly lower price tag than the $650 million estimate from two years earlier. NCDOT staff noted internally the large discrepancy between the cost figure used in the STI and other estimates for the project,[108] but these significantly different estimates continued to be presented to the public. For example, despite rounding down the cost to just $440 million for purposes of the STI, a 2015 fact sheet published by NCDOT estimated the cost of the project to be $567–$676 million.[109]

Importantly, for purposes of prioritization, NCDOT included a cost to the state of just $173 million, therefore assuming the remaining 60% of the project cost would be covered by toll revenue.[110] This $173 million figure formed the basis of key scoring metrics in the STI, such as the "cost benefit" calculation. The end result of the STI process was that $173 million in state money would be allocated for the Bridge project. This is the *only* NCDOT funding that is available to the Bridge. All the remaining funds necessary to construct the Bridge must come from private contributions, a local match, or toll revenue.

[104] Strategic Transportation Investments Act, N.C. GEN. STAT. § 136-189 (2016).

[105] NCDOT, P3.0 Total Scores (last updated Oct. 12, 2015), *available at* https://connect ncdot.gov/projects/planning/Prioritization%20Data/Forms/AllItems.aspx?RootFolder=%2Fprojects%2Fplanning%2FPrioritization%20Data%2FPrioritization%203%2E0%20Archive%2FP3%2E0%20Scores&FolderCTID=0x0120001FD46DF9A3ECD549A6C58B29B660DAA2&View=%7BAE55D1B2-A3A0-493D-93D3-E689D98ADDFF%7D, at "All Projects" tab, row 2201 (Exhibit 74) [hereinafter STI scores].

[106] *Id*.

[107] Strangely, although the Bridge only scored well enough to receive division level funds, NCDOT correspondence suggest that Statewide funds were used to purchase right-of-way for the Bridge. *See* Memo from Calvin Legget, NCDOT, to Majed-Al Ghandour, NCDOT (Mar. 17, 2015) (Exhibit 75).

[108] Email from Derrick Lewis, NCDOT, to Spencer Franklin and Seth Fisher (Apr. 27 2015). (Exhibit 76).

[109] NCDOT, *Mid-Currituck Bridge Fact Sheet* (Jul. 2015) (Exhibit 77); *See also* NCDOT, Status Report on R-2576, Mid-Currituck Bridge (Jul. 2015) (Exhibit 78).

[110] STI scores at row 2201 (Exhibit 74).

In contrast to both the STI and the NEPA document, the current STIP reflects a project cost for the Mid-Currituck Bridge of $482.8 million, with $245 million coming from NCDOT, (more than the $173 million allocated by the STI).[111] Because the project only qualified for funding at the "Division" level, all of this funding would be required to come from Division One's already over-stretched budget. In fact, even if NCDOT kept within the STI allocation of $173 million, the project would eat up approximately 67% of the entire Division Budget for the next ten years. Using the $245 million figure noted in the STIP, that percentage would increase to over 90%. The amount of funding between the years of 2016-2025 for Division One is set at $257,718,000.[112]

NCDOT's Draft Reevaluation now sets the overall project cost at $568.7–678.6 million.[113] The document provides no justification for this reversion to an earlier cost figure that is quite out of line with the STI's project cost. Moreover, no explanation is given as to why the cost in the NEPA document differs so greatly from that listed in the STIP. Federal regulations require that a project receiving federal funding must be part of a fiscally constrained STIP.[114] And FHWA requires highways undergoing NEPA review to have at least one section funded through the STIP.[115] FHWA guidance also requires that the cost estimate in the STIP mirror the estimate in the NEPA documents.[116] Therefore, unless the STIP is updated to match the project cost listed in the NEPA document, FHWA cannot approve the project as planned.

Central to the discussion surrounding the merits of the Mid-Currituck Bridge has always been the issue of project cost and the affordability of alternative solutions, especially in comparison to the cost of the proposed Bridge. NCDOT must use the NEPA process to transparently present one figure—the true cost of the project—to the public and local decision-makers and cease using different cost estimates for different purposes. Only then can the democratic decision-making process be fully informed.

[111] NCDOT, Nov. 2016 STIP, *available at* https://connect.ncdot.gov/projects/planning/STIPDocuments1/2016%20November%20STIP%20Board%20of%20Trans%20Amendments%20Item%20I.pdf (Exhibit 79).

[112] Email from Jason Soper, NCDOT, to Rep. Paul Tine (Dec 12, 2014) (Exhibit 80). "By year it is: 19 - $27,429,000; 20 - $25,482,000; 21 - $22,283,000; 22 - $22,283,000; 23 - $13,173,000; 24 - $13,173,000; 25 - $13,173,000. We will continue to have GARVEE payments in the amount of $13,173,000 for years 26 through 30." The total per year figures "include[] the STIP dollars, federal and state but does not include items such as toll bond revenue or emergency federal funding for Pea Island or Rodanthe. This is all funding in all 3 categories plus transition dollars for Division 1. Includes bridges, safety, widenings, etc." *See also* Email from Representative Tine to Peter Bishop (May 26, 2015) (Exhibit 81).

[113] Draft Reevaluation at 8 (Exhibit 1).

[114] 23 C.F.R. §450.222.

[115] TRANSPORTATION PLANNING REQUIREMENTS AND THEIR RELATIONSHIP TO NEPA APPROVALS, FHWA (Feb. 9, 2011), *available at* http://www.fhwa.dot.gov/planning/tpr_and_nepa/tprandnepasupplement.cfm (Exhibit 82).

[116] *Id.*

Plan of Finance

Not only has NCDOT failed to present a clear estimate of the project cost, but the agency has also failed to articulate a workable plan of finance to pay for the project. It is still unclear how much of the project cost can be covered by toll revenue and what financing mechanisms can and will be used.

Despite FHWA requirements, it seems unlikely that the STIP *can* be updated to match the new, high project cost noted in the NEPA document. The plan of finance laid out in the Draft Reevaluation is significantly flawed, making it clear that there is no feasible way to pay for the full Bridge with the small amount—$173 million—that has been assigned to the project from the STI.

The amount of funding that must come from public coffers has also varied dramatically over time. In 2012, internal NCDOT documents assumed that with an overall project cost of $637 million, approximately $460 million would need to be covered by public funds, i.e., 72% of the total project.[117] These figures were based on a 2012 traffic and revenue study which, despite including toll rates of up to $28 for a one-way trip, concluded that ultimately the toll revenue generated by the Bridge would be quite minimal.[118] Assumptions behind this study are detailed in the lenders report and are largely outdated.[119]

As noted above, however, the STI assigns just $173 million to the project, a far cry from the $460 million of public funds assumed in 2012. As such, NCDOT has been forced to explore plans of finance with significantly higher percentages of revenue being provided from toll revenue and other sources.[120]

In August 2015, NCDOT set out a preliminary plan of finance that included a $188.5 million TIFIA Loan, $117.5 million in Toll Revenue Bonds, and $130.0 million in STIP Funds.[121] This plan also included a $133.4 million "Toll Match" from NCDOT.[122] It is unclear exactly what is meant by the "Toll Match" from NCDOT. Beyond the $173 million apportioned from the STI there are no other NCDOT funds available to be spent on the project, yet each plan of finance that has been explored by NCDOT to date requires the use of much more than $173 million in public funding.[123] These various plans have included the idea of a "loan" from

[117] ACS Infrastructure, COMMENTS WITH RESPECT TO COMPREHENSIVE AGREEMENT ("AGREEMENT") TO BE ENTERED WITH THE NORTH CAROLINA TRANSPORTATION AUTHORITY ("NCTA") (Sep. 28, 2012) (Exhibit 83).

[118] Currituck Development Group, MID CURRITUCK BRIDGE, FINAL REPORT TRAFFIC AND REVENUE FORECASTS (Jul. 2011) (Exhibit 84).

[119] Steer Davies Gleave, MID-CURRITUCK BRIDGE LENDERS TRAFFIC CONSULTANT REPORT, DRAFT REPORT (Oct. 2011) (Exhibit 85).

[120] Email from Donna Keener to David Miller, PFM (Apr. 23, 2015) (Exhibit 86).

[121] NCTA, Preliminary Plan of Finance, Mid-Currituck Bridge (Aug, 21, 2015) (Exhibit 87).

[122] *Id.*

[123] Email from David Miller, PFM, to Beau Memory and David Tyeryar, NCDOT (Mar. 14, 2016) (Exhibit 88).

NCDOT to the project.[124] The concept of this loan, which would amount to at least $100 million, flies in the face of the STI process. The entire purpose of the STI is to prioritize which highway projects get NCDOT's limited transportation funds, with those decisions being made through a data-driven formula. The Mid-Currituck Bridge did not secure funding from Statewide or Regional funding sources and was only successful in securing funding at the Division level based on the understanding that the cost to NCDOT was $173 million. To provide additional financial support to the project at this juncture would necessarily take financial resources away from other, higher scoring projects in the STI and fatally undermine the entire process.

In the Draft Reevaluation, NCDOT also explores the idea of using the STI toll bonus allocation to pay for the Bridge itself. [125] The bonus allocation is a provision of the STI that provides a dollar award equal to 50% of expected toll revenues, capped at $100 million, to be made available to the RPO for programming on another project in the same county.[126] There was an attempt during the 2015 legislative session to alter this legislation slightly with regard to the Mid-Currituck Bridge so that the bonus could be spent anywhere in Division 1, not just in Currituck County.[127] The attempt, however, was ultimately unsuccessful.

The fact that NCDOT has considered using the bonus allocation to pay for the Bridge itself is both surprising and troubling. The STI legislation makes very clear that any bonus allocation associated with a project must be spent on an "additional" project, not to pay for the toll project itself.[128] Moreover, Currituck County and the Albemarle Rural Planning Organization has already determined that any bonus allocation associated with the Bridge will be spent on R-2574, the widening of US 158 from NC 34 at Belcross to NC 168 at Barco."[129] The use of the bonus allocation to fund the Bridge is therefore a non-starter.

Going forward, NCDOT will need to create a financial plan to pay for the $568–678 million Bridge using just $173 million from public funds—all of which must come from Division One's funding share. The rest of the project's cost must be covered by toll revenue. Financing mechanisms could include a range of options such as TIFIA loans, GARVEE bonds,[130] Toll Revenue Bonds or private capital, but repayments to any of those programs would

[124] *Id.*

[125] Email from David Miller, PFM, to Donna Keener, NCDOT (Apr. 23, 2015) (Exhibit 86); Email from David Miller, PFM, to Beau Memory and David Tyeryar, NCDOT (Apr. 13, 2015) (Exhibit 89); Draft Reevaluation at 8 (Exhibit 1).

[126] N.C. GEN. STAT. § 136-189.11 (f); *see also* Email from Malcolm Fearing, NC Board of Transportation, to Rep. Paul Tine (Jun. 9, 2015) (Exhibit 90).

[127] Email from Peter Bishop to Rep. Paul Tine (May 26, 2015) (Exhibit 81).

[128] N.C. GEN. STAT. § 136-189.11 (f).

[129] Memorandum from Dan Scanlon, Currituck County Manager, to the Currituck Board of County Commissioners, (Aug. 12, 2016) (Exhibit 91).

[130] GARVEE financing, a "Grant anticipation revenue vehicle," allows NCDOT to issue bonds based on anticipated future federal revenue. *See*, http://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_debt_financing/garvees/ (Exhibit 92). As Ray McIntyre, a Unit Head in NCDOT's STIP, Feasibility Studies, and Strategic Prioritization Office explained in a 2014 deposition, "it does not increase funding, but allows you to bring funding forward." Deposition of Ray McIntyre by Kym Hunter, in Defenders of Wildlife v. NCDENR, 13 HER 16087 (Aug. 18, 2014)

all necessarily come from toll revenue generated by the Bridge. The STI process has made clear that public funds for the Bridge must be capped at $173 million and no more. As noted below, declining traffic forecasts make it likely that toll revenue will be much lower than previously expected, rendering full funding of the Bridge an impossibility.

If NCDOT can ever create a realistic plan of finance, the agency will need to take a number of steps to gain approval of their plan, including consulting with the Joint Legislative Commission on Governmental Operations. N.C. GEN. STAT. § 136-89.183(a)(2)(f). Only once these steps have been taken can NCDOT move forward with the project as a toll road. If NCDOT wishes to issue bonds for the project, further coordination and approval by the Local Government Commission will be required. N.C. GEN. STAT. §159-85.

Cost of Alternative Solutions

Under NEPA, the Transportation Agencies must also present a fair and realistic cost of alternatives, including ER2 and the Improved ER2. The cost of alternatives and the ability to fund and finance them has long been central to NCDOT's analysis of transportation solutions for the Currituck Outer Banks.

For example, in 2012, NCDOT asserted in the FEIS that if ER2 were to be chosen, it could only be built by NCDOT and would therefore be subject to the State's Equity Formula.[131] The FEIS suggested that, as the project is in the same Division as the Bonner Bridge, that project would likely commandeer available resources and that, accordingly, ER2 could not be constructed.[132] The FEIS used this funding situation to discount ER2 as a reasonable scenario.

As noted above, the state's equity formula is no longer in place. Division One does not suffer from the exact restraints as in the past. Under the new STI, any Division may secure funding at the "Statewide" level as well as funding from "Regional" and "Division" levels. There is therefore more flexibility under the new funding system. NCDOT has failed to assess, however, how the ER2 alternative, or any alternative to the Bridge, might score under the STI formula. Until that step is taken there is no reason to believe that funding and financing the Bridge will be any more feasible than other alternatives.

In addition, even were the STI to still impose the same restraints as the equity formula once did, the Corps has been clear that state law limitations cannot trump the federal requirements that practicable alternatives be considered pursuant to the 404(b)(1) guidelines.[133]

(Exhibit 93). Mr. McIntyre explained that where NCDOT previously had a cap on the amount of GARVEE funding that could be used on a particular project, that cap was no longer in place. *Id.* The only limit now is the limit for the overall GARVEE bond program for the state. *Id.* Because, however, GARVEE financing does not increase funding in the long term, GARVEE bonds can only properly be used to help finance the Bridge project if NCDOT could show that future toll revenues would be sufficient to pay back the anticipated future anticipated federal payments.

[131] FEIS at 2-3, 2-37-38.

[132] *Id.*; *see also*, NCDOT, *Draft Preferred Alternative Report* (Nov. 2010) (Exhibit 94).

[133] Letter from Kenneth Jolly, USACE, to Jennifer Harris, NCDOT (Oct. 29, 2010) (Exhibit 95).

As noted by Ken Jolly in his 2010 comments to NCTA, the Corps "determined that State Legislation/Law is not an adequate reason to consider ER2 an alternative that is not practicable." Moreover, the Corps noted that "[u]nder NEPA and Section 404 requirements, alternatives may still be considered practicable even though current funding is not available for a specific project. Therefore, we recommend not all the conceptual alternatives be dropped at this point in the process".[134]

As set out above, there are a number of mechanisms including the use of GARVEE bonds, public-private financing, tolling, local contributions, and other funding and financing solutions that could be creatively used to explore an alternative to the Bridge. NCDOT should consider a less expensive, refined alternative such as Improved ER2 and make a full analysis of how such an alternative could be funded. With only $173 million currently available to fund the more than $600 million Bridge it is almost certain that such an alternative would be more practicable than the toll-funded Bridge.

III. THE NEPA DOCUMENTS ARE BASED ON FLAWED TRAFFIC FORECASTS

As noted in the attached report from transportation expert Walter Kulash, the NEPA documents continue to contain significant traffic forecasting errors. While the Draft Reevaluation contains dramatically changed traffic forecasts, NCDOT's underlying statement of purpose and need and screening of alternatives remains based on the old, incorrect data. Similarly, the screening remains based on inaccurate baseline data. The new traffic forecasts also have substantial implications for the practicability of different project alternatives. With the Bridge so reliant on toll revenue, a dramatic down-shift in likely drivers casts serious doubt on the financial feasibility of the project. Finally, as discussed in Mr. Kulash's report, the current NEPA documents are based on an inapt methodology which overstates the problems on NC 12 and understates the effectiveness of reasonable alternative solutions. These questions are central to the analysis of reasonable alternatives to the Bridge that NEPA requires.

NCDOT Must Revisit Its Analysis of Alternatives Based On Up-To-Date Traffic Data

The most striking information in the Draft Reevaluation is the new set of traffic forecasts that are *significantly* lower than previous estimates. Forecasts have dropped under both the "No Build"/ ER 2 scenario as well as the MCB4 "Build" scenario.[135] For example, where the FEIS anticipated Annual Average Daily Traffic ("AADT") of 48,700 under a "no-build" scenario for the Wright Memorial Bridge, the reevaluation has revised that number down to 30,600.[136] This figure is actually lower than the previous estimate presented as the "build" scenario in the FEIS—which was 37,400.[137] In other words, the FEIS endorsed an alternative that would have included 37,400 cars travelling across the Wright Memorial Bridge but new figures show that a much lower level of traffic can be achieved without the Bridge being built at all. The same is true for forecasts from NC 12 Albacore Street to the Mid-Currituck Bridge and from US 158 Barco to the Mid-Currituck Bridge.[138]

Despite these dramatic changes, the Draft Reevaluation fails to revisit meaningfully the NEPA process as the law requires. 23 C.F.R. §§ 771.129; 771.130(a)(2). Rather than setting out to reevaluate the purpose and need for the project and revisit the various project alternatives, the Draft Reevaluation simply states that "the needs the project is trying to meet remain needs"[139] and that "the Preferred Alternative identified in the FEIS will continue to meet the project purpose and need and provide greater travel benefits than ER2 . . . ."[140]

These conclusory statements do not satisfy NEPA. The assertion that "the needs the project is trying to meet remain needs," assumes that the *level* of need is irrelevant. This is not the case. By design, NEPA requires an agency to clearly define, with a reasonable amount of specificity, the needs that a proposed project is designed to address. Agencies may not "define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency's power would accomplish the goals of the agency's action," rendering the EIS a "foreordained formality." *Id.*; *Webster v. U.S. Dep't of Agric.*, 685 F.3d 411, 422 (4th Cir. 2012). Nor is it acceptable for an agency to "frame its goals in terms so unreasonably broad that an infinite number of alternatives would accomplish those goals." *Citizens Against Burlington,* 938 F.2d at 196. Rather, the agency must set out the needs that a proposed project is designed to meet and then evaluate how a range of alternative solutions can meet those needs. Vague statements that there is a need for some traffic improvement are insufficient to support construction of a $600 million bridge, or to disregard other less expensive and less damaging alternatives.

Purpose and Need

The EIS defines the following needs for the project: "substantially improve traffic flow," "to substantially reduce travel time," and to "reduce substantially hurricane clearance time."[141]. If these nebulous statements were left without more support they would necessarily run afoul of the stricture that an agency not frame its goals such that an infinite number of alternatives could meet them.

The FEIS, however, goes on to further define the needs in terms of the 2035 traffic forecasts. For example, the document notes that by 2035 "travel demand will exceed the capacity of the road to handle that demand on almost all project area segments of NC 12 and US 158 east of the Wright Memorial Bridge during summer weekday and summer weekend conditions (approximately 29 miles)."[142] Similarly, the document states that "[in] 2035, on the

[134] Letter from William Biddlecome, USACE, to Jennifer Harris, NCDOT (Sep. 12, 2007) (Exhibit 96).

[135] Draft Reevaluation at 25 (Exhibit 1).

[136] *Id.*

[137] *Id.*

[138] *Id.*

[139] *Id.* at 15.

[140] *Id.*

[141] FEIS at 1-3.

[142] FEIS at 1-4.

summer weekday, on US 158 east of the Wright Memorial Bridge and NC 12 in Southern Shores and parts of Duck, travel demand is expected to be notably greater than the capacity of these roads for 6 to 7 hours per day."[143] The document further explains that "[in] 2035, on the summer weekend, US 158 in Currituck County between NC 168 and the Wright Memorial Bridge will be congested for 10 to 11 hours a day, with demand 16 to 19 percent above the capacity of US 158," and that "[i]n 2035, on the summer weekend, US 158 east of the Wright Memorial Bridge and NC 12 in Dare County will be congested for 15 to 18 hours per day, with demand 117 percent of the capacity of US 158 and as much as 162 percent of the capacity of NC 12."[144]

The FEIS thus defines the "need" for a project in fairly specific detail with reference to the 2035 traffic forecasts. New traffic forecasts, however, have shown that every single one of these predictions is no longer true. Travel demand will no longer exceed road capacity on 29 miles of the road network by 2035, or even 2040.[145] Travel demand on 158 and NC 12 is no longer expected to exceed the capacity of those roads for 6 to 7 hours per day during the weekday.[146] US 158 between 168 and the Wright Memorial Bridge will no longer be congested for 10 to 11 hours a day.[147] And US 158 east of the Wright Memorial Bridge and NC 12 in Dare County will no longer be congested for 15 to 18 hours per day.[148]

In short, the needs established in the EIS no longer exist. Different, diminished needs exist and the purpose and need for the project must be updated. The statement that "the needs the project is trying to meet remain needs"[149] is simply false. NCDOT must prepare a Supplemental EIS that takes into account the new information about the level of future need and redefine the statement of purpose and need in those terms.

Alternatives Screening and Analysis

Equally important, the EIS used the 2035 forecasts to screen between various project alternatives. The ability of alternatives to achieve the purpose and need of the project was measured in terms of: "The percent reduction in annual millions of vehicle-miles traveled under congested condition (at LOS E and F, at LOS F, and at a poor LOS F) on the project area's thoroughfares in 2035 (LOS E and F are considered congested)," "The percent reduction in miles of NC 12 and US 158 operating at LOS F on the summer weekday and summer weekend in 2035," and "the percent reduction in miles of NC 12 and US 158 operating at a poor LOS F on the summer weekday and summer weekend in 2035." In other words, alternatives were scored based on their ability to achieve a percentage reduction in traffic congestion when compared to the 2035 "no build" forecasts.

[143] FEIS at 1-4.

[144] *Id.*

[145] Draft Reevaluation at 31-38 (Exhibit 1).

[146] *Id.*

[147] *Id.*

[148] *Id.*

[149] *Id.*

For example, the FEIS states that ER2 would reduce LOS F conditions by 44% compared to the 2035 "no build" scenario, but "leave extensive periods of severe congestion." Further, ER2 was found to reduce travel times by 19% compared to the 2035 "no build" projections, and provide hurricane evacuation benefits. While the DEIS thus acknowledged that ER2 met all elements of the statement of purpose and need, it concluded that it "offered a low level of benefit in terms of reducing congestion and travel time." The FEIS similarly presents the alternatives in comparative form, noting that while ER2 meets the project purpose and need it would have fewer benefits than Bridge alternatives.[150] Again, however, these 2035 forecasts are now deemed invalid in the Draft Reevaluation and thus the previous screening and analysis of alternatives is invalid. As noted above, non-Bridge alternatives are now shown to meet the same level of benefit that Bridge alternatives would have produced.

Accurate, Up-to-Date Information

"Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." 40 C.F.R. § 1500.1(b). Such accuracy ensures that agencies take a "hard look" at environmental effects of proposed projects and that relevant information is available to the public. *Glickman*, 81 F.3d at 445-46 (holding that the economic assumptions underlying an EIS are subject to "narrowly focused review" to determine whether they "impair[ed] fair consideration of a project's adverse environmental effects").

Moreover, agencies have a duty to "insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." 40 C.F.R. § 1502.24. Continued reliance on outdated traffic forecasts that have now been shown to be overstated to an alarming degree fails to "satisfy the requirements of NEPA," and the EIS "cannot provide the basis for an informed evaluation or a reasoned decision." *Sierra Club v. US Army Corps of Eng'rs*, 701 F.2d 1011, 1030 (2d Cir. 1983); *see also*, *Northern Plains Resource Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1085-86 (9th Cir. 2011) (ten-year old survey data for wildlife "too stale" thus reliance on it in EIS was arbitrary and capricious); *Lands Council v. Powell*, 395 F.3d 1019, 1031 (9th Cir. 2005) (six year-old survey data for cutthroat trout was "too outdated to carry the weight assigned to it" and reliance on that data violated NEPA); *Seattle Audubon Soc. v. Espy*, 998 F.2d 699, 704-05 (9th Cir. 1993) (reliance on "stale scientific evidence" regarding owl population data without adequate discussion of scientific uncertainty violated NEPA).

Courts have been clear that the quality of data must be proportional to the weight the agency assigns to it in its analysis. Here, the accuracy of the traffic forecast data underlies both the purpose and need for the project and the entire analysis of alternatives. The Transportation Agencies have gathered new traffic forecast information but have then failed to incorporate that more accurate, up-to-date information into the analysis in the reevaluation. Instead, the reevaluation continues to blindly defer to the reasoning in the FEIS despite acknowledging that the projections upon which it was based have been shown to be wrong.

[150] FEIS at 2-44.

The Transportation Agencies' bare assertion that "the Preferred Alternative identified in the FEIS will continue to meet the project purpose and need and provide greater travel benefits than ER2 . . . ." is wholly insufficient. NEPA requires that the efficacy of different alternative solutions be laid out fully for public review and drive the democratic decision-making process.[151] *North Carolina Wildlife Federation v. North Carolina Dep't of Transp*., 677 F.3d 596, 602 (4th Cir. 2012). The new forecasts create a "seriously different picture" of the project and alternative solutions and a Supplemental EIS is now required. *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 443 (4th Cir. 1996).

The Transportation Agencies Must Establish a Reasonable Baseline for Comparing Alternatives

A Supplemental EIS is also essential because the Transportation Agencies have a duty to present the public with a clear and accurate "No Build" baseline, which the Fourth Circuit has found to be a "critical aspect of the NEPA process." *NC Wildlife,* 677 F.3d at 603. Indeed, the Court noted that "[w]ithout [accurate baseline] data, an agency cannot carefully consider information about significant environment impacts . . . resulting in an arbitrary and capricious decision.'" *Id.* (*quoting N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1085 (9th Cir. 2011)). In the EIS for the Mid-Currituck Bridge, the Transportation Agencies used the 2035 traffic forecasts as its "No Build" baseline. The updated "No Build" numbers for 2040 showing dramatically lower levels of congestion and traffic must now be presented to the public in a Supplemental EIS as the baseline.

Moreover, the Transportation Agencies must present the efficacy of various project alternatives in absolute terms, not simply as percentage differences from the "No Build" baseline. As noted above, the Transportation Agencies' previous analysis of project alternatives was based on the percentage improvement they would have over a "No Build" condition. In the Draft Reevaluation, the Transportation Agencies attempt to do the same with the updated traffic forecasts, presenting the different project alternatives based on how they will improve on the updated 2040 "No Build" forecast.[152] This trick, however, illegally obscures the absolute impact that different project alternatives would have. New forecasts show that the less damaging ER2 alternative will now, on many segments of road, achieve a level of traffic that was previously determined to be acceptable under the preferred alternative in the FEIS.[153] This fact makes clear that ER2 is not only fully capable of meeting the project purpose and need, but it can achieve a result that NCDOT was previously prepared to invest $600 million on a new Bridge to accomplish. The Improved ER2 presented by the local community and attached to these comments should similarly be examined with regard to this updated baseline condition. The new, more realistic, projections of future traffic will be a key consideration in the determination

[151] As the Fourth Circuit noted in *NC Wildlife*, "the very purpose of public issuance of an environmental impact statement is to 'provid[e] a springboard for public comment,'" (citing *Dep't of Transp. v. Pub. Citizen,* 541 U.S. 752, 768 (2004)), 677 F.3d at 603. Indeed, "the broad dissemination of information mandated by NEPA permits the public and other government agencies to react to the effects of a proposed action at a meaningful time." *Id*. (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989)).

[152] Draft Reevaluation at 38-39 (Exhibit 1).

[153] *Id.* at 25.

as to what is the Least Environmentally Damaging Practicable Alternative ("LEDPA") for the project and must be transparently presented to the public in a Supplemental EIS.

New Traffic Forecasts Affect the Practicability of the Project

The new, much lower forecasts of traffic also have significant implications for the practicability of project alternatives. The Draft Reevaluation anticipates significantly lower numbers of traffic using the Bridge than previously expected. As a result there will be correspondingly less toll revenue than thought. As Mr. Kulash lays out in his report, this reduction results from two factors compounded: (1) the reduction in all traffic (toll as well as non-toll) within the study area and (2) a further reduction in the "capture" rate (percentage of all bridge traffic choosing to use a toll bridge) due to the reduced congestion in the year 2040 forecast.[154]

Using the new forecasts, Mr. Kulash notes that toll collection costs (20 percent of toll revenue or $4 million annually) and annual bridge maintenance/rehabilitation reserve costs (3 percent of bridge costs of $450 million or $14 million annually) would leave annual net revenue of only around $4 million available for debt service.[155] In the early years of the project, during "ramp-up" of toll revenue, total revenue would be insufficient to cover operations and maintenance costs, and would therefore leave nothing for debt service.[156] Even in year 2040, the available net revenue ($4 million) would service only around $70–80 million in loans.

This level of revenue is completely insufficient to meet the preliminary plan of finance laid out in the Draft Reevaluation. Rather than deal with this issue head on, the Draft Reevaluation states that "the effects of changes in development and traffic growth trends on bridge volumes as they relate to toll revenue and toll bridge financing will be addressed in a new investment grade traffic and revenue forecasts being prepared independent of this reevaluation."[157] This information, however, is central to any analysis of the Bridge and must be included in a Supplemental EIS and presented to the public for review and comment. The Final EIS discussed at length how a Bridge alternative was preferred over ER2 due to the fact that it could be funded by toll revenue.[158] If the Bridge will not be able to generate the level of revenue previously anticipated, that is a "significant new circumstance" that must be fully evaluated in a Supplemental EIS.

The Transportation Agencies Should Reevaluate Traffic and Accurately Compute the Capacity of NC 12

In addition to the new forecasts that undermine the continued validity of the Transportation Agencies' analysis, the NEPA document also contains other errors that have been

[154] Kulash Report at 10-14 (Exhibit 2).

[155] Kulash Report at 13-14 (Exhibit 2).

[156] *Id*.

[157] Draft Reevaluation at 24 (Exhibit 1).

[158] FEIS at 2-44- 2-49.

present throughout. One fundamental error is the Transportation Agencies' use of an inapt methodology to assess the capacity of NC 12. As explained by Mr. Kulash in his report, the traffic capacity analysis used in the FEIS is for a rural two-lane highway—this is inappropriate for the area through which NC 12 passes.[159] The effect of this misusage is to understate the capacity of NC 12, thereby undermining the legitimacy of the project purpose and need and the screening and analysis of alternative solutions.

As Mr. Kulash explains, the EIS computes the vehicular capacity of NC 12 using a proprietary software package (HCS 2000) that follows the method for the "Class II Two-Lane Highway" in both the 2000 Highway Capacity Manual ("HCM") and the current 2010 Highway Capacity Manual.[160] In the Class II Two-Lane Highway method (unlike the method used in the FEIS for US 158), "capacity" is not defined as the maximum possible hourly flow of vehicles, but rather by the ability of a motorist to freely overtake ("pass") any slower-moving vehicle.

Under the Class II Two-Lane Highway method, maximum "capacity" occurs when the motorist's "percent time spent following" (i.e. time spent desiring to, but unable to pass a slower vehicle) reaches 85 percent. The "collective opinion and judgment" of the Transportation Research Board's" "committee of experts" determined that this level of inability to pass is unacceptable to the typical motorist, and is therefore identified as Level of Service ("LOS") F, the "worst" LOS possible, creating the misleading impression that no further increase in traffic flow is possible. Unlike other methodologies used in the FEIS (for example on US 158) where LOS F is based on a computation of hourly vehicle flow, LOS F in the Class II Two-Lane Highway method, occurring at levels well below (around 60 percent of) the possible maximum vehicle flow, simply indicates that a subjectively-determined marker of motorist convenience has been reached.

The HCM identifies the Class II Two-Lane Highway method as appropriate for highways in rural area.[161] The Class II Two-Lane Highway method is intended for highways carrying long-distance travelers, with a preponderance of "through" trips (i.e., with neither origin nor destination immediately along the subject road. The Class II highway is assumed to be "rural" in character, with few driveways, even fewer intersecting roads, and no intrusion by pedestrian crosswalks or bicycle travel. In these "rural" conditions, drivers *expect* to maintain consistently high speed with ability to freely overtake slower vehicles, with this ability limited only by sight distance and opposing traffic flow and not by regulatory limitations (speed limits, "no passing" zones, etc.) due to roadside development.

NC 12 in Dare and Currituck counties, however, has none of these "rural" characteristics. The overwhelming majority of traffic is making short local trips (i.e., with origin, destination, or both along the road), not long-distance "through" travel. Drivers, most of them non-resident visitors are focused on identifying their destinations rather than covering long distances without

[159] Kulash report at 3 (Exhibit 2).

[160] Kulash Report at 3 (Exhibit 2).

[161] *Id.*

hindrance.[162] Moreover, NC 12 is replete with driveways, commercial entrances fronting residential and commercial properties, and bicycle side path and pedestrian crosswalks that all signal to the driver that NC 12 is more urban than rural, and thus not the high-speed driving environment envisioned by the Class II Two-Lane Highway method.

Traffic engineers regularly apply the Class II Two-Lane Highway method to inappropriate locations (such as NC 12) because proprietary software packages for applying HCM methods do not yet offer an appropriate method for two-lane roads in low-speed town or developed environments. Until such methods are offered by proprietary software products, the correct procedure is to adapt, to two-lane roads in developed areas, a two-lane version of the "multilane" (four- or more lane) method given in the HCM. This approach establishes: (1) a capacity based on vehicle flow, rather than on the convenience of passing at will and (2) LOS based on consumption of the road's vehicular capacity, rather than on "percent of time spent following."

As Mr. Kulash details in his report, the difference in the two methodologies is significant. Under the Class II Two-Lane Highway standard used in the FEIS, four of the six road links analyzed on NC 12 have Volume to Capacity ("V/C") ratios in excess of 1.0. By contrast, when the more appropriate methodology is used, and forecasts are computed directly from the HCM, only one link has a volume to capacity ratio greater than 1.0.

By thus understating the capacity of NC 12, the Transportation Agencies overstated the level of need in the EIS. As noted above, new 2040 traffic forecasts already show that the 2035 numbers were significantly overstated. It is likely, however, that the 2040 numbers continue to be based on this faulty methodology and so even the new, lower numbers remain overstated.

It is worth noting that the two methods of computing capacity yield significantly different levels of traffic performance for Alternative ER2 and the Improved ER2 alternative. The FEIS reports that even after widening to three lanes throughout the two busiest Dare County links (Links 9 and 10) would still operate at LOS F, with V/C ratios of 1.36 and 1.15 respectively. Although the FEIS does not offer operable guidelines defining the project's purpose to "substantially improve traffic flow" on NC 12, the failure to eliminate LOS F conditions could reasonably be interpreted as failure to "substantially improve".

When the same three lane expansion is analyzed pursuant to the more proper methodology using the HCM, however, not one of the links along NC 12 operates at LOS F. The worst conditions, LOS E, which occur on the two most congested links, is considered acceptable for peak hour conditions in developed areas such as the NC 12 corridor.[163] In the Supplemental EIS, the Transportation Agencies should reanalyze all alternatives, including the Improved ER2, based on the more appropriate HCM methodology.

[162] The EIS fails to provide data regarding, for instance, the number of vehicles crossing between Dare and Currituck Counties, which would allow for a more complete picture of traffic patterns and the effect of the Bridge on alleviating traffic bottlenecks.

[163] Kulash Report at 6 (Exhibit 2).

IV. THE NEPA DOCUMENTS RELY ON A FLAWED HURRICANE EVACUATION RATIONALE TO JUSTIFY THE BRIDGE

Since 1950, only three Category 3 storms, and no category 4 or 5 storms, have touched the North Carolina coast during peak tourist season.[164] When storms have struck, the Northern Outer Banks has been successfully evacuated.[165] In response to prior attempts to include hurricane evacuation in the project's Purpose and Need Statement, resource agencies repeatedly commented that building a bridge may very well *increase* hurricane evacuation times in the long run, as additional access will mean there will simply be more people on the Outer Banks who need to be evacuated.[166] As the Corps long ago observed, Transportation Agencies are simply using hurricane evacuation to prey on fears of a "what if?" scenario to obtain public support for an ill-advised project.[167]

The Draft Reevaluation does not reexamine the Purpose and Need Statement, which includes "[t]he need to reduce substantially hurricane evacuation times from the Outer Banks for residents and visitors who use US 158 and NC 168 as an evacuation route."[168] The Purpose and Need Statement does not define the substantial reduction with any specificity, but instead states, "an improvement is considered substantial as opposed to minor if the improvement is great enough to be largely noticeable to typical users of the transportation system and if the improvement offers some benefit across much of the network, as opposed to offering only a few localized benefits."[169]

18 Hour Evacuation "Standard"

As justification for this purported need, the FEIS states that "[h]urricane evacuation times . . . far exceed the state-designated standard of 18 hours."[170] The stand-alone Purpose and Need document also states that "law enforcement and emergency management indicate a preference for an 18-hour maximum."[171] The state-designated standard referred to by the FEIS was enacted by the North Carolina General Assembly in 2005.[172] The law states in its entirety: "The hurricane evacuation standard to be used for any bridge or highway construction project pursuant to this Chapter shall be no more than 18 hours, as recommended by the State Emergency

[164] NCTA Response to Written TEAC Comments Requested in Jul. 2007 (Sep. 19, 2007 update) (Exhibit 97).

[165] Email from Drew Pearson, Dare County Emergency Management, to Angela Welsh, ARPO (Jan. 2, 2015) (Exhibit 98).

[166] Email from Gary Jordan to Tonya Caddle (Sep. 29, 2003); Meeting with DENR RE R-2576, Currituck Sound Area Transportation Study (Aug. 26, 2003) (Exhibit 99).

[167] "Mike Bell stated that he was against hurricane evacuation as part of the purpose and need because it is only included to obtain public acceptance for the project." Meeting Minutes from Jul. 24, 2002 Merger Team Meeting (Aug. 28, 2002) (Exhibit 100).

[168] Draft Reevaluation at 29 (Exhibit 1).

[169] Draft Reevaluation at 29 (Exhibit 1).

[170] Draft Reevaluation at 29 (Exhibit 1).

[171] Statement of Purpose and Need at 39 (Oct. 2008) (Exhibit 101).

[172] *See* SL 2005-275, Section 5, effective Aug. 12, 2005.

Management officials."[173] The law, therefore, does not mandate an 18 hour evacuation standard for all locations throughout the coastal region, but instead states that if a bridge or highway is to be built, then it should be built with the goal of providing an evacuation time of no more than 18 hours. In other words, the law is meant to provide a standard for an assumed bridge or highway project, not to serve as a justification for the creation of a bridge or highway project.

State officials have also acknowledged that the legislature intended the18 hour standard to be a "goal" for evacuation and not a "must meet" rule.[174] Indeed, there are many NC coastal communities that would fail this 18 hour standard.[175] The transportation agencies have also not put forth any data, or any other form of logical justification, for this arbitrary standard and have not identified any other states that have a similar goal evacuation time. The report prepared by transportation expert Walter Kulash further discusses the arbitrary nature of the 18 hour standard,[176] noting that it has no basis in meteorology, storm forecasting, peer site comparison, or locally adopted preparedness planning. As stated in the report:

The three arguments for "preferred clearance time" of 18 hours (P&N Statement, Section 1.10) are all based on unsupported assumptions:

1. Requiring that evacuation be "conducted mostly during daylight hours" is not only arbitrary and unsupported by any emergency-management advisories, but also contradictory, in that (1) there is not likely to be 18 hours of daylight in hurricane season with a storm looming and (2) waiting for daylight to begin an evacuation would almost certainly contribute to "violating" the 18-hour "standard".

2. The goal of "Limiting the amount of personnel that North Carolina law enforcement would have to commit to one shift for an evacuation" presumably is intended to accommodate the availability of locally-stationed North Carolina State Highway Patrol ("NCSHP") officers, and possibly also to minimize the cost of an evacuation. Neither of these concerns is justified or quantified. Under a governor-mandated state of emergency multiple shifts of NCSHP officers could be made available, particularly for the small number of relevant postings. Furthermore, at no point in any available documentation is the cost of additional NCSHP manpower weighed against the half-billion dollar cost of the build alternatives.

3. A " preference" for evacuation within the "National Hurricane Center's warning period as opposed to… hurricane watch period" in no way supports the 18-hour evacuation "standard". Warnings are typically issued 36 hours ahead of the expected arrival of tropical storm force winds (39 miles per hour) and, depending on the speed of the storm,

[173] N.C. Gen. Stat. § 136-102.7

[174] MCB Turnpike Authority Bridge Study Response to Agency Comments at the Jul. 18, 2007 TEAC meeting (Exhibit 102).

[175] Stakeholder Involvement Report at 2-36 (Exhibit 103).

[176] *See* Kulash Report at 8-10 (Exhibit 2).

48–60 hours ahead of the arrival of hurricane-force winds. A 36-hour evacuation time is therefore possible entirely within the hurricane warning period.[177]

Finally, the Purpose and Need's 18 hour standard does not comport with the State's Standard Operating Guide for coastal evacuation. That guide sets forth a detailed schedule for evacuation, below, that does not contemplate 75% occupancy within 18 hours of a storm's landfall.

- 72 hours – State implements partial activation of the EOC based on the approaching hurricane. State activates depending on storm progress. NCSHP and NCDOT engaged in evacuation.
- 48 hours – Division of social services activates the sheltering program. County Board Chairman decides whether or not to call a phased evacuation of special needs population. If so he issues that order now.
- 40 hours – Division of social services and ARC begin preparations to open general population shelters.
- 36 hours – County Board Chairman gives evacuation notice for the general population in the county.
- 32 hours – Voluntary evacuation of general public begins in the county.
- 18 hours – Depending on county clearance times, mandatory evacuation begins in the county.
- 12 hours – The last bus leaves on rout to in-county shelter.[178]

The 18 hour evacuation "standard" cannot serve as a justification for this project.

Hurricane Evacuation Alternatives Analysis Technical Memorandum

To support their position that the Bridge will address a need for improved hurricane evacuation, the Transportation Agencies rely on a 2010 memorandum prepared by Parsons Brinckerhoff. For purposes of analyzing project alternatives, the memorandum assumes 75 percent tourist occupancy and a Category 3 storm.[179] Notably, there is no evidence provided that a Category 3 storm has ever struck the Currituck Outer Banks when there was 75 percent occupancy.[180] The Hurricane Technical Memorandum states that, as of 2010, the existing

[177] *Id.*

[178] 2011 NC Coastal Region Evacuation and Sheltering Standard Operating Guide for the Northern Coastal Plain (Exhibit 104).

[179] Hurricane Technical Memorandum at 2 (Exhibit 106).

[180] *See* Stakeholder Involvement Report at 2-36 (Exhibit 103).

hurricane evacuation time was 27 hours, and it predicts an evacuation time of 35.9 hours in 2035 under a no-build scenario.[181] As discussed above in section III, however, the Draft Reevaluation forecasts significantly reduced traffic volumes in 2040. In order to present a valid analysis of the need for improved hurricane evacuation, the Transportation Agencies must complete a new Hurricane Evacuation Alternatives Analysis with this new traffic forecast data.

Finally, even using outdated traffic forecast data, the memorandum does not predict that *any* of the alternatives, including the preferred alternative, would achieve hurricane evacuation times of 18 hours or less.[182] And the technical memorandum anticipated that ER2 and MCB4 would achieve the same 2035 hurricane evacuation time—27 hours.[183] The Transportation Agencies, therefore, cannot defend their selection of the preferred alternative based on this report. To do so would amount to a "subterfuge designed to rationalize a decision already made." *Forest Guardians v. USFWS*, 611 F.3d 692, 712 (10th Cir. 2010).

Resource Agency Objections

State and federal resource agencies have long questioned the legitimacy of hurricane evacuation as a need for the Bridge. In comments on the FEIS, EPA noted that there have not "been any documented hurricane evacuation problems in this area of the Outer Banks in modern times using the existing roadway system."[184] Regarding the 18 hour standard, EPA stated that "this desired goal should be a consideration but not a finite decision point in the preferred alternative selection process."[185] EPA also noted that "[t]here are other areas of the Outer Banks that potentially cannot meet this 18-hour goal even if a new bridge is constructed over Currituck Sound."[186] Finally, EPA noted that only two Category 3 hurricanes have struck the outer banks since 1930.[187] Instead of focusing on building the proposed bridge, EPA suggests that the Transportation Agencies should focus on local planning and early warning to lower hurricane evacuation times, "*including the consideration of minimizing new development along isolated and remote areas of barrier islands*."[188]

In response to EPA, the Transportation Agencies cite a letter from Currituck County Emergency Management describing an incident during the evacuation for Hurricane Earl in

[181] Hurricane Technical Memorandum at 3 (Exhibit 106); *see also* (Exhibit 107)

[182] Hurricane Technical Memorandum at 3-4 (Exhibit 106); *see also* 2010 MCB Hurricane Evacuation Meeting (Exhibit 108).

[183] Hurricane Technical Memorandum at 3-4 (Exhibit 106).

[184] Stakeholder Involvement Report at 2-36 (Exhibit 103).

[185] *Id*.

[186] *Id*.

[187] *Id*.; *see also* NCTA Response to Written TEAC Comments Requested in July 2007 (Exhibit 97) ("EPA is uncertain as to the likelihood of a Category 3-5 hurricane prior to September 1st. Most of the strongest and most damaging storms have occurred later in the hurricane season (September and October). EPA requests that a 'risk analysis' be performed by NCTA and FHWA that documents the past recorded storm events along the Outer Banks that met or exceeded the Category 3 status and the time when these storms occurred.").

[188] Stakeholder Involvement Report at 2-36 (emphasis added) (Exhibit 103).

which traffic was stalled because of an accident in Duck and a malfunctioning traffic light.[189] Far from providing justification for the proposed bridge, this example shows how upgrades to existing roads and traffic technology could substantially reduce hurricane evacuation time. A $600 million bridge cannot be justified by a broken traffic signal.

As discussed in Section I, above, other agencies, including the USFWS and the Corps, have noted that the Bridge could actually increase hurricane evacuation times because of the induced development and additional population on the Currituck Outer Banks created by the Bridge.[190] These concerns are succinctly summarized in an email from USFWS to Parsons Brinckerhoff: "[T]he secondary development that goes along with improved transportation could (by bringing more people to the Outer Banks) create a worse evacuation problem even with improved transportation. In other words, improved transportation could be self-defeating with regard to hurricane evacuation times."[191] The Transportation Agencies have failed to consider these effects of induced growth on hurricane evacuation as required by NEPA.

The FEIS' claim that the Bridge would reduce hurricane evacuation time is based on the assumption that the Toll Bridge would not cause any growth in travel to the Outer Banks. As discussed further in section VI, that assumption is not scientifically credible or legally defensible. In fact, as the Corps pointed out in its comments on the initial DEIS, the transportation agencies should have disclosed the impacts associated with "hurricane evacuation time increase" resulting from the Project.[192] Public Comment also noted that the Bridge would increase the population of the Northern Outer Banks, and therefore drive up evacuation times.[193]

It is not at all surprising that the Transportation Agencies have for so long attempted to use hurricane evacuation as a justification for the Bridge, as for many years NCDOT included hurricane evacuation in the purpose and need for every coastal bridge project in the State.[194] Indeed, the trumped up need for improved hurricane evacuation, and the fear it instills in the public, was the driving force that revived the Bridge project in the early 2000s.[195] The Transportation Agencies do not, however, have scientific evidence or sound analysis to support this purported need, and their own outdated study shows that the Bridge would not achieve the State's arbitrary 18 hour evacuation goal. For these reasons, resource agencies previously refused to sign off on including hurricane evacuation in the project's purpose and need.[196]

[189] Stakeholder Involvement Report at 2-37 (Exhibit 103).

[190] Email from Gary Jordan to John Hennessy (Sep. 30, 2003) (Exhibit 109); Aug. 26, 2003, Notes of Cathy Brittingham (Exhibit 99).

[191] Email from Gary Jordan to Tonya Caddle (Sep. 29, 2003) (Exhibit 63).

[192] U.S. Army Corps of Engineers' Comments on 1995 Mid-Currituck Sound Bridge DEIS (1995) (Exhibit 110).

[193] Stakeholder Involvement Report at 4-12 (Exhibit 103).

[194] Email from Mike Bell to Dan Scanlon (May 13, 2002) ("[H]urricane evacuations have been included in all of the recent bridges that have been constructed in North Carolina") (Exhibit 111).

[195] Notes from R-2576 Mid-Currituck Sound Bridge Informational Meeting (Aug. 16, 2001) ("Evacuation is the main driving force for the resurrection of the bridge.") (Exhibit 112).

Nothing has changed since then to strengthen the argument for hurricane evacuation as a justification for the Bridge. On the contrary, the purported need has only been weakened by reduced traffic forecasts which the Transportation Agencies have yet to consider in this context.

V. THE TRANSPORTATION AGENCIES HAVE FAILED TO ADEQUATELY ANALYZE A REASONABLE RANGE OF ALTERNATIVES

NEPA requires agencies to "[r]igorously explore and objectively evaluate all reasonable alternatives." *N.C. Wildlife Federation*, 677 F.3d at 602 (citing 40 C.F.R. § 1502.14(a)). Agencies have a "duty under NEPA . . . to study all alternatives that appear reasonable and appropriate for study at the time of drafting the EIS, as well as significant alternatives suggested by other agencies or the public during the comment period." *Roosevelt Campobello Int'l Park Comm'n. v. US EPA*, 684 F.2d 1041, 1047 (1st Cir. 1982) (internal quotation marks omitted). Only unreasonable alternatives can be eliminated. 40 C.F.R. § 1502.14(a).

Moreover, the Clean Water Act ("CWA") mandates, with limited exception, an analysis of alternatives and the selection of the alternative with the least impact on the aquatic environment. CWA regulations state that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the *aquatic ecosystem*, so long as the alternative does not have other significant adverse environmental consequences." *Id.* § 230.10(a). At the outset, only adverse impacts to the aquatic ecosystem can be considered. A practicable alternative that would have the least impact on the aquatic ecosystem can only be rejected if it has "other significant adverse environmental consequences." The preamble to the rule makes clear that this secondary analysis is intended to "take into account evidence of damage to other *ecosystems* in deciding whether there is a 'better' alternative."[197] The Corps has recognized that the secondary analysis focuses on "substantial impacts to other *natural* environmental values."[198] In short, the environmental impacts that can be considered in designating the "Least Environmentally Damaging Practicable Alternative ("LEDPA") are significantly narrower than those that may be considered in selecting a preferred alternative under NEPA. The Coastal Area Management Act ("CAMA") N.C. GEN. STAT. § 113(A)-120(a)(9), and section 401 of the Clean Water Act 15A N.C. Admin. Code § 02H .0506(b)(1) similarly include requirements that the least damaging, practicable alternatives be selected.

In North Carolina, new location highway projects are developed through the "merger process," which aims to integrate NEPA and section 404 of the CWA. The Transportation Agencies thus work closely with the Corps as each highway project is reviewed and advanced to

[196] Letter from John Page to Dan Scanlon (Jun. 25, 2002) at 4 (Exhibit 55); Meeting Minutes from May 8, 2002 Merger Team Meeting (Exhibit 56); *see also* Revised Draft Summary of the Purpose of the Proposed Action (Jun. 25, 2002) (Exhibit 57); Currituck Sound Area Transportation Study, Southern Shores Meeting (Jul. 18, 2002) (Exhibit 58).

[197] Guidelines for Specification of Disposal Sites for Dredged or Fill Material, 45 Fed. Reg. 85336, 85340 (Dec. 24, 1980) (emphasis added).

[198] Regulatory Guidance Letter 93-02, Guidance on Flexibility of the 404(b)(1) Guidelines and Mitigation Banking (Aug. 23, 1993) (emphasis added) (Exhibit 113).

ensure, in theory, that "the regulatory requirements of Section 404 of the Clean Water Act are incorporated into the NEPA decision-making process for transportation projects."[199] Through this process the agencies are required to meet consensus on the "preferred alternative" and the LEDPA prior to publication of an FEIS. At the time it is selected, the agencies are required to be "reasonably certain that the LEDPA/ Preferred Alternative will comply with all relevant regulations and permit requirements" and "can be authorized."[200] In the case of the Mid-Currituck Bridge, however, all resource agencies have consistently stated that ER2, the alternative which focuses on improving existing roads, should be considered the LEDPA. The alternative is undeniably the least environmentally damaging, and any concerns about its lack of practicability, as compared to other alternatives, have changed with the revisions to North Carolina's funding system.

Despite the importance of an accurate, up-to-date assessment of alternatives under NEPA, the CWA, and CAMA, the Transportation Agencies' review of alternatives has not been updated since 2009. We have previously commented on the agencies' failure to examine a reasonable range of alternative solutions. In particular, we have criticized the agencies' failure to look closely at non-Bridge alternatives and combinations of alternatives that could work in concert to replace the need for the $600 million Bridge.[201] In the Draft Reevaluation, the Transportation Agencies have again failed to take a hard look at any non-Bridge alternatives.[202] Importantly, the Draft Reevaluation also fails to consider how altered circumstances, including changes to funding streams, altered population dynamics, reduced traffic forecasts, and evolving trends in vacation patterns could change the relative merits of alternatives previously studied, as well as innovative new alternative solutions.[203]

Improved ER2

Residents and visitors to the Outer Banks and across Currituck County have worked with transportation expert Walter Kulash to develop an alternative that combines a variety of low-cost solutions to solve the concerns intended to be met by the Bridge.[204] The alternative is described in detail in Mr. Kulash's report, but includes the following elements:

- From the eastern end of the Wright Memorial Bridge to the entrance to the Home Depot, a distance of 1.3 miles, reconstruct US 158 into a **four-lane superstreet**. This is a modified version of the Transportation Agencies' suggestion for ER2, but includes four lanes instead of six to eight. As such the element would be less costly than that included in ER2. The purpose of the improvement would be to improve access for properties fronting onto US 158 while simultaneously improving the flow of through-traffic.

- At the US 158/NC 12 junction, proceed with project R-4457 for the grade separation of the existing intersection. However, in light of the reduced year 2040 traffic volumes and to assist in cost reduction, Mr. Kulash suggests consideration of two modifications to the full interchange that has been planned: (1) a simple flyover, permitting conflict-free movement between US 158 eastbound and NC 12 northbound and also the reverse movement, from NC 12 southbound to US 158 westbound or (2) a Continuous Flow Intersection.

- NC 12 in Dare County should be configured as a three lane, undivided roadway with a continuous two way left turn lane. The roadway will have 4-foot paved shoulder and swale drainage. Unlike ER2 which requires a four lane roadway, this modified alternative solution for NC 12 in Dare County could be constructed on existing right-of-way.[205]

- NC 12 in Currituck County should remain a two-lane undivided roadway.

- All signalized intersections on NC 12 should be converted to one-lane roundabouts which reduce congestion and improve through-flow. In addition, the Transportation Agencies should develop a plan for adding roundabouts at currently unsignalized intersections to: (1) control speed, (2) provide cross-street access, and (3) provide U-turn opportunities so drivers can avoid left turns into NC 12 during when traffic is congested.

- On key holidays and other days when there is a predictable pattern of extreme peak travel, NCDOT should employ manned traffic control at key intersections.

- The Transportation Agencies should develop a plan for more connectivity between local streets that feed onto NC 12.

- The Transportation Agencies should consider overhead pedestrian walkways in Duck to increase pedestrian safety and improve through-flow. This improvement was suggested by Currituck County Commissioner Bobby Hanig.[206]

- The Transportation Agencies should identify places to consolidate driveways along NC 12.

- To improve pedestrian safety, the Transportation Agencies should add hybrid beacon pedestrian signals at selected non-intersection pedestrian crossings and add a variety of crossing warning devices as outlined in the *Manual on Uniform Traffic Control Devices*.

[199] Memorandum of Understanding, Section 404 of the Clean Water Act and National Environmental Policy Act Integration Process for Surface Transportation Projects in North Carolina at 1 (last rev. May 16, 2012) (Exhibit 114).

[200] *Id.* at 12.

[201] *See, e.g.*, Letter from Kym Hunter to the Board of Transportation (Nov. 24, 2015) (Exhibit 115); Letter from David Farren to Jennifer Harris (March 12, 2012) (Exhibit 116); Letter from David Farren to Jennifer Harris (June 7, 2010) (Exhibit 117).

[202] Draft Reevaluation at 10-14 (Exhibit 1).

[203] *Id.* at 10-14, 20-44.

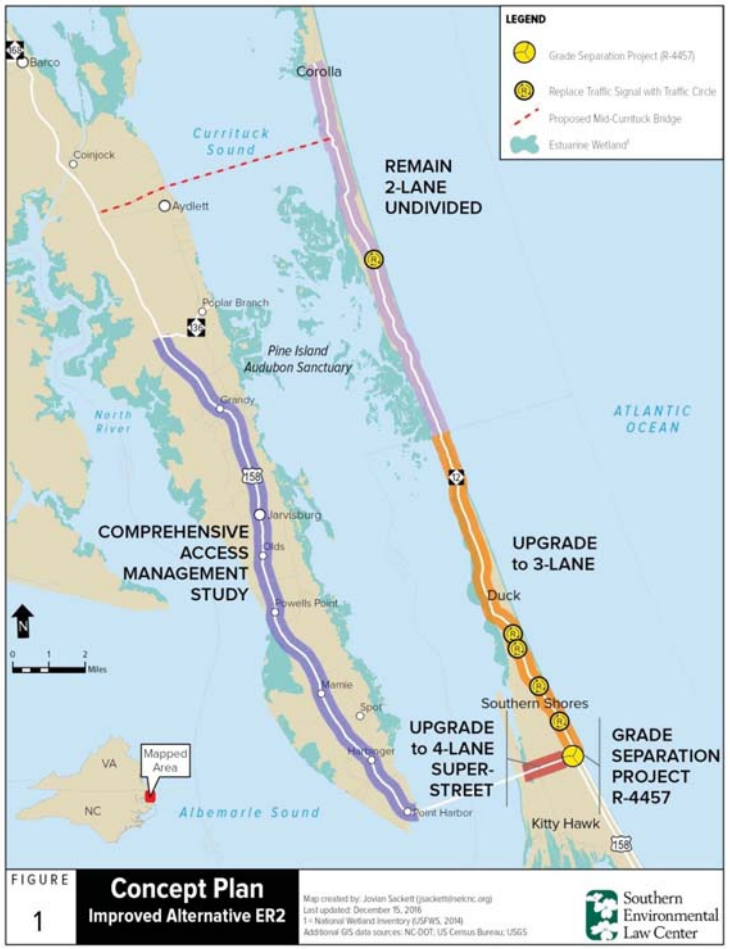
[204] Kulash Report at 14-16 (Exhibit 2).

[205] FEIS 2-35 -2-36.

[206] William F. West, *Hanig, White meet with anti-bridge group*. DAILY ADVANCE (Dec. 19 2016) *available at* http://www.dailyadvance.com/News/2016/12/19/Hanig-White-meet-with-anti-bridge-group.html (Exhibit 230).

- For US 158 from Barco to the Wright Memorial Bridge, the Transportation Agencies should retain the existing five-lane undivided cross section with the continuous two-way left turn lane.

- For the 15.5 mile segment between NC 136 and the western end of the Wright Memorial Bridge, the Transportation Agencies should conduct a comprehensive access management study to identify small-scale road improvements including the addition of traffic signals, coordination of traffic signals, development of seasonal traffic signal timing algorithms, new or extended local streets and roads providing access to streets served by a traffic signal on US 158 and designated U-turn locations. The study should also explore the feasibility of converting some segments to a superstreet.



- NCDOT should also explore implementation of some other changes to reduce demand. An incentive program to better stagger change-over days at rental companies away from the current norm of Saturday change-overs could greatly help to reduce the congestion on those busy days. The alternative is discussed in

more detail below. In addition, a program establishing "electronic keys" should be encouraged.[207] Such programs reduce congestion by eliminating trips that tourists need to take to a central rental check-in company, and allow them to proceed directly to their rental house.

This comprehensive set of solutions should be given serious consideration by the Transportation Agencies. NEPA requires that the agencies examine "all alternatives that 'appear reasonable and appropriate for study at the time' of drafting the EIS, as well as 'significant alternatives' suggested by other agencies or the public during the comment period." *Roosevelt Campobello Int'l Park Comm'n v. USEPA*, 684 F.2d 1041, 1047 (1st Cir. 1982) (quoting *Seacoast Anti-Pollution League v. Nuclear Regulatory Comm'n*, 598 F.2d 1221, 1230 (1st Cir. 1979)).

Much has changed since the agency last put the NEPA document for the Bridge out for comment in 2012. Funding constraints previously in place have been replaced by an entirely new funding system.[208] In addition, there is now greater financing flexibility in the form of GARVEE bonds.[209] At the same time, the need for the Bridge has diminished dramatically. Current and future traffic forecasts are much lower than anticipated the last time the public had the opportunity to review the Bridge and alternative solutions.[210] As such, it is imperative that the Transportation Agencies issue a Supplemental EIS that takes a hard look at Mr. Kulash's comprehensive set of alternative solutions as well as other solutions that the public may now have to offer.

Moreover, it is important to note that the Transportation Agencies will only be able to acquire construction permits for the LEDPA. Because the Improved ER2 alternative, like ER2, would result in significantly less environmental damage than construction of the Mid-Currituck Bridge, it will undoubtedly be the "least environmentally damaging" alternative. And where questions had previously arisen about the practicability of ER2,[211] the "Improved" alternative demands fewer large scale improvements and would therefore be less expensive than ER2.[212] As such, it is likely the LEDPA and should be given a thorough review.

Ferries

In addition to taking a hard look at the Improved ER2 alternative, the Transportation Agencies should use a Supplemental EIS to take a hard look at alternatives that have not yet been adequately reviewed, and should conduct their review based on up-to-date accurate data.

[207] *See, e.g.*, eRentalLock: http://www.erentallock.com/ (*last visited* 12/14/2016) (Exhibit 118).

[208] Strategic Transportation Investments Act, N.C. GEN. STAT. § 136-189 (2016).

[209] McIntyre Deposition (Exhibit 93).

[210] See Section III, above.

[211] The question of practicability is discussed more above in Section III.

[212] Kulash Report at 14–16 (Exhibit 2).

Throughout the NEPA analysis, the Transportation Agencies have failed to conduct a reasoned analysis of ferry alternatives. This is despite the fact that the former NC Secretary of Transportation stated publicly that ferries should be considered in lieu of the Bridge.[213] As noted below, ferries should be considered not just as a stand-alone alternative, but as part of a combined solution to meet the stated purpose and need. The Draft Reevaluation cites the Alternatives Screening Report and states that the ferry alternative was not selected as a detailed study alternative because it would require dredging 711 acres and the disposal of 14.5 million cubic yards of dredged material.[214] The Alternatives Screening Report does not, however, specify what type of ferry technology was assumed in arriving at those figures. Instead, the report states: "The Ferry Alternatives use equipment and has operating characteristics similar to the current ferry service operated by NCDOT which, because of NCDOT's many years of experience in operating ferry service in North Carolina, *is assumed* to have the equipment and operating characteristics best suited for North Carolina waters."[215] Rather than assuming NCDOT is presently using the best and most appropriate equipment, the Transportation Agencies must conduct a complete analysis of ferries that incorporates the latest shallow draft ferry and hovercraft technology.

While it is true that Currituck Sound is shallow, ferries and hovercrafts do exist that are capable of navigating in as little as five feet of water.[216] For example, the company Sea Transport designs ferries with drafts less than five feet capable of carrying over thirty vehicles at speeds of up to 18 knots.[217] Nichols Brothers Boat Builders has developed similar technology.[218] Indeed, NCDOT in the Stakeholder Involvement report did not dispute that ferry technology may exist that would require no dredging whatsoever.[219] Further, as we noted in our comments on the FEIS, suitable ferry routes might be mapped by using readily available nautical charts and bathymetry data that indicate water depths throughout Currituck Sound.[220] The Knotts Island Ferry that operates in the northern Currituck Sound between Knotts Island and Currituck demonstrates the feasibility of developing suitable ferry routes.[221] Ferry terminals for these

[213] *See* "New NCDOT boss talks bridges, ferries, U.S. 64," The Outer Banks Voice (Feb. 15, 2013), available at http://outerbanksvoice.com/2013/02/15/new-transportation -boss-talks-obx-bridges-surfing/ (last visited December 14, 2016) (Exhibit 119).

[214] *See* Draft Reevaluation at 45 (Exhibit 1).

[215] Alternatives Screening Report for the Mid-Currituck Bridge at 46 (2009), (emphasis added), available at https://connect ncdot.gov/projects/MidCurrituckBridgeDocuments/Alternatives%20Screening%20Report%20October%202009.pdf (Exhibit 120) [hereinafter 2009 Alternatives Report].

[216] *See* http://www.seatransport.com/ferries/ (Exhibit 121); *see also* Letter from Clarence Coleman to L. Winslow (November 28, 2011) (Exhibit 122).

[217] http://www.seatransport.com/ferries/ (Exhibit 121).

[218] http://www nauticexpo.com/prod/nichols/product-21674-230951 html (Exhibit 123).

[219] Stakeholder Involvement for FEIS at 3-7 (Exhibit 103).

[220] *See, e.g.*, NOAA Office of Coast Survey, *Chart 12207* (Oct. 2009), available at http://www.charts noaa.gov/OnLineViewer/12207.shtml (http://www.charts noaa.gov/PDFs/12207.pdf) (Exhibit 124).

[221] *See* NCDOT, North Carolina Ferry Routes, http://www.ncdot.gov/travel/ferryroutes/#0 (last visited Dec. 20, 2016) (Exhibit 125).

options could financially boost Aydlett and other mainland towns without the impacts to community cohesion, visual impairments, and environmental destruction associated with construction of a new bridge.

In sum, the Transportation Agencies have failed to perform a comprehensive, up-to-date study of ferry alternatives. The very limited analysis of ferries that does appear remains based on a 1991 study. Reliance on two-decade old, outdated information when new data is readily available has been held to be arbitrary and capricious.[222] The Transportation Agencies should a Supplemental EIS to take a hard look at all alternatives, including ferry alternatives, based on recent reliable data and information about new low-draft, high-speed, high capacity ferries, that gives a true picture as to how ferries may fit into a larger comprehensive set of solutions.

Staggered Check Outs

The Currituck Outer Banks include a substantial number of vacation rental properties that commonly rent by the week, with their peak use being in the summer (June to August). Currently, the vast majority of these property rentals turn over occupancy on Saturdays. As a result, congestion is extremely high on Saturdays during the summer as tens of thousands of tourists attempt to check into their properties, while others are attempting to leave. Additional traffic comes from the hundreds of workers involved with the switch-over as they clean and otherwise manage the properties. In 2009, 70% of turnovers were on Saturdays, 25% on Sundays, and 5% on Fridays.[223] No more recent data is available from the Transportation Agencies.

Staggered check outs would better spread out rental turnover days throughout the week and alleviate heightened weekend congestion, particularly on Saturdays. The Draft Reevaluation demonstrates why staggered check outs would be effective. Summer weekend traffic is currently much worse than summer weekday traffic. In 2015, the entire road network operates at LOS A-D on summer week days.[224] It is only on summer weekends that portions of NC 12 and the Wright Memorial Bridge slip to LOS E and F. The Transportation Agencies do not provide a break-down of traffic between Saturdays and Sundays, but anecdotally we have been informed that the worst congestion is typically limited to Saturdays.

With the Transportation Agencies' new projections for future traffic, a similar picture emerges. During the week US 158 is projected to remain at LOS A-D even by 2040. It is only on summer weekends that it is anticipated to slip to LOS D. Extremely congested conditions, i.e., LOS F (V/C >1.3), south of Duck and on the Wright Memorial Bridge are also only anticipated to occur on summer weekends. As a result, much of the purpose and need that is attempted to be addressed by construction of the Bridge, as articulated in the Draft Reevaluation, is limited to congestion found on summer weekends.

[222] *See* N. Plains Res. Council, Inc. v. Surface Transp. Bd., 668 F.3d 1067, 1086 (9th Cir. 2011).

[223] 2009 Alternatives Report at 37–38 (Exhibit 120).

[224] Draft Reevaluation at 33, Figure 4 (Exhibit 1).

The Transportation Agencies' only look at a "shifting rental times" alternative was in the Alternatives Screening Report in 2009. In this report, the Transportation Agencies looked at how traffic would function if rental change-over-days were shifted to an even distribution on Fridays, Saturdays and Sundays. The Transportation Agencies did not consider further expanding this analysis to include other week days. The Transportation Agencies' 2009 analysis found that shifting to this even, three day distribution would result in a 28% reduction in the miles of road operating at LOS F during summer weekend days. This analysis was based on the old traffic forecasts and has not been updated.

Despite the significant reduction in congested VMT that this very low-cost solution could effectuate, the Transportation Agencies rejected the alternative by minimizing its impact.[225] Rather than focus on its ability to alleviate congestion during the most congested times of the year, the Transportation Agencies averaged out the alternative's impact over the entire summer and the entire year.[226] Because the solution, by design, would not have any impact on week days, the Transportation Agencies determined that overall its impact on congestion would be minimal.[227] This surprising conclusion overlooks the fact that the congestion problem the Bridge is intended to address occurs not throughout the year, or throughout the summer, but almost exclusively on summer weekends. The Transportation Agencies' lack of candor about the potential success of such a solution was further compounded because all future NEPA documents simply included the assertion that the alternative was eliminated because it would have just 1%, or a "minimal", impact on congestion.[228] The larger, 28% impact on summer weekend congestion was excluded.[229]

The Transportation Agencies must publish a Supplemental EIS that takes hard look at this alternative. First, the Transportation Agencies must re-visit the alternative in light of changed projections of traffic and socio-economic growth. Second, the Transportation Agencies must expand the alternative so that it looks at shifting some rental change overs to weekdays, Monday-Thursday. Third, the Transportation Agencies must express clearly in the EIS how this solution will assist with peak days of congestion on summer weekends and not dilute the impact of the alternative by considering its impact across an entire year. Fourth, as discussed further below, the Transportation Agencies must consider how this alternative will work in combination with other alternative solutions to meet the purpose and need established by the Transportation Agencies.

As they re-study the shifting-rental-times alternative, the Transportation Agencies should also consider how evolving vacation habits may make this solution more workable than it may have been in 2009.[230] Anecdotal evidence from property owners who rent houses in the Outer

[225] 2009 Alternatives Report at 37-38 (Exhibit 120).

[226] *Id*.

[227] *Id*.

[228] DEIS at 2-40; FEIS at 2-53; Draft Reevaluation at 44 (Exhibit 1).

[229] *Id*.

[230] Numerous Outer Banks Rental companies now offer Friday and Sunday rentals in addition to the more traditional Saturday rentals and/or encourage people to start their rental on Friday or Sunday in order to avoid traffic. *See, e.g.*, Sun Realty, https://www.sunrealtync.com/friday-friday-rentals-on-the-outer-banks (last visited Dec. 14, 2016)

Banks suggest that rental switch over times may be starting to shift independently of any policies. According to these property owners, there is an ongoing switch from the traditional property rental companies to companies like VBRO who offer more flexible rental arrangements. This shift is in accordance with market preferences and the changing way that people work and vacation.[231] People are increasingly looking for shorter stays, and booking their vacations later in the season.[232]

Even if some reluctance remains on the part of rental home owners to switch away from the Saturday to Saturday rental market, one way to potentially implement this alternative would be to provide monetary incentives for rental companies willing to make the shift. Such a program would be significantly less costly as well as less destructive to the environment than the construction of a $600 million Bridge.

Small-Scale Solutions

The Transportation Agencies should also use a Supplemental EIS to consider how a number of small scale solutions could play a role in augmenting mobility and reducing congestion. A shuttle service along NC 12 could help alleviate some of the traffic that stems from tourists taking outings. The linear nature of the OBX makes it particularly suited to such a service. Similarly, improved bike and pedestrian facilities could help take cars off the roads while also providing needed safety improvements and an economic boon to the tourist economy. Many suggestions for the types of public transportation solutions that should be explored were catalogued in 2006.[233] This study should be updated and considered in the context of a comprehensive transportation solution for the Northern Outer Banks that does not include the Mid-Currituck Bridge.

Several other solutions for summer congestion relief were discussed at a meeting between the Transportation Agencies and Currituck County in December 2014.[234] These solutions,

(Exhibit 126); Southern Shores Realty, https://www.southernshores.com/friday-to-friday-rentals, (last visited Dec. 14, 2016) (Exhibit 127); Rent A Beach, http://www.rentabeach.com/friday-to-friday html, (last visited Dec. 14, 2016) (Exhibit 128); Atlantic Realty of the Outer Banks, https://www.atlanticrealty-nc.com/vacation-rentals/friday-check-ins (last visited Dec. 14, 2016) (Exhibit 129); Rent A Beach, http://www.rentabeach.com/sunday-to-sunday.html, (last visited Dec. 14, 2016) (Exhibit 130); Beach Realty & Construction, http://www.beachrealtync.com/sunday-turnover-outer-banks-rentals (last visited Dec. 14, 2016) (Exhibit 131).

[231] Kipp Taban, *"There's Something Strange Going On This Year"*, OUTER BANKS SENTINEL (Aug. 30, 2016) *available at* http://www.obsentinel.com/news/there-s-something-strange-going-on-this-year/article_120ceebc-58c5-11e6-b524-cb2aaa8299c6.html#.V6DQVOFxgOE.facebook (Exhibit 132); Independent Traveler, Vacation Tips, *available at* http://www.independenttraveler.com/travel-tips/hotel-and-b-and-b/vacation-rentals-right-for-you (last visited Dec. 14, 2016) (Exhibit 133); Holiday Lettings, Flexible Changeovers, *available at* https://www.holidaylettings.co.uk/resources/owner-advice/managing-rentals/flexible-changeover-days/a-1-32-1659/ (last visited Dec. 14, 2016) (Exhibit 134).

[232] *Id.*

[233] Jud Lawrie and Thomas Cook, FINAL REPORT, OUTER BANKS TRANSPORTATION STUDY (Feb. 2006) (Exhibit 135).

[234] Email from Donna Creef, Dare County Planning Director, to Bobby Outen Dare County Manager (Dec. 16, 2014) (Exhibit 136).

including the promotion of alternative routes, the use of police officers, better signage, and the use of ferry and bus shuttles should all be expanded and considered as part of a comprehensive set of alternatives to the Bridge. Follow-up meetings were held again in February 2015, and in spring of 2016.[235] A number of additional small-scale improvements were suggested during those meetings, and some success was noted from their implementation.[236] The Currituck Chamber also has recommendations as to how to improve traffic flow.[237]

The Transportation Agencies recently employed a similar non-traditional approach to improving congestion with the Fortify project in Wake County.[238] In order to alleviate congestion during multi-year construction, NCDOT increased public transit, working with local businesses to alter commuting patterns and employing a heavy use of social media to encourage the use of alternative routes, non-peak travel, and non-highway transportation.[239]

Combinations of Alternatives

The Transportation Agencies' analysis of the Bridge has been flawed from its inception because it fails to look at how combinations of alternative solutions can work together to meet the purpose and need. *See Rankin v. Coleman*, 394 F. Supp. 647, 657-59 (E.D.N.C. 1975). For example, the Transportation Agencies dismissed alternatives such as ferries and shifting rental times because, standing alone, the Transportation Agencies argued they would not meet the established purpose and need. In the Supplemental EIS, the Transportation Agencies must consider how a combinations of smaller scale solutions, including those set out in Improved ER2, can work together to meet the project need.

VI. IMPACTS ANALYSIS

Direct Impacts

As detailed in our previous comments, construction of the Mid-Currituck Bridge will result in a number of harmful direct impacts to the natural environment. Draining and fill of wetlands to make way for the proposed bridge will reduce habitat for waterfowl and their food sources. The Bridge will create 71.5 acres of additional impervious surface, and runoff from the Bridge will pollute the waters used by waterfowl, fish and other species. Increased traffic that

[235] Email from Jerry Jennings, NCDOT, to Jason Davison and Anthony Roper, NCDOT (Apr. 21, 2016) (Exhibit 137).

[236] Email from Paul O'Neal to Peter Rascoe (Apr. 22, 2016) (Exhibit 138).

[237] Currituck Chamber Talking Points (Sep. 29, 2015) (Exhibit 139).

[238] NCDOT, *Fortify* website, https://www ncdot.gov/fortifync/ resources/docs/Fortify FAQ.pdf (last visited Dec. 16 2016) (Exhibit 140).

[239] NCDOT, *Fortify Powerpoint Presentation, available at* http://ncdot.gov/fortifync/ resources/docs/NCDOTPowerPointFORTIFY1182013.ppt (Exhibit 141); NCDOT, *Fortify: Driver Information, available at* http://ncdot.gov/fortifync/driver-info/ (Exhibit 142); Dawn Curry, *Massive I-40/440 rebuild means Raleigh must 'Fortify' through 2016*, TRIANGLE BUSINESS JOURNAL (Oct. 28, 2013) (Exhibit 143); Bruce Siceloff, *Road Worrier: NCDOT says not to worry about 3 years of Beltline misery – be happy!*, NEWS & OBSERVER (Oct. 28, 2013) (Exhibit 144).

will accompany the Bridge will increase bird-vehicle collisions, and increased noise and visual disturbance is likely to disrupt waterfowl and potentially cause sensitive species to abandon the area. Shading from the bridge will directly impact existing areas of SAV, and areas of potential future establishment, reducing important fish spawning habitat in the Currituck Sound. Construction may also introduce a range of invasive species into the Sound, including plants such as Phragmites, which are extremely difficult to eliminate. Any discussion of the impacts that is included is overly general in nature and falsely minimizes the effects that these impacts will have on the sensitive resources in the project area, particularly when considered in combination.

In our 2012 comments on the FEIS,[240] we noted that the Transportation Agencies had spent time working with resource agencies to minimize some of the direct environmental impacts of the Bridge. We specifically approved of the decision to bridge Maple Swamp and the commitment to construct the bridge without any dredging and with a moratorium placed on construction during fish spawning. We also, however, noted that these improvements do not change the fact that overall the bridge will result in devastating direct impacts to the Currituck Sound. The FEIS' insufficient analysis of these effects violates NEPA and a Supplemental EIS must be completed to adequately address these impacts.

There has never been a dispute about the unique and valuable nature of the Sound. As stated by a DCM official, "review agencies . . . recognize[ ] the sound as one of the most valuable estuaries on the coast."[241] For decades resource agencies have strongly emphasized how the Bridge would harm the Currituck Sound. As summarized in section I, above, ever since the publication of the initial DEIS in the mid-1990s, resource agencies have noted the impact the bridge would have on wetlands, SAV, water quality, and fish and waterfowl in the Sound. These concerns remain and, if anything, are now stronger because of growing pressures on the Sound.

Development of the Northern Outer Banks over the past several decades has deteriorated the water quality of the Currituck Sound. Turbidity in the Sound has increased, SAV has decreased, and the overall health of the ecosystem has declined considerably.[242] Fish and waterfowl populations have been harmed, with the waterfowl population dropping sharply from a peak of 305,000 birds in 1976 to a current estimated average of 25,000.[243] At least five fish species have disappeared entirely from the sound since the 1960s.[244] This degradation prompted

[240] Letter from David Farren to Jennifer Harris at 10 (Mar. 12, 2012) (Exhibit 116).

[241] Email from Donna Moffitt to Charles Jones and Doug Huggett (Aug. 29, 2000) (Exhibit 145).

[242] CURRITUCK SOUND ESTUARY RESTORATION; A CASE STUDY IN OBJECTIVE SETTING, by S. Kyle McKay, Charles R. Wilson, and Douglas Piatkowski (Nov. 2012), *available at* http://acwc.sdp.sirsi.net/client/search/asset/1013340 (last visited Dec. 14, 2016) (Exhibit 146); *see also* CURRITUCK SOUND ECOSYSTEM RESTORATION STUDY, FEASIBILITY SCOPING MEETING, SEPTEMBER 2, 2011, U.S. Army Corps of Engineers, *available at* http://www.saw.usace.army.mil/Portals/59/docs/ecosystem_restoration/Currituck%20FSM%20presentation%208.30.11.pdf (last visited Dec. 14, 2016) (Exhibit 147).

[243] CURRITUCK SOUND ECOSYSTEM RESTORATION STUDY, FEASIBILITY SCOPING MEETING, SEPTEMBER 2, 2011, U.S. Army Corps of Engineers, *available at* http://www.saw.usace.army.mil/Portals/59/docs/ecosystem_restoration/Currituck%20FSM%20presentation%208.30.11.pdf (last visited Dec. 14, 2016) (Exhibit 147).

[244] *Id.*

the Corps to initiate a Currituck Sound Ecosystem Restoration Feasibility Study.[245] According to the Corps' Scoping document for this project, "the decline in water quality from residential development, agriculture, and dredging activities has left the sound in an impaired state."[246] A major purpose of this project was to study water quality and SAV decline and to take action to restore water quality and SAV habitat.[247] While this project was never implemented, a new effort to study the Currituck Sound has been put in place to study environmental stresses on the Sound.[248] EPA has also expressed concern over the current state of the Sound[249] and, as WRC has previously stated, "[i]t is essential to ensure that the implementation of this project does not contribute to the continued decline of the Currituck Sound ecosystem."[250]

Against this backdrop of concern for the health of the Sound, the Transportation Agencies are proposing to build a bridge that would exacerbate the very problems the Corps has previously sought to address. The Bridge would add 71.5 acres of impervious surface, shade 8.7 acres of SAV habitat and potential SAV habitat, and fill 7.9 acres of wetlands.[251] In its presently weakened state, the Sound cannot afford the stress of 7.5 mile long and 50 feet wide bridge. State and federal resource agencies agree.

Before the FEIS was issued NCTA summarized the concerns of various resource agencies with how stormwater runoff had been addressed in the DEIS:[252]

USEPA

- Noted that the DEIS does not fully address the fact that water quality in Currituck Sound has declined substantially in the last several decades primarily due to an increase in turbidity and nutrient loading from non-point source runoff.
- Stated concern for degradation of water quality in Currituck Sound.
- Stated that a full collection and treatment system is needed for any of the bridge alternatives.

[245] *See Corps Plans Study to Restore Currituck Sound Ecosystem*, DAILY ADVANCE, by Cindy Beamon (Sep. 30, 2010) (Exhibit 148).

[246] CURRITUCK SOUND ECOSYSTEM RESTORATION STUDY, FEASIBILITY SCOPING MEETING, SEPTEMBER 2, 2011, U.S. Army Corps of Engineers at 39, *available at* http://www.saw.usace.army.mil/Portals/59/docs/ecosystem_restoration/Currituck%20FSM%20presentation%208.30.11.pdf (last visited Dec. 14, 2016) (Exhibit 147).

[247] *Id*.

[248] *Corps project is taking the pulse of the Currituck Sound*, by Catherine Kozak, outerbanksvoice.com (Jan. 21, 2016), *available at* http://outerbanksvoice.com/2016/01/21/corps-project-is-taking-the-pulse-of-the-currituck-sound/ (last visited Dec. 14, 2016) (Exhibit 149).

[249] Appendix C, USEPA Agency Letter (Apr. 15, 2011) on Stormwater Management and FHWA/NCTA Response at C-6 (Exhibit 150).

[250] Memorandum from Travis Wilson to Melba McGee (Feb. 27, 2012) (Exhibit 151).

[251] FEIS at Table S-1.

[252] Email from Tracy Roberts to Matthew Lauffer (Jun. 23, 2010) (Exhibit 152).

NMFS

- Recommended that a stormwater management plan be a high priority in the project design and stated the need for a concerted effort to address runoff from a new bridge.
- Noted a need to provide additional treatment to a portion of the existing runoff into the Sound as well as full treatment of all new runoff from the proposed highway improvements.

NCDENR-DCM

- Requested more detail regarding stormwater management.
- Noted need for revised stormwater management design.

NCDENR-DWQ

- Was concerned with the effects on benthic macroinvertebrates, SAV, fish and wildlife, and overall water quality of untreated stormwater runoff from the bridge.
- Stated that in order to obtain a 401 Water Quality Certification, the NCTA will have to provide reasonable assurance to DWQ that the associated water protection criteria are met.
- Noted that details on the characteristics, location, and impacts of off-site bridge water treatment components are needed.
- Noted that an operation and maintenance agreement would be needed for stormwater treatment using deck filters and perhaps some detention basin options.

The FEIS did not adequately address these concerns, stating simply that a stormwater management plan will be created in the future and that water quality in the Sound will be "monitored."[253]

The resource agencies also have consistently stated concerns regarding the bridge's impact on SAV habitat, dredging, stormwater management, and impacts to SAV from bridge shading and pile driving.[254] Indeed, NCDMF stated its opposition to the preferred alternative largely because of its impact on SAV,[255] and agencies have stated a strong preference for in-kind

[253] FEIS at 2-30.

[254] CDG Mid-Currituck Bridge Project LEDPA Achievement Process, Submerged Aquatic Vegetation (Apr. 2011) (Exhibit 153); Survey of the Submerged Aquatic Vegetation in the Proposed Alignment for the Mid-Currituck Bridge, A Report to the North Carolina Turnpike Authority (Oct. 29, 2010) (Exhibit 154); Letter from Kevin Hart to Melba McGee (Feb. 23, 2012) (Exhibit 155); *see also* Memorandum from Charles Owens to Cathy Brittingham (Mar. 5, 2012) at 12-13 (Exhibit 156); Letter from David Wainwright to Jennifer Harris (Nov. 29, 2010) (Exhibit 157); Letter from Doug Huggett, Major Permits and Consistency Coordinator, DCM, to Melba McGee, Environmental Coordinator, NCDENR (Mar. 5, 2012) (Exhibit 158); Turnpike Environmental Agency Coordination Meeting at 3-4 (Jan. 20, 2011) (Exhibit 159); Letter from Gregory Hogue to Jennifer Harris (May 25, 2010) (Exhibit 160).

[255] Letter from Kevin Hart to Melba McGee (Feb. 23, 2012) (Exhibit 161); *see also* NCTA Meeting Summary (Apr. 6, 2011) (noting that agencies had raised SAV as an issue) (Exhibit 162).

mitigation for SAV instead of other proposed measures.[256] Agencies have also expressed doubt over the Transportation Agencies' proposed solutions to address direct impacts of the bridge, including the proposed stormwater management plan.[257] As stated by NCWRC, "the impacts associated with the preferred alternative are substantial and continued efforts to avoid and minimize impacts are necessary."[258]

In addition to these long-standing concerns, USFWS has also expressed concern about bird-vehicle collisions, and has stated that it would like to see avoidance measures put in place.[259] In particular, USFWS noted that the California Department of Transportation plans to utilize a 14' tall bird rail/fence design that will force migratory birds to fly over the traffic instead of through the line of traffic and suggested that a similar design could be utilized for the proposed MCB. USFWS had previously noted its concern about bird-vehicle collisions and other negative effects of the bridge on waterfowl when commenting on the DEIS.[260] In those comments, FWS noted that "[t]he evaluation of alternatives only included two sentences, in the entire DEIS, on how waterfowl may be affected . . . . This level of analysis is inadequate to evaluate the alternatives for potential impacts to wintering and breeding waterfowl in the DEIS."[261] The Supplemental EIS must address this new information provided by USFWS, which is ignored in the Draft Reevaluation.

Indirect and Cumulative Effects Analysis

In our comments on the FEIS, we noted that the Transportation Agencies' analysis failed to provide a true "No-Build" scenario for purposes of analyzing indirect effects, but instead assumes the existence of the Bridge when forecasting the baseline of future development in the project area. The Draft Reevaluation doubles down on this flawed analysis, while also suggesting that reduced traffic forecasts further close the gap between a true "No-Build" scenario and a scenario where NCDOT's Preferred Alternative is constructed.[262]

Regulations promulgated by the Council on Environmental Quality ("CEQ") require each EIS to include "the alternative of no action," 40 C.F.R. § 1502.14(d); § 1508.25(b)(1). This alternative must be presented in a comparative fashion so as to "sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public." 40 C.F.R. § 1502.14. A true "No-Build" scenario should present a clear picture of what would

[256] NCTA Meeting Summary (Apr. 6, 2011) (Exhibit 162); *see also* TEAC Meeting Minutes (Jul. 8, 2008) (Exhibit 163).

[257] CDG, LEDPA Achievement Process, Stormwater Management (Mar. 2011) (Exhibit 164); *see* Preferred Alternative Report at 12 (Exhibit 165); Letter from Heinz Mueller to Jennifer Harris (Mar. 12, 2012), attachment A at 6-7 (Exhibit 166).

[258] Memorandum from Travis Wilson to Melba McGee (Feb. 27, 2012) (Exhibit 151).

[259] Email from Gary Jordan to Tracy Roberts (Feb. 6, 2012) (Exhibit 167).

[260] *See* Memorandum from Supervisory Wildlife Biologist to Gary Jordan (May 4, 2010) (Exhibit 168).

[261] *Id.*; *see also* Meeting Summary Notes on Wildlife Crossing Structures and Mid-Currituck Bridge Study (Jul. 30, 2009) (Exhibit 169).

[262] Draft Reevaluation at 79-80 (Exhibit 1).

occur if the Mid-Currituck Bridge were not to be built. All impacts that result from building the Bridge should be based from this "No-Build" baseline and should be reported and analyzed accordingly.

The current FEIS and Draft Reevaluation do not follow this legally required approach. Rather than using a "No-Build" scenario as the baseline from which to calculate impacts, the FEIS implicitly uses a "Build" scenario. The analysis of alternatives and impacts is based on a scenario that assumes "full build-out" of commercial and residential development[263] despite the fact that "full build-out" is only expected to occur if the bridge is constructed. Relying on this flawed baseline, the FEIS repeatedly reports that construction of a seven mile bridge out to a remote barrier island would result in *no induced growth or development on the barrier island*, while simultaneously reporting that failure to construct the bridge would inhibit development.[264] The FEIS states:

> For the NC 12-accessible Outer Banks, there would be no reasonably foreseeable change in the overall type and density of development with implementation of the detailed study alternatives, including the Preferred Alternative, compared to the No-BuildAlternative. Negligible or no increase in the demand for houses and businesses throughout the Outer Banks resort area would be foreseeable over the No-Build Alternative.[265]

The FEIS then goes on to state, however, that the Bridge alternative would result in substantially more growth than the No-Build alternative. Specifically, it states that the No-Build alternative could result in 70 percent "build-out", and that the Bridge would result in 86 percent "build-out" in the region, but that the 86 percent build out should be considered the baseline.[266] As stated by an NCDOT employee, however, "It can be argued that the higher percentages of build-out . . . with the bridge alternatives [ ] are the induced changes of the study alternatives."[267]

Not only is the FEIS itself a self-contradictory document in this respect, but other documents prepared by the Transportation Agencies also repeatedly acknowledge that construction of the Mid-Currituck Bridge *will* encourage growth. For example, the 2011 Traffic and Revenue study states that construction of the bridge "could greatly facilitate the continued growth within the area."[268] The report explains that the bridge "will significantly increase the

[263] *See, e.g.*, Stakeholder Involvement FEIS Technical Report at 3-12 (explaining that "the project's traffic forecasts assume full build-out of the NC 12-accessible Outer Banks north of US 158 in Dare and Currituck counties") (Exhibit 103).

[264] *See, e.g.*, Mid-Currituck Bridge, FEIS at 3-107 to 3-114; Stakeholder Involvement FEIS Technical Report at 3-11 to 3-13 (Exhibit 103).

[265] FEIS at 3-109.

[266] FEIS at 3-109.

[267] Herman Huang, Comment on INDIRECT AND CUMULATIVE EFFECTS TECHNICAL REPORT, at 6-5 (May 2011) (Exhibit 170).

[268] Traffic and Revenue study at 2 (Exhibit 84); *see also* ACS Infrastructure Development, BRIDGE LENDERS' TRAFFIC CONSULTANT REPORT 3 (Oct. 2011) (Exhibit 85).

level of access to this key vacation destination."[269] Indeed, the report goes as far as to state that "the project presents a unique marketing opportunity to leverage the existing Outer Banks travel/tourism industry with tailored marketing strategies to highlight substantial travel time savings, cost savings, and increased accessibility to this beautiful and unique destination."[270]

Thus, when it comes to examining environmental impacts, the Transportation Agencies would have us believe that construction of the Bridge would make not the slightest of differences to development.[271] When attempting to justify the need for the project, however, or make clear that substantial toll revenues will be generated as a result of construction, the Transportation Agencies attest that construction of the Bridge is an important mechanism to facilitate tourism and additional development. These two contradictory positions cannot be reconciled. Moreover, it is clear which scenario is more likely. As we explained in our comments on the DEIS,[272] the idea that transportation improvements encourage growth and development in areas that were previously difficult to access is nothing new and has been carefully documented by transportation experts[273] and recognized by the courts.[274]

Local government entities and members of the public have also recognized that the Bridge will increase development of the Currituck mainland and the Northern Outer Banks. The Dare County Board of Commissioners, the Currituck County Board of Commissioners, the Town of Southern Shores, the Town of Kill Devil Hills, and the Albemarle RPO Transportation Advisory Committee have all adopted resolutions and policies supporting the Mid-Currituck Bridge because of, among other things, the economic development it would bring to the area.[275] Members of these and other entities have also written to members of the General Assembly and to NCDOT, urging them to pursue continued funding for the bridge on the ground that it would

[269] *Id*. at 11.

[270] *Id*.

[271] Consultants for the Transportation Agencies have, however, noted that the Bridge will lead to increased beach driving in Carova. *See* Email from Daniel Marcucci to John Page and Katharine Braly (Apr. 18, 2011) (Exhibit 171).

[272] Stakeholder Involvement FEIS Technical Report at C7-C10 (Exhibit 103).

[273] *See, e.g.*, Robert B. Noland, A Review of the Evidence for Induced Travel and Changes in Transportation and Environmental Policy in the United States and the United Kingdom, (Feb. 2001) *available at* https://www.researchgate net/publication/222574378_A_review_of_the_evidence_for_induced_travel_and_changes_in_transportation_and_environmental_policy_in_the_US_and_the_UK (Exhibit 172); Gilles Duranton and Matthew A. Turner, The Fundamental Law of Road Congestion: Evidence from US cities, American Economic Review, American Economic Association, vol. 101(6) (Oct. 2011) (Exhibit 173).

[274] *See, e.g.*, *Mullin v. Skinner*, 756 F. Supp. 904, 917 (E.D.N.C. 1990); *City of Davis v. Coleman*, 521 F.2d 661 (9th Cir. 1975); *Conservation Law Found. v. Fed. Highway Admin*, 630 F. Supp. 2d 183 (D.N.H. 2007); *Highway J Citizens Group v. U.S. DOT*, 656 F. Supp. 2d 868 (E.D. Wis. 2009); *N.C. Alliance for Transp. Reform v. U.S. DOT*, 151 F. Supp. 2d 661 (M.D.N.C. 2001); *Sierra Club v. U.S. DOT*, 962 F. Supp. 1037 (N.D. Ill. 1997).

[275] Dare County, Resolution (Jan. 22, 2013) (Exhibit 174); Town of Southern Shores, Resolution (Apr. 5, 2011), (Exhibit 175); Albemarle Rural Planning Organization, Resolution (Jun. 18, 2014) (Exhibit 176); Town of Kill Devil Hills, Resolution (Feb. 11, 2013) (Exhibit 177); Currituck County, Resolution (Feb. 7, 2011) (Exhibit 178); Currituck County Board of Commissioners, Currituck County 2006 Land Use Plan 9-12 (2006) (Exhibit 179). Local elected officials have also acknowledged the importance of the Bridge for economic development. *See*, Email from Representative Bob Steinburg to Carolyn Riggs (May 9, 2013) (Exhibit 180).

spur economic development in the area.[276] High-ranking members of local governmental entities have delivered presentations and given interviews with the same message.[277] Local business groups have also been strong supporters of the Bridge due to the economic growth it would bring to the Northern Outer Banks.[278] Finally, the North Carolina State Travel and Tourism Board has been particularly vocal about the economic growth that would be driven by the Bridge, calling the Bridge "one of the highest priority Tourism-development infrastructure projects within the State of North Carolina."[279] The Transportation Agencies have failed to consider the input from local governments and citizens who acknowledge the significant growth the bridge will bring to the Currituck mainland and the Northern Outer Banks. [280]

The Transportation Agencies have a duty under NEPA to carefully examine alternatives to the project and the impacts that will result from those alternatives. 40 C.F.R. § 1502.14. These impacts must be analyzed from a base scenario which shows what would be likely to occur if the project was not constructed. 40 C.F.R. § 1502.14 (d). The Fourth Circuit has made clear that operating from a misstated baseline can lead to an arbitrary and capricious decision. *Friends of Back Bay v. U.S. Army Corps of Engineers*, 681 F.3d 581, 588 (4th Cir. 2012). If, as the FEIS states, development would be inhibited by a failure to construct the Bridge, then full build-out is not a reasonable baseline from which to measure impacts and compare alternatives.

[276] Letter from Warren Judge, Chairman, Dare County Board of Commissioners, to Joint Legislative Transportation Oversight Committee (Oct. 2, 2012) (Exhibit 181); Letter from Lloyd Griffin, ARPO, to Kerry Morrow, NCDOT (Nov. 17, 2014) (Exhibit 182); Letter from Warren Judge, Dare County Board of Commissioners, to Phil Berger, President Pro Tempore, North Carolina Senate (Jun. 13, 2012) (Exhibit 183); Letter from John Rorer, Chairman, Currituck County Board of Commissioners, to Phil Berger, President Pro Tempore, North Carolina Senate (Jun. 12, 2012) (stating that the Bridge "is vitally important to the economic growth and general well-being of Currituck County…") (Exhibit 184); Letter from Christopher Layton, Manager, Town of Duck, to Julia Howard, NCGA (May 1, 2013) (Exhibit 185); Undated letter from the Mayor of the Town of Southern Shores to Kathy Harrington, North Carolina Senate (Exhibit 186); Letter from Dave Wessel, Mayor, Town of Duck, to Jeff Barnhart, Appropriations Chair, North Carolina House of Representatives (Mar. 28, 2011) (Exhibit 187); Letter from Dave Wessel, Mayor, Town of Duck, to Chris Militscher, EPA (Jan. 10, 2011) (Exhibit 188); Warren Judge, Dare County Board of Commissioners Presentation at Slide 15 (Oct. 4, 2012) (Exhibit 189); *see also* E-mail from Denise Walsh, Town of Duck, to Dorothy Killingsworth, Dare County (May 1, 2013) (Exhibit 190); E-mail from Peter Bishop, Currituck County, to Warren Judge, Dare County Board of Commissioners (Oct. 2, 2012) (Exhibit 191); Mid-County Bridge Letter Instructions (Exhibit 192); E-mail from Dan Scanlon, Manager, Currituck County (Nov. 19, 2014) (Exhibit 193); E-mail from Owen Etheridge, Chairman, Currituck Board of Commissioners, to Shelton Harrell, managing partner, Lynberg & Watkins, APC (Jun. 2, 2011) (Exhibit 194); E-mail from Denise Walsh, public information officer, Town of Duck, to Jeff Smith, UNC-TV (May 14, 2013) (Exhibit 195); Sample letter to Pat McCrory, Governor, North Carolina (Exhibit 196); Mid-Currituck Bridge (MCB) Talking Points, Dare County (Exhibit 197); Letter from Warren Judge, Dare County Board of Commissioners, to Phil Berger, President Pro Tempore, North Carolina Senate (Jun. 13, 2012); Email from Michelle La Motte, Delta Associates, to Warren Judge, Dare County Board of Commissioners (Sep. 25, 2009) (Exhibit 198).

[278] E-mail from John Neighbors, Kitty Dunes Realty Company, to Tim Spear, NCGA (Oct. 4, 2012) (Exhibit 199); Sample Letter from Outer Banks Chamber of Commerce to Phil Berger, President Pro Tempore, North Carolina Senate (Exhibit 200); E-mail from Michael Lancsek, Realtor, RE/MAX Ocean Realty, to Donna Creef, Planning Director, Dare County (Apr. 21, 2010) (Exhibit 201); Video Interview of Judy Randall, Randall Travel & Marketing (Oct. 3, 2012) (Exhibit 202); E-mail from Karen Brown, President, Outer Banks Chamber of Commerce, to Denise Walsh, public information officer, Town of Duck (Nov. 21, 2014) (Exhibit 203).

[279] NCTTB, Resolution (May 14, 2013) (Exhibit 204); *see also* Video Interview of Josh Bass, NCSTTB (Oct. 3, 2012) (Exhibit 205).

[280] *See* Summary of Public Participation and Comment, Handout 21 – Jun. 28, 2010 at 4-7 (Exhibit 206).

Accordingly, if the Transportation Agencies wish to move forward with this project, they must prepare a Supplemental EIS that is founded on a realistic "No-Build" baseline. Failure to do this infects all aspects of the EIS and renders the NEPA analysis inadequate. *See N. Carolina Wildlife Fed'n v. N. Carolina Dep't of Transp.*, 677 F.3d 596, 603 (4th Cir. 2012) ("[C]ourts not infrequently find NEPA violations when an agency miscalculates the 'no build' baseline or when the baseline assumes the existence of a proposed project").

Cumulative Impacts

NEPA requires that an EIS disclose not just the direct and indirect impacts of a specific project, but also the cumulative impacts of the project when considered in conjunction with other "past, present, and reasonably foreseeable future actions regardless of what agency . . . or person undertakes such other actions." 40 C.F.R. § 1508.25(a)(2). Cumulative impacts may result from "individually minor but collectively significant actions taking place over a period of time." *Id.* § 1508.7. In determining whether a project will have a "significant" impact on the environment, an agency must consider "[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts." *Id.* § 1508.27(b)(7). "The purpose of the cumulative impact analysis is to provide readers with a complete understanding of the environmental effects a proposed action will cause." *N.C. Alliance for Transp. Reform, Inc. v. US DOT*, 151 F. Supp. 2d 661, 698 (M.D.N.C. 2001).

In addition to the problems with the ICE analysis noted in our comments on the FEIS, the Draft Reevaluation fails to take into account several developments since the FEIS was issued: the development of a 80-acre water park in lower Currituck; a proposed land swap between USFWS and Currituck County; and the creation of a community park in Currituck County that aims to attract a "critical mass"[281] of residents to the area. These projects, in combination with the proposed Bridge, would further induce development of the Currituck Mainland and Northern Outer Banks, putting additional stresses on natural resources and the environment.

Construction is in progress on an 80-acre, 45 million dollar waterpark in lower Currituck County scheduled to open by Memorial Day 2017.[282] The park, located three miles north of the Wright Memorial Bridge, will consume 76,000 gallons of water per day, create 200 full-time and seasonal jobs, and draw up to 5,000 guests daily.[283] The company developing the park is promising major economic impacts from the park, including "direct and indirect economic

[281] *See Scanlon: Park is a 'gold mine,'* by William F. West, DailyAdvance.com (Nov. 27, 2016), *available at* http://www.dailyadvance.com/News/2016/11/27/Scanlon-Park-is-a-gold-mine.html (last visited Dec. 9, 2016) (Exhibit 207).

[282] *Water park in lower Currituck plans opening next summer*, by Sam Walker, outerbanksvoice.com (Jul. 27, 2016), *available at* http://outerbanksvoice.com/2016/07/27/water-park-in-lower-currituck-county-to-open-next-summer/ (last visited Dec. 14, 2016) (Exhibit 208); *Currituck waterpark eyes May opening*, by Mike Bollinger, DailyAdvance.com (Oct. 26, 2016), *available at* http://www.dailyadvance.com/News/2016/10/26/Currituck-waterpark-eyes-May-2017-opening.html (last visited Dec. 14, 2016) (Exhibit 209).

[283] *Water park in lower Currituck plans opening next summer*, by Sam Walker, outerbanksvoice.com (Jul. 27, 2016), *available at* http://outerbanksvoice.com/2016/07/27/water-park-in-lower-currituck-county-to-open-next-summer/ (last visited Dec. 14, 2016) (Exhibit 208).

impacts through suppliers, real estate services, retail, food service, health care and more."[284] The park will operate from Memorial Day through Labor Day[285]—the height of tourist season in the Outer Banks, when stresses on the area's natural resources are at their peak. The park could have even larger, long-term impacts on development in lower Currituck. In an article in Daily Advance about the park, Currituck Economic Development Advisory Board Vice Chairwoman Barbara Courtney stated, "My vision is that in five years, this end of the county is going to be booming . . . . When you can bring something big into an area, others seem to follow."[286]

A deal is in progress between Currituck County and USFWS that will ultimately remove a sensitive portion of the Currituck National Wildlife Refuge from federal protection and place it in the hands of Currituck County.[287] Under the terms of the agreement, the county will spend nearly one-million dollars to purchase 380 acres of marsh land adjacent to Mackay Island National Wildlife Refuge, then swap that land for 700 acres of land owned by USFWS that is part of the Currituck National Wildlife Refuge.[288] Currituck County initiated the land swap because it feared USFWS may ultimately limit beach driving in the refuge and wanted to take control of the area before USFWS created any restrictions.[289] If the deal is completed, Currituck County has stated it intends to develop three acres of refuge area into a "day-use facility." In addition to direct environmental impacts, this facility would, in combination with the proposed bridge, doubtless attract increased day-trippers and other tourists to Carova.[290]

Currituck County recently completed development of a community park site near the Currituck County airport that houses sports fields, a YMCA, a healthcare facility, a cooperative

[284] *Construction of H2OBX Waterpark begins in Currituck*, by Sam Walker, outerbanksvoice.com (Oct. 25, 2016), *available at* http://outerbanksvoice.com/2016/10/25/construction-of-h2obx-waterpark-in-lower-currituck-begins/ (last visited Dec. 14, 2016) (Exhibit 210).

[285] *Currituck waterpark eyes May opening*, by Mike Bollinger, DailyAdvance.com (Oct. 26, 2016), *available at* http://www.dailyadvance.com/News/2016/10/26/Currituck-waterpark-eyes-May-2017-opening.html (last visited Dec. 14, 2016) (Exhibit 209).

[286] *Id.*

[287] *Currituck land deal could protect beach driving privileges and offer haven for wild horses*, by Jeff Hampton, pilotonline.com (Mar. 2, 2016), *available at* http://pilotonline.com/news/local/environment/currituck-land-deal-could-protect-beach-driving-privileges-and-offer/article_b46aad91-2268-5a9d-9849-b9a089d572ed html (last visited Dec. 14, 2016) (Exhibit 211); *see also* Letter from Bill Holman, NC State Director, The Conservation Fund, to David Griggs, Chairman, Currituck County Board of Commissioners (Jan. 4, 2016) (Exhibit 212).

[288] Resolution of the Currituck County Board of Commissioners (Oct. 3, 2016) (Exhibit 213); Minutes of Oct. 3, 2016 Meeting of Currituck County Board of Commissioners at 16-17 (Exhibit 214).

[289] *Everyone wins in Currituck County USFW Landswap*, posted by Brindley Beach Vacation and Sales, brindleybeach.com (Mar. 2, 2016), *available at* http://www.brindleybeach.com/blog/everyone-wins-in-currituck-county-usfw-landswap (last visited Dec. 14, 2016) (Exhibit 215); *Land swap would give Currituck control of northern beaches*, by Dee Langston (Feb. 23, 2016), *available at* http://outerbanksvoice.com/2016/02/23/land-swap-would-give-currituck-control-of-northern-beaches/ (last visited Dec. 14, 2016) (Exhibit 216).

[290] *Land swap would give Currituck control of northern beaches*, by Dee Langston (Feb. 23, 2016), *available at* http://outerbanksvoice.com/2016/02/23/land-swap-would-give-currituck-control-of-northern-beaches/ (last visited Dec. 14, 2016) (Exhibit 216); *see also* Email from Jennifer Harris to Tracy Roberts pages 2-3 (Jun. 29, 2010) (Exhibit 217).

extension center, and a community college training center.[291] Currituck County Manager Dan Scanlon has said he hopes the park will help create a "critical mass" to drive development of hotels, restaurants, and "all kinds of related developments."[292] Scanlon also emphasized the park's proximity to the site of the proposed bridge and says he hopes the park could draw thousands of people per weekend.[293]

Each of these projects, in combination with the proposed bridge, has the potential to induce further development and increase stress on the area's limited natural resources. The transportation agencies must complete a reasoned ICE analysis as part of a Supplemental EIS that takes into account these major new developments in the area. In addition, because the waterpark and community park are expected to draw significant numbers of visitors, NCDOT should analyze how patterns of traffic may change once these facilities are set in place and how those developments will affect the need for, and success of, different project alternatives.

The Draft Reevaluation also fails to make any mention of the proposed new Interstate, I-87 which would connect Raleigh and Norfolk.[294] This proposed Interstate, which was unveiled by Governor McCrory in October 2016, could impact the project study area by decreasing travel time to northeastern NC from major population centers such as Raleigh and Norfolk.[295] In the Supplemental EIS, the Transportation agencies should determine what affect this new interstate might have when combined with the increased access that would be occasioned by the Bridge.

VII. SEA LEVEL RISE AND CEQ REGULATIONS

To date, the Transportation Agencies have not conducted a thorough analysis of how the Bridge may impact, and be impacted by, climate change. There is no discussion in the EIS or Draft Reevaluation about the extent to which construction of the Bridge may contribute to greenhouse gas emissions and associated impacts to climate change.

On August 1, 2016, the CEQ published new guidance on "CONSIDERATION OF GREENHOUSE GAS EMISSIONS AND THE EFFECTS OF CLIMATE CHANGE IN NATIONAL ENVIRONMENTAL POLICY ACT REVIEWS."[296] The new guidelines require federal agencies to

[291] *Scanlon: Park is a 'gold mine,'* by William F. West, DailyAdvance.com (Nov. 27, 2016), *available at* http://www.dailyadvance.com/News/2016/11/27/Scanlon-Park-is-a-gold-mine.html (last visited Dec. 9, 2016) (Exhibit 207).

[292] *Id.*

[293] *Id.*

[294] Jeff Hampton, *New $1 Billion, 213 mile interstate planned to connect Norfolk and Raleigh*, pilotonline.com (Jun. 9, 2016), *available at* http://pilotonline.com/news/local/transportation/new-billion--mile-interstate-planned-to-connect-norfolk-and/article_b621ca2d-0824-5d08-9ca8-636230f8475b html (last visited Dec. 15, 2016) (Exhibit 218).

[295] Ken Watling, *Governor McCrory Unveils Future 1-87 in Edenton*, WNCT 9 (Oct. 24, 2016), *available at* http://wnct.com/2016/10/24/governor-mccrory-unveils-future-i-87-in-edenton/ (last visited Dec. 15, 2016) (Exhibit 219).

[296] Council on Environmental Quality, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews (Aug. 1 2016) (Exhibit 220) [*hereinafter* GHG Guidance].

consider "the effects of greenhouse gas (GHG) emissions and climate change when evaluating proposed Federal actions" under NEPA.

First, the regulations explain that Federal Agencies should "consider the extent to which a proposed action and its reasonable alternatives would contribute to climate change, through GHG emissions." The regulations further direct the Agencies to "take into account the ways in which a changing climate may impact the proposed action and any alternative actions, change the action's environmental effects over the lifetime of those effects, and alter the overall environmental implications of such actions."[297]

In the past, agency personnel charged with the study of the Mid-Currituck Bridge have asserted that it would not be appropriate to study the impacts of this one project on climate change, because climate change is a global problem and the impact of this one road project will be minimal in the larger scheme and therefore unworthy of study.[298] The new guidance directly rejects this approach noting, "a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA." Rather, the guidance states that agencies should "use the projected GHG emissions associated with proposed actions as a proxy for assessing proposed actions' potential effects on climate change in NEPA analysis." No such analysis has yet been performed for the Mid-Currituck Bridge, yet it is likely the Bridge—by increasing access and encouraging travel, as well as by inducing growth on the Outer Banks—will lead to additional GHG emissions from vehicles. CEQ has provided a list of GHG accounting tools on its website and we urge NCDOT to make use of them in a Supplemental EIS.[299]

In addition to requiring Agencies to study the impact of projects on climate change, the guidance also makes clear that NEPA requires agencies to consider "the effects of climate change on a proposed project and its environmental impacts." The NEPA documents for the Mid-Currituck Bridge have failed to do this, however. The Draft Reevaluation does contain some glancing reference to sea level rise, noting somewhat absurdly that under current projections of sea level rise the Corolla area will ultimately be cut off, making the Bridge as an alternative egress between the Outer Banks and the mainland all the more necessary.[300] This brief mention of sea-level rise as an illogical justification for why the Bridge should be built is not sufficient to satisfy NEPA. The Bridge is expected to last for at least 50 years, and NCDOT should carefully consider how sea-level rise projections will play out during this time period. The analysis should extend to the increased development pressure that will be placed on the Outer Banks and the increased traffic that will result on NC 12, as well as other direct and indirect environmental impacts. The analysis should then be presented to the public in the

[297] *Id.*

[298] *See, e.g.*, FEIS for the Garden Parkway at 2-35- 2-36 (Exhibit 221).

[299] Council on Environmental Quality, GREENHOUSE GAS ACCOUNTING TOOLS, (last visited Dec. 14, 2016) (Exhibit 222).

[300] FEIS at 3-82-3-84; Draft Reevaluation at 75 (Exhibit 1).

Supplemental EIS so that citizens and decision-makers can weigh-in on whether the project is a wise use of taxpayer dollars.

CEQ has stated that in cases where an FEIS has been completed an agency need not go back and revisit its analysis based on the new guidance.[301] The guidance makes clear, however, that it does not expand current NEPA law, but rather clarifies what is already required.[302] In other words, the guidance merely spells out what was already legally mandated by NEPA. Where then, as is the case with the Mid-Currituck Bridge, the agency is engaged in additional NEPA analysis subsequent to the release of the guidance, it is appropriate for the agency to follow its strictures to the fullest extent possible. Such analysis is even more necessary in this case because the NEPA documents do, in fact, reference sea level rise as a justification for Bridge construction.

VIII. THE TRANSPORTATION AGENCIES MUST USE NEPA AS INTENDED, TO FOSTER GOOD DECISONMAKING, AND NOT TO JUSTIFY PREDETERMINED OUTCOMES

In 2015, because more than three years had passed since the Transportation Agencies published the FEIS, the agencies began work on a formal "reevaluation," a draft of which is referenced by these comments. A reevaluation is a legally required step intended to determine whether or not a Supplemental EIS is required. FHWA guidance notes that during a reevaluation "FHWA must assure that the environmental documentation for the proposed action is still valid, prior to proceeding with major project approvals or authorizations."[303] The guidance goes on to note that this task is accomplished by "an assessment of any changes which may have occurred in either the project's concept or the affected environment, and a determination of what effects these changes might have on the validity of the environmental documentation."[304] The guidance further stresses that the written reevaluation "must demonstrate that the information presented in the Draft EIS is an accurate analysis of the anticipated project impacts."[305]

Like the rest of the NEPA process, the reevaluation process should be performed in good faith and not as an exercise in predetermination. The Council on Environmental Quality's NEPA regulations specifically require that an EIS be more than merely a "disclosure document," stating that an "environmental impact statement shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made." 40 C.F.R. §§ 1502.1, 1502.2(g). And the United States Court of Appeals for the Fourth Circuit itself has recognized that NEPA requires action and study based on "good faith objectivity." *Fayetteville Area Chamber of Commerce v. Volpe*, 515 F.2d 1021, 1026 (4th Cir.1975). As that court noted, the "broad dissemination of information mandated by NEPA" allows "the public and other

[301] GHG Guidance at 33–34 (Exhibit 220).

[302] *Id*. at 2.

[303] FHWA Guidance, NEPA AND TRANSPORTATION DECISIONMAKING, *available at* https://www.environment.fhwa.dot.gov/projdev/tdmpdo.asp (last visited Dec. 19, 2016) (Exhibit 223).

[304] *Id*.

[305] *Id*.

government agencies to react to the effects of a proposed action at a meaningful time." *Id*. at 601-02 (citing *Robertson*, 490 U.S. at 349).

In the case of the Mid-Currituck Bridge, however, the Transportation Agencies' actions make clear that despite the many changes that have occurred since publication of the FEIS in 2012, NCDOT determined at the very outset of the reevaluation process that it would conclude no Supplemental EIS was necessary.[306] Rather than use the NEPA process to carefully consider changed circumstances, the Transportation Agencies have continued to treat NEPA as a mere paper exercise to justify a decision "already made." 40 C.F.R. § 1502.2(g). Thus, before any work on the reevaluation commenced, the agency had already pre-determined that it would find no changes, and no significant new information or circumstances. A draft of the reevaluation from September 2016 shows the same.[307]

NEPA requires preparation of a Supplemental EIS when "(1) [c]hanges to the proposed action would result in significant environmental impacts that were not evaluated in the EIS;" or when "(2) [n]ew information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS." Many of the changes that have occurred since 2012 demand publication of a Supplemental EIS. New funding constraints limit the amount of funding available for construction of the Bridge, while additional financial flexibility renders project alternatives easier to fund. Significantly altered traffic forecasts call into question the need for the Bridge and have rendered less expensive and less destructive alternatives even more viable than they were in the past. This change to the range of alternatives demands publication of a Supplemental EIS. *See Alaska Wilderness Recreation and Tourism Ass'n v. Morrison*, 67 F.3d 723 (9th Cir. 1995) (noting that "[b]ecause the consideration of alternatives is the heart of the environmental impact statement," the cancellation of a contract which removed constraints on the range of available alternatives was a substantial change" that required publication of an Supplemental EIS).

Similarly, new projections of traffic and socio-economic growth show that baseline conditions will be significantly different than those presented in the EIS. As a result, a new review of the environmental impact of the Bridge will present a "seriously different" picture to that previously set out to the public. *See Louisiana Wildlife Federation, Inc. v. York*, 761 F.2d 1044 (5th Cir 2009) (holding that a significant change to the assumption of baseline conditions "present[ed] a seriously different picture of the environmental impact of the proposed project from what was previously envisioned, it [wa]s significant new information and [wa]s sufficient to require an agency to supplement an original EIS"). Furthermore, the Transportation Agencies must consider the project's effect in conjunction with continued deterioration of the Currituck Sound, increased development of the Northern Outer Banks, the proposed land swap between Currituck County and USFWS, and new economic development projects on the Currituck Mainland. *See, e.g.*, *Portland Audubon Soc. V. Babbitt*, 998 F.2d 705 (9th Cir. 1993).

[306] Mid-Currituck Bridge Project Schedule (Exhibit 224); *see also* Email from Carr McLamb, NCDOT, to Kym Hunter, SELC (Oct. 12, 2016) (Exhibit 225).

[307] NCDOT, Partial Draft Reevaluation of the Final Environmental Impact Statement, (Aug. 3, 2015) (Exhibit 226).

The Transportation Agencies' actions outside of the NEPA process similarly make clear that it has been undercutting the objective NEPA process, and that rather than engaging in thoughtful decision-making, the agency has been pursuing steps to build the Bridge before any Record of Decision has been published. A $5.6 million property was purchased in 2015 to make way for the Bridge landing site on the Outer Banks.[308] This property was purchased even while the reevaluation, which should carefully consider alternatives, was still underway. While MAP-21 made it permissible to purchase right-of-way while a NEPA process is ongoing, the statute demands that the purchase of the property "will not limit the choice of reasonable alternatives for the project or otherwise influence the decision of the Secretary [of Transportation] on any approval required for the project." 23 U.S.C.A. § 108. Spending $5.6 million on property that can only be used to construct the Mid-Currituck Bridge has certainly served to further cement the Transportation Agencies' predetermined decision to construct the Bridge, even when a thorough, objective review of up-to-date, accurate data would show it to be no longer necessary or the best choice for the Currituck Outer Banks.

Moreover, documents show that rather than take the objective hard look NEPA requires, NCDOT was actively reaching out to proponents of the Bridge and asking that they contact local, state, and federal officials to support the project.[309] This practice mirrored statements made by NC Transportation Secretary Tata during the STI process (which should also be objective), assuring citizens and leaders along the Outer Banks that the project would score well before the data driven process had even begun.[310]

NEPA is an important process. It demands that the public, resource agencies, and all local and state decision-makers can be fully informed about a range of alternative solutions before any final decision is made. The attempt to fix traffic congestion on the Outer Banks provides a perfect example as to why this process is so essential. Numerous alternative solutions are available and each have their costs and their benefits. The Transportation Agencies must ensure that the merits of each are fully explored in a new, accurate, up-to-date document that takes a true, objective look at the best solution for the future.

And NEPA serves another role: it is a springboard for public comment. Here, a group of local citizens and visitors to the Outer Banks have worked with a transportation expert to look at how traffic congestion may be ameliorated for a low financial cost and with as little degradation as possible to the character of the Northern Outer Banks. We urge the Transportation agencies to take a hard look at this plan.

[308] Memo from Calvin Legget, NCDOT, to Majed-Al Ghandour, NCDOT (Mar. 17, 2015) (Exhibit 75); Northeastern North Carolina Properties, LLC, Summary Statement/Contingent Offer to Purchase Real Property due to the Acquisition of Right of Way and Damages, (Feb. 17, 2015) (Exhibit 227).

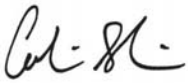
[309] *See, e.g.*, Town of Duck, Update on the Mid-Currituck Bridge (Exhibit 228).

[310] Catherine Kozak, *Bridge projects still kicking, Proponents say*, Coastal Review Online (Apr. 18, 2013) (Exhibit 229).

Thank you for your consideration of these comments. We would be happy to meet with you to discuss these matters at your convenience.

Sincerely,

Kym Hunter
Staff Attorney



Colin Shive
Associate Attorney

CC (via e-mail and US mail):

Tim Gestwicki, NCWF
Jen Symonds, NoMCB
Scott Slusser, NCDOJ
Secretary Nicholas Tennyson, NCDOT
John Sullivan, FHWA
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Carl E. Pruitt, USACE
Gary Jordan, USFWS
Gordan Meyers, NCWRC
Jay Zimmerman, NCDWR
Bobby Hanig, Chair, Currituck County Commissioner
Mike Hall, Vice-Chair, Currituck County Commissioner
Mary "Kitty" Etheridge, Currituck County Commissioner
Bob White, Currituck County Commissioner
Mike H. Payment, Currituck County Commissioner
Paul M. Beaumont, Currituck County Commissioner
Marion Gilbert, Currituck County Commissioner
Chris Layton, Duck Town Manager

Secretary Jim Trogdon, P.E.
North Carolina Department of Transportation
Office of the Secretary
1501 Mail Service Center
Raleigh, NC 27699-1501
jhtrogdon@ncdot.gov

Dear Secretary Trogdon:

Congratulations on your recent appointment as Transportation Secretary for North Carolina. We are a group of concerned citizens writing to ask you to take a fresh look at the proposed Mid-Currituck Bridge. Our group, No Mid-Currituck Bridge ("NoMCB"), is comprised of residents and visitors from both the Currituck mainland and the Currituck Outer Banks. We began meeting as a group in 2010 and, since that time, have held community meetings to share information about the proposed bridge, voice our opposition, and construct alternative solutions.

We write today to ask that you seriously consider a newly developed alternative submitted by our group to your Department in December. This alternative, a summary of which is attached, stems from our in-depth experience as to the true transportation concerns in Currituck County and the Northern Outer Banks. The solutions we proposed were further developed by transportation expert Walter Kulash, who has over 45 years' experience in transportation engineering. We believe the alternative would alleviate traffic congestion on NC 12 without the high fiscal and environmental cost of the bridge.

Recent findings by NCDOT demonstrate that now is the time to consider a new alternative to the bridge. Funding for the bridge, with cost estimates ranging up to $678 million, appears to be in serious doubt. Only $173 million has been set aside from the project from the STI—leaving the balance to be paid for by tolls. But with DOT's projections of future traffic now severely diminished we do not believe that drivers will be willing to pay a toll high enough (based on some estimates, as high as $50 for a one-way trip) to make the bridge financially viable. North Carolina's scarce transportation resources should be more wisely spent.

As you know, the proposed bridge would cross the fragile and ecologically significant Currituck Sound, which continues to deteriorate because of development in southeastern Virginia. The Sound has historically been one of the most significant spots for wintering waterfowl on the east coast, and it is cherished for the recreational opportunities it provides. The bridge's construction and use would harm the Sound in an unacceptable manner.

In addition to our serious concerns about the environmental impacts of the bridge, we are also concerned about the effect the bridge would have on the natural resources and character of the Currituck mainland and the Outer Banks. The bridge would induce development in a way that has not been properly studied and accounted for. In addition to development, the bridge would also attract more visitors, including day-trippers from southeastern Virginia. This increased development and visitation would place an unsustainable strain on the land and natural resources of our small barrier island.

Our group represents part of the strong opposition to the Mid-Currituck Bridge on both the Currituck mainland and the Outer Banks. We hope that your department takes the time to take a thoughtful look at whether this costly and controversial project is truly the best solution. We urge you to consider our new alternative. We would be happy to meet with you to further discuss our concerns at your convenience.

Sincerely,

Jen Symonds,
NoMCB Steering Committee

Barb Marzetti
NoMCB Steering Committee

F. FEIS Revisions in Response to FEIS Comments

Comments on the FEIS submitted by USEPA, USACE, North Carolina Department of Environmental and Natural Resources, Division of Coastal Management (NCDENR-DCM)[1], as well as by the citizen organizations No Mid-Currituck Bridge–Preserve the Wonder (www.NoMCB.com) and Southern Environmental Law Center, resulted in several corrections and revisions being made to information presented in the FEIS. No new significant issues or impacts were identified that affected the validity of the FEIS. The corrections and revisions presented in this appendix reflect what was known as of 2012 prior to the 2015 to 2017 preparation of this reevaluation study report. Relevant new information from this reevaluation study report associated with these 2012 FEIS changes is noted in the text below or referenced in footnotes. The revisions to the 2012 FEIS based on FEIS comments are as follows:

- USEPA asked for additional information related to Table S-1 (page xxiv) of the FEIS related to the "129 parking spaces lost" in the "Access Changes – Business" row for the Preferred Alternative (FEIS design), as well as for MCB2/C1 and MCB4/C1. As discussed in this reevaluation study report with the revised design for the Preferred Alternative 129 parking spaces loss no longer occurs.

  For the FEIS design, as well as MCB2/C1 and MCB4/C1, and assuming the number of parking spaces in the Monteray Shores Plaza Shopping Center at the time of the release of the FEIS, the FEIS text is changed to read: "129 parking spaces (18 percent) lost." The following text also is added to Table S-1 in the same three locations related to the parking loss:

  > "Potential mitigation measures to parking space loss impacts will be considered during final design to reduce the parking loss."

  In addition, in response to this same comment, the following text is added to the end of the first full paragraph on page 3-18 of the FEIS (Section 3.1.7):

  > In addition, there are several parcels in the Albacore Street commercial and retail area that would lose parking spaces with MCB2/C1, MCB4/C1, and the Preferred Alternative. A total of 129 parking spaces (18 percent of the existing parking spaces in the lots affected) would be lost at the following businesses:

[1] NCDENR-DCM's name was changed in 2015 to the North Carolina Department of Environmental Quality (NCDEQ). NCDENR continues to be used in the FEIS revisions presented in this appendix to be consistent with the 2012 FEIS usage.

- The Monteray Shores Plaza Shopping Center (located on the east side of NC 12 north of Albacore Street), which includes the Food Lion grocery store and numerous smaller retail establishments, would lose 106 of 644 parking spaces (to 538 spaces). Currituck County requirements specify 547 spaces.

- The Ace Hardware Store (located in the southwestern corner of the NC 12/Monteray Drive intersection) would lose 15 of 35 parking spaces (to 20 spaces). Currituck County requirements specify 33 spaces.

- The Wings Store (the second parcel to the south of Monteray Drive on the west side of NC 12) would lose 8 of 46 parking spaces (to 38 spaces). Currituck County requires 30 spaces.

Potential mitigation measures to parking space loss impacts would be considered during final design to reduce the parking loss and seek to meet the minimum parking requirements required by the 2012 *Currituck County Unified Development Ordinance* (UDO) (Currituck County, 2012), as amended. The 2012 UDO, as amended, also includes procedures to follow if minimum parking space requirements are no longer met because of parking spaces lost. Section 8.4.4 of the 2012 UDO, as amended, provides relief for lots that are rendered nonconforming by the governmental acquisition of land. This section is geared toward dimensional deficiencies of the lot, but also includes language that the development shall comply with the off-street parking standards to the maximum extent practicable. In addition, Section 5.1.6 of the 2012 UDO, as amended, allows Currituck County to approve alternative parking plans for development that proposes alternatives to providing the required minimum number of spaces. The parking impact could be reduced by use of a closed (pipe) drainage system in in these areas rather than an open infiltration strip. Closed drainage is currently used in this area in association with business and shopping center parking in this commercial area. In the worst-case, mitigation could include relocating the business affected.[2]

- In response to a comment from No Mid-Currituck Bridge related to Table S-1 (page xxvi) of the FEIS, the text in the "Accelerated Sea Level Rise" row for MCB2/C1, MCB2/C2, MCB4/C1, MCB4/C2, and the Preferred Alternative is replaced with the following (new material is in bold text):

[2] Since the release of the FEIS, a new business was built in the Monteray Shores Plaza Shopping Center, which reduced the number of parking spaces in the center by 50. As such, with the FEIS design for the Preferred Alternative, the percent of parking spaces lost in all the lots affected would have risen from 18 to 19 percent and the Monteray Shores Plaza Center parking lot would have lost 106 of 594 spaces, reducing the number of spaces to 488. The revised design presented in this reevaluation study report eliminates this parking lot impact, as discussed in Section 4.1.7.

Existing roads would be affected by sea level rise including in the Waterlily Road area of the US 158 interchange. A Mid-Currituck Bridge would be a useful asset in reducing the impact of sea level rise on the project area's road system. Under all sea level rise scenarios considered, the entire barrier **peninsula** would be inundated at the Dare/Currituck County line, creating a breach in the **peninsula** and making **driving north on the beach into Virginia the only way off the Currituck County Outer Banks other than a Mid-Currituck Bridge**.

- In Table S-1 on page xxvii in the row titled "Indirect and Cumulative Effects," "86 percent" is changed to "85 percent" in the two locations it appears. The reason for this change is noted below in the same correction for page 3-109.

- In response to a similar comment as above from No Mid-Currituck Bridge, the first paragraph in Section 3.4.4 (page 3-82) of the FEIS is replaced with the following (new material is in bold text):

  Existing roads would be affected by sea level rise. A Mid-Currituck Bridge would be a useful asset in reducing the impact of sea level rise resulting from climate change on the project area's road system. Under all sea level rise scenarios considered, the entire barrier **peninsula** would be inundated at the Dare/Currituck County line, creating a breach in the **peninsula** and making **driving north on the beach into Virginia the only way off the Currituck County Outer Banks other than a Mid-Currituck Bridge**.

- In response to a comment from USACE, the total wetlands impact shown in the last row of Table 3-10 (page 3-57) of the FEIS for the Preferred Alternative (FEIS design) is increased from 7.9 acres to 8.3 acres. This same change is made to the reference to 7.9 acres of wetlands fill for the Preferred Alternative (FEIS design) in the first bullet on page 3-58 of the FEIS. This increase of 0.4 acre also applies to the total wetlands impacts shown for MCB2/A/C1 and MCB4/A/C1 in the last row of Table 3-9 (page 3-56) of the FEIS. The 0.4 acre increase in wetlands impacts for these alternatives reflects grubbing that would be needed at pile bents along the Maple Swamp bridge.[3]

- In response to a comment from USACE, the following text is added to the end of the second paragraph under the heading "Compensatory Mitigation of Impacts" (page 3-60) of the FEIS:

[3] As indicated in Section 4.3.6 of this reevaluation study report, when taking into account the 2016 jurisdictional resource delineations and revised design for the Preferred Alternative, the 8.3 acres changes to 4.2 acres.

To offset unavoidable impacts to aquatic resources, the amount of required mitigation must be, to the extent practicable, sufficient to replace lost aquatic functions.

In addition, the preservation ratio stated in this paragraph is changed from "5:1" to "a minimum of 10:1."

- In response to a comment from the NCDENR-DCM that presented conclusions on the compatibility of the detailed study alternatives with the land use plans of Kitty Hawk, Southern Shores, Duck, and Currituck County, Section 3.1.6 of the FEIS is changed to read:

  The No-Build Alternative and ER2 would be inconsistent with area land use plans in that these alternatives do not include construction of a Mid-Currituck Bridge. ER2 and MCB2 include substantial widening of NC 12; the Town of Duck land use plan specifically rejects widening of NC 12 through their community. The Preferred Alternative would include a Mid-Currituck Bridge and would not widen NC 12 in Duck. A Mid-Currituck Bridge Project crossing Maple Swamp with design Option B would be inconsistent with the Currituck County land use plan.

  The North Carolina Coastal Area Management Act (CAMA) requires each of the 20 coastal counties in North Carolina to have a local land use plan that meets guidelines established by the North Carolina Coastal Resources Commission (NCCRC). Further, municipalities within coastal counties may establish land use plans independent from their respective counties. The North Carolina Department of Environment and Natural Resources, Division of Coastal Management (NCDENR-DCM) uses approved plans when making CAMA permit decisions. Proposed development must be consistent with the local land use plan, or NCDENR-DCM will not permit a planned development to be implemented.

  NCDENR-DCM in a letter dated March 5, 2012 and included in Appendix A of this ROD indicates that the Preferred Alternative (a refinement of the MCB4/C1 study alternative and Option A) is consistent/not in conflict with the following land use plans, as applicable:

  - Currituck County 2006 land use plan certified by the Coastal Resources Commission (CRC) on May 18, 2007 as amended on September 25, 2008 and June 24, 2009.

  - Town of Kitty Hawk 2004 land use plan certified by the CRC on June 17, 2005.

- Town of Southern Shores 1997 land use plan certified by the CRC on September 25, 1998.[4]

- Town of Duck 2004 land use plan certified by the CRC on April 8, 2005.

Specific to ER2, MCB2, and MCB4, NCDENR-DCM also concluded:

- These alternatives are consistent/not in conflict with the Currituck County 2006 land use plan (except the Option B component included in some MCB2 and MCB4 alternatives), the Town of Kitty Hawk 2004 land use plan, and the Town of Southern Shores 1997 land use plan.

- MCB4 is consistent/not in conflict with the Town of Duck 2004 land use plan.

- ER2 and MCB2 are not consistent with the Town of Duck 2004 land use plan. With these alternatives, the NC 12 through the Town of Duck would be widened to three-lanes. Currently, only the Duck commercial area is a three-lane road. Widening NC 12 is in direct conflict with Duck land use plan Policy #26a, page IX-26 and implementing Objective #26b, page IX-26 to maintain the existing two-lane configuration of NC 12.

Bridge corridor options C1 and C2 are only applicable to Currituck County and are consistent with/not in conflict with the Currituck County 2006 land use plan.

Mainland bridge approach alternatives Option A and Option B are only applicable to Currituck County:

- Option A is consistent with/not in conflict with the Currituck County 2006 land use plan.

- Option B is not consistent with the Currituck County 2006 land use plan. Under Option B, traffic traveling between US 158 and Aydlett would use the bridge approach. Within Aydlett, a local connection would be provided between the bridge approach road and the local Aydlett street system. The toll plaza would be placed in Aydlett east of the local road connection. This proposal is in direct conflict with the Currituck County land use plan's Policy Emphasis for the "Intersection of Proposed Mid-County Bridge and US Highway 158" subarea designation on page 11-7, the Policy Emphasis for "Aydlett and Waterlily/Churches Island" sub area designation on page 11-8, and Policy TR 13 on page 9-12. These policies address protection of the Aydlett community character with no access to be provided from the bridge road.

[4] Since the receipt of the March 5, 2012 letter from NCDENR-DCM, the Town of Southern Shores as updated their land use plan. The Preferred Alternative remains compatible as discussed in Section 4.1.6.1 of this reevaluation study report.

- On page 3-109 of the FEIS in the seventh line of the last paragraph, "86 percent" is changed to "85 percent." On page 3-109 in the tenth line of the last paragraph, "Eighty-six percent" is changed to "Eighty-five" percent and "13,200" is changed to "13,100." It is the correction to 13,100 from 13,200 that results in the percent changing from 86 to 85 percent. The 13,200 was a rounding error made when incorporating analysis results into the FEIS.

- In response to comments from the Southern Environmental Law Center on the FEIS related to the extent and impacts of beach driving in the northern non-road-accessible beaches and water quality impacts of development on the Currituck Sound, additional assessment on these topics was added to the indirect and cumulative impact assessment. This additional assessment is documented in an *Indirect and Cumulative Effects Technical Report Addendum* (Parsons Brinckerhoff, 2012). The additional assessment affirmed findings presented in the *Indirect and Cumulative Effects Technical Report* (East Carolina University, 2011) related to the impact of day visitors induced by MCB2, MCB4, and the Preferred Alternative and constrained levels of development with the No-Build Alternative and ER2, specifically as they relate to the non-road accessible area on the Outer Banks. The additional assessment also affirmed the 2011 ICE report's findings related to indirect water quality impacts. This addendum is available for inspection on the NCTA web site at https://www .ncdot.gov/projects /midcurrituckbridge/. New data was collected for this effort in July 2012. This data was collected through various means, including: in-person and telephone interviews; geographic information system (GIS) and aerial photograph analysis; additional research of laws and regulations; traffic counts; and field surveys. Based on the findings of the addendum, the following revisions and additions are made to the FEIS:

  - In Section 3.6.1.4, pages 3-106 to 3-107, the following sixth perspective is added to the list of perspectives from which the study examined the possibility for changes to patterns of private development:

    6. What is the potential for an increase in the number of vehicular trips on the non-road-accessible Outer Banks between now and 2035?

  - The following text is added to the end of Section 3.6.1.4, page 3-113, to address the sixth perspective added to page 3-107:

    Potential for an Increase in the Number of Vehicular Trips on the Non-Road-Accessible Outer Banks between Now and 2035

    With ER2 and the No-Build Alternative, development growth on the Outer Banks north of Duck could be constrained because of severe traffic congestion, as discussed on page 3-109 under "Potential for Change in Development Location, Rate, or Type on the Paved Road-Accessible Outer Banks." This constraint on development would result in notably less future growth in driving in the non-road-accessible area than that with planned and

expected development plus induced day trips from the mainland with MCB2, MCB4, and the Preferred Alternative.

Growth in driving in the non-road-accessible area could be reduced with a permit system, but only day trips could be controlled with a permit system. Control of the growth in driving in the non-road-accessible area is made more difficult with the growth of development in the area. The more development there is, the fewer the day visitor permits that could be issued, assuming the county's objective would be to use beach driving permits to stabilize the number of trips in the non-road-accessible area. Another option that would result in fewer vehicles, but more visitors, to the non-road-accessible area would be to emphasize vender permits so that more visitors would use tram type vehicles rather than personal vehicles (owned or rented). This would not only control traffic volumes, but also where driving occurs in the non-road-accessible areas and associated impacts.

It is possible that non-road-accessible driving could be self-limiting, just as the capacity of NC 12 at Duck and associated severe congestion could limit the demand for development north of downtown Duck. Unlike paved roads, there are no studies of a beach's capacity to carry traffic. Thus, there is no way to estimate such a constraint. However, like the NC 12 capacity-related constraint, for beach driving to be self-limiting it would have to be because the growth in demand tapers off and stabilizes as crowding diminishes the quality of the experience in the non-road-accessible area. A reduction in the quality of the experience by crowding could affect both the demand for new development in the non-road-accessible area and the demand for day trips.[5]

– The italicized summary for Section 3.6.2, starting on page 3-113, is replaced by the following text (new material is in bold text):

The assessment of indirect effects found that there is adequate land considered suitable for development to accommodate business development likely to occur near the US 158/ Mid-Currituck Bridge interchange with MCB2, MCB4, and the Preferred Alternative. Potential visual and traffic impacts would be associated with that development. Also, with MCB2, MCB4, and the Preferred Alternative, shifts in the timing of development on the Outer Banks are likely (i.e., more Currituck County lots developing before Dare County lots). Under the No-Build Alternative and ER2, severe traffic congestion could serve as a practical constraint to planned development on the Outer Banks. With MCB2, MCB4, and the Preferred Alternative, the

[5] As described in Section 4.6.2, since the preparation of the FEIS, Currituck County has begun to regulating commercial ventures that involve beach driving. As of the date of this reevaluation study report, the county has no current or future plans to further regulate beach traffic, including use of a permit system.

potential exists for increased day visitors to the Currituck County Outer Banks. These three effects would be compatible with area land use plans, social health and well-being goals, economic opportunity goals, and ecosystem protection goals. ***However, increases in driving on the road-accessible northern Outer Banks would worsen existing impacts to ecosystems. Potential increases in driving would be greatest with MCB2, MCB4, and the Preferred Alternative.***

The assessment of cumulative effects found that such effects would be primarily associated with future growth in Currituck County, irrespective of a detailed study alternative being implemented, including the Preferred Alternative. The growth trend assumed in area land use plans, with a horizon year of 2025, does not appear to be sustainable to 2035 on the Currituck County mainland. If plan densities and growth continue, then most land suitable for development, including land designated as Rural Areas in the current plan, would be developed. This appears to conflict with current plan goals.[6]

– Section 3.6.2.2, starting on page 3-116, is amended to add or replace the following subsections. Since almost all this material is new, for clarity new material is not presented in bold text. The sections on visual change, protected species, and day trips found in Section 3.6.2.2 are unchanged:

<u>*Dune System*</u>

Impacts to the dune system in the non-road-accessible area would growth with increased use of the area. The potential for increased use and impact would be the greatest with MCB2, MCB4, and the Preferred Alternative. This impact would occur largely because of unauthorized driving or walking through prohibited areas, which has the potential to cause habitat degradation or loss. Foot and vehicular traffic through dunes could trample and destroy vegetation that is essential to the diet of wild horses and other wildlife and could cause general habitat disturbance. Regulations and laws prohibiting trespassing to protect the dunes do exist and are enforced. Occurrences of rule-breaking in this respect are likely to increase proportionately to any increase of vehicles and people on the beach. Enforcement of existing regulations and public education on the reasoning behind them would help to avoid or reduce this effect. This could involve the expansion of Currituck County's enforcement team.[7]

[6] Note that as described in Section 2.4.1 of this reevaluation study report, development rates on the mainland have slowed since the release of the FEIS and thus the amount of development assumed in the Currituck County land use plan may not occur by its horizon year of 2025.

[7] Per Mike Hoff of the Currituck National Wildlife Refuge in a January 2015 conversation, trespassing is the largest law enforcement issue at the Refuge. The annual number of incidents per hour of patrol ranges from 0.88 to 3.20, with 3.20 denoting the most recent annual data set.

Estuaries/Water Quality

With respect to estuaries and water quality, the area of the induced commercial development zone on the mainland would be adjacent to Great Swamp and Maple Swamp and near the Intracoastal Waterway. The primary threat to water quality would be the additional loading from impervious surface run-off and on-site septic facilities. The 68 acres that are likely to see induced development on the Currituck County mainland would be governed by the 2012 *Currituck County Unified Development Ordinance* (Currituck County, 2012). The UDO permits up to 65 percent lot coverage for commercial development, which would translate to increased impervious surface coverage of 44 acres for the area likely to see induced development. Also, in terms of runoff quantity, the UDO requires new development to implement measures to reduce peak runoff from the 10-year storm event (approximately 6 inches of rainfall) down to a predevelopment level for a two-year storm event (Currituck County, 2012).

A potential constraint on the future development rate on the Outer Banks with ER2 and the No-Build Alternative would not be expected to result in an appreciable improvement in surficial water quality. This is because stormwater management in new development is regulated by county and state laws; the buildable beach parcels are on sandy soils; and the reduction in new growth would not be associated with a proportionate reduction in impermeable roadways. This conclusion includes sound-side and canal-side lots, which in the road-accessible area are expected to fully develop with any of the detailed study alternatives or the No-Build Alternative, and in the non-road-accessible area are not expected to be a focus of development with any alternative through 2035.

Regarding project-related runoff, NCTA will comply with the NCDOT's National Pollutant Discharge Elimination System (NPDES) permit (NCS000250) and requirements of the Post-Construction Stormwater Program. Source control would be through the use of pavement sweeping and vacuuming on bridge decks. Capture and treatment would be through the use of bridge closed drainage systems for parts of the Maple Swamp and Currituck Sound bridges, stormwater wetlands, wet detention basins, rooftop

On average, one local resident is cited annually for trespassing. He expects that the number of incidents is likely a function of the volume of traffic, and so the number of incidents will likely increase with an increase in traffic volume. These observations reconfirm the findings of the *Indirect and Cumulative Effects Technical Report Addendum* (Parsons Brinckerhoff, 2012) prepared in response to FEIS comments and interviews conducted with three persons at the Refuge in 2012, as well as the text associated with this footnote.

rainwater harvesting, and other traditional roadway BMPs, to the maximum extent practicable (see Section 2.1.7).

Maritime Forests

Maritime forests do not exist on the Currituck County mainland. They do exist on the Outer Banks in lots subdivided by development, largely on the sound side. As those lots develop, the forest would become more fragmented, although the subdivision of lots and the creation of paved and unpaved roads in both the road-accessible and non-road-accessible Carova parts of the Outer Banks have already created forest habitat fragmentation. In the non-road-accessible Carova area, current levels of adjoining vacant parcels leave corridors of forest sufficient to allow wildlife passage and seed dispersal. In addition, development trends in Carova have shown a preference for beach-front and near-beach-front lots. Thus, it is likely that future Carova development with any of the detailed study alternatives would not notably worsen maritime forest fragmentation.

Wild Horses

Increased use of the non-road-accessible Carova area would further affect wild horse habitat. The presence of more four-wheel drive vehicles would increase the chance of horse-human interactions and the likelihood of collisions with the animals. Vehicular traffic through dunes could trample and destroy vegetation that is essential to the diet of wild horses. An increase in vehicles also would exacerbate an already stressful environment for foaling horses. Constrained growth that could result with the No-Build Alternative and ER2 would result in less use of the non-road-accessible area than with MCB2, MB4, and the Preferred Alternative.

CBRA Areas, Natural Heritage Areas, and Conservation Areas

Indirect impacts are not expected at natural heritage and conservation areas in the mainland induced development zone. On the Outer Banks, the induced change between the different detailed study alternatives would be to likely alter the order of development of lots that are already subdivided. There would be no net indirect impact on designated conservation areas on the Outer Banks other than those that could be associated with increased use of the non-road-accessible northern Outer Banks. That use would be less with the No-Build Alternative and ER2 than with MCB2, MCB4, and the Preferred Alternative.

An increase in the number of visitors to the non-road accessible area could cause a rise in incidents of trespassing in protected areas in the non-road-accessible area of the northern Outer Banks, both pedestrian and vehicular.

Increased enforcement potentially would be needed to help to avoid or diminish these incidents.

Induced development and related activity on the mainland would have the potential to cause the introduction of invasive species during both the construction phase and the ongoing use of the facilities. This effect also could spread out from the areas of new development.

– In Section 3.6.2.3, on page 3-120, the fourth paragraph is replaced by the following text (new material is in bold text):

On the beaches and dunes north of NC 12, vehicular impacts and **pedestrian trespassing on protected dune areas** already degrade**s** the habitat for conservation purposes. **Growth in use of this area would increase those impacts. Constrained growth that could result with the No-Build Alternative and ER2 would result in less use of the non-road-accessible area than with MCB2, MB4, and the Preferred Alternative.**

– In Section 3.6.2.3, on page 3-121, the last bullet point at the bottom of the page is replaced by the following text (new material is in bold text):

Neighborhoods and village communities and scenic and natural area character would be most affected by 2035 by the extensive development forecast for the study area regardless of any detailed study alternatives. Control of these attributes would be most strongly determined by municipal planning measures. There also are potential project-related impacts. With ER2 or MCB2, the visual character and sense of place on the Outer Banks would be affected by a widening of NC 12. With MCB2, MCB4, **or the Preferred Alternative**, the scenic character of Currituck Sound would be affected by the presence of a bridge. The communities at either end of the bridge also would be affected by the visual presence of the bridge **with these alternatives**. Also, although within levels that do not require consideration of noise barriers as mitigation, traffic noise from the bridge would be audible in Aydlett. **Additionally, because of the nature of beach use in the non-road-accessible Carova area where beach goers and vehicles must share the sand, a reduced quality of experience for residents, renters, and day visitors would likely result as the beach becomes more congested with increasing numbers of vehicles. Constrained growth that could result with the No-Build Alternative and ER2 would result in less use of the non-road-accessible area than with MCB2, MB4, and the Preferred Alternative. Growth in driving on the beach could be controlled by Currituck County with a permit system.**

- In Section 3.6.3, on pages 3-123 and 3-124, the following bullet points are added to the end of the list of sub-bullets under the "Cumulative effects minimization" bullet:

    - Increasing the size and presence of Sheriff's Department patrols on the non-road-accessible area to enforce county driving and environmental protection regulations as use of the area grows.

    - Increasing efforts to educate and inform the public on the regulations governing driving in the non-road-accessible area, as well as on the ecosystems and wildlife these regulations protect.

The following corrections are made to the *Indirect and Cumulative Effects Technical Report* (East Carolina University, 2011) included on the CD that accompanied the FEIS:

- On page 4-19 in the eleventh line of the first paragraph under Section 4.2.3, "86 percent" is changed to "85 percent."

- On page 4-26 the last four sentences of the first paragraph are replaced by the following text (new material is in bold text):

    The number of anticipated and planned units forecast for 2035 is **13,100**, an increase of **4,100** from 2007, if one assumes an average growth rate of 150 units per year. Thus, the anticipated and planned build-out, based on existing plans and trends, of **13,100** units represents **85** percent of the maximum build-out of approximately 15,400. It is important to note that this is for the entire Outer Banks from the Virginia Line to Southern Shores, including the NC 12-accessible area and the non-road accessible areas. (See also Section 4.2.4.)

- On page 4-26 the second and third paragraphs are changed are replaced by the following text (new material is in bold text):

    With the No-Build Alternative, traffic congestion on NC 12 could be great enough to constrain development in the Outer Banks, such that it could cause a practical limit of 10,800 homes or hotel rooms from the Virginia Line to Southern Shores. This would be **2,300** units fewer than the 2035 anticipated and planned forecast of **13,100**. This constraint would yield a practical build-out at approximately 70 percent of the maximum build-out. Assuming 150 new units per year, the constraint identified for the No-Build Alternative could manifest itself around 2019.

    For ER2, traffic congestion could cause a practical limit of 11,600 homes or hotels rooms from the Virginia Line to Southern Shores. This would be **1,500** units fewer than the 2035 anticipated and planned forecast of **13,100**. This constraint would yield a practical build-out at approximately 75 percent of the maximum

build-out. Assuming 150 new units a year, the constraint identified for ER2 could manifest itself around 2024. [8]

[8] These numbers are revised in Section 4.6.2 of this reevaluation study report, taking into account the new 2040 traffic forecasts and the use of the 2016 *Highway Capacity Manual* (Transportation Research Board, 2016) for determining levels of congestion.

Appendix G

Project Commitments

Mid-Currituck Bridge Study

Currituck and Dare Counties, North Carolina

Federal-Aid Project Number. BRSTP-000S(494)
WBS Element: 34470.1.TA1
STIP Project No. R-2576

Project Commitments

1. NCDOT will coordinate with the US Coast Guard to determine appropriate horizontal and vertical navigation clearances for a Mid-Currituck Bridge under the FEIS Preferred Alternative (see Section 2.1.3 of the Final Environmental Impact Statement [FEIS]).

2. NCDOT will finalize (in association with environmental resource and regulatory agencies) and implement a stormwater management plan (see a preliminary plan Section 2.1.7.2 of the FEIS).

3. NCDOT will finalize (in association with environmental resource and regulatory agencies) and implement bridge construction techniques to minimize aquatic resource impacts with the FEIS Preferred Alternative, including approaches to minimize impacts to SAV habitat (see Sections 3.3.4.4, 3.3.6.4, and 3.3.7.2 of the FEIS).

4. Although this is not a regulatory requirement, during final design NCDOT will consider features to discourage roosting/perching birds on a Mid-Currituck Bridge with the FEIS Preferred Alternative. (see Section 3.3.3.2 of the FEIS).

5. NCDOT will include bicycle safe rails on the bridge parapet across Currituck Sound with the FEIS Preferred Alternative (see Section 2.1.11 of the FEIS).

6. NCDOT will replace sections of existing multi-use paths that are displaced as a result of NC 12 and US 158 widening (see Section 2.1.11 of the FEIS). NCDOT also will provide space in the NC 12 right-of-way and complete the grading for future multi-use paths to be provided by others in one location, which is the west side of NC 12 from Devil's Bay Road to north of Ocean Forest Court. Marked pedestrian crossings will be placed at North Harbor View Drive and the bridge terminus (one across NC 12 and one across the bridge approach road).

7. With the FEIS Preferred Alternative, NCDOT will pursue the purchase of land-locked parcels north of Aydlett Road in Maple Swamp in addition to purchasing needed project right of way. If the landowner agrees to sell their land-locked property, the land-locked property purchased will be set aside as a conservation area and allowed to retain or return to its natural state (see Section 3.3.6.4 of the FEIS).

8. With the FEIS Preferred Alternative, construction contracts will require compliance with USFWS's 2003 *Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters* with the exception of the two guidelines that specify the use of no wake/idle speeds. USFWS agreed to the exceptions.

9. Construction contracts will require compliance with NMFS's 2006 *Sea Turtle and Smalltooth Sawfish Construction Conditions*. NMFS has indicated that the condition related to no wake/idle speeds will not apply to this project.

10. Construction contracts will require compliance with USFWS guidelines for the protection of eagles contained in their 2007 *National Bald Eagle Management Guidelines.* Eagles and eagle nests will be surveyed prior to project construction to avoid and minimize potential disturbance and impacts to construction timing.

11. An invasive plant species control plan will be developed during construction planning and will be included in the permit application.

12. NCDOT will follow FHWA's policy as set forth in Order 5520, "Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events" and guidance as set forth in FHWA's publications "Highways in the River Environment-Floodplains, Extreme Events, Risk, and Resilience" June 2016, (FHWA-HIF-16-018) and "Highways in Coastal Environment: Assessing Extreme Events" October 2014, (FHWA-NHI-14-006) to minimize climate and extreme weather risks and protect transportation infrastructure.

13. NCDOT will coordinate with Currituck County regarding provision of a connection between Narrow Shore Road and the Mid-Currituck Bridge for cyclists entering the bridge. It would be added during final design, if determined necessary.

The changes in the above commitments since the FEIS are as follows:

- Specifying when commitments only apply to the FEIS Preferred Alternative.
- The reference to FEIS Section 2.1.7.2 in Project Commitment #2 was revised to clarify that Section 2.1.7.2 presents a preliminary stormwater management plan.
- References to two additional sections in the FEIS were added to Project Commitment #3 (in response to a comment on the FEIS by NCDENR-DCM). Mitigation is not required for potential SAV habitat. Mitigation is only required for SAV habitat.
- The wording of Project Commitment #4 was refined (in response to a comment on the FEIS by USEPA). In addition, the commitment to consider "additional avoidance and minimization measures to potentially reduce the documented vehicle mortality of migratory birds on the bridge was removed based on findings of NCDOT bird collision studies that surveyed bird mortality on six bridges in the Outer Banks area; see Section 4.3.3.1 of this reevaluation.
- Commitment #6, which committed to a design level noise study, was removed. At the time this FEIS commitment was made, the noise studies had preliminarily identified a likely need for noise abatement. However, based on the June 2018 *Traffic*

Noise Report, a need for abatement is no longer likely. Thus, a design level noise study is no longer needed.

- The portion of Commitment #7 (now #6) that said: "NCDOT also will provide space in the NC 12 right-of-way and complete the grading for future multi-use paths to be provided by others in three locations along the widened sections of NC 12 in Currituck County" was modified. Since the release of the FEIS, the referenced future multi-use paths were built in two of the three locations. The completed paths are not affected by the revised design for the Preferred Alternative. A commitment for marked pedestrian crossings was added.
- Project Commitment # 8 (now #7) was updated since with the revised design, new right of way is no longer being purchased, nor is right of access being purchased, west of US 158. No parcels will be land-locked west of US 158.
- Project Commitment #11 related to invasive plant species control was added (in response to a comment on the FEIS by USEPA). With the removal of FEIS Commitment #6, FEIS Commitment #11 is now commitment #10.
- Project Commitment #12 related to climate change and extreme weather resilience was added.
- Project Commitment #13 related to a connection for cyclists between Narrow Shore Road and a Mid-Currituck Bridge was added.

Appendix H

Agency Coordination Meeting

MEMORANDUM

To: Attendees

From: WSP USA
Date: April 13, 2018
Project Name: Mid-Currituck Bridge
Project Number: R-2576
Subject: March 14, 2018 Agency Coordination Meeting Summary

Attendees:

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**Participated by Phone*

The purpose of the meeting was to update environmental resource and regulatory agencies on the changes that have occurred since the Final Environmental Impact Statement (EIS) was approved in January 2012. The last agency meeting took place in 2011. A Reevaluation Report is required if major steps to advance an action have not occurred within three years after approval of the Final EIS. The Reevaluation Report addresses the changes in project settings, travel demand, area plans, laws and regulations, and other information or circumstances.

The agency meeting started at 10am with an introduction by NCTA GEC (General Engineering Consultant) project manager Tracy Roberts. Natalie Lockhart and the WSP team used a Power Point Presentation to explain project history, preliminary Reevaluation Report findings, traffic updates, purpose and need, and preliminary reevaluation conclusion (see attached meeting agenda and presentation handout).

A USACE representative asked about the purpose and need statement. Slide 12 of the presentation included the purpose and need statement and was reviewed. The DCM representative asked if the alternatives should be reviewed for any new members from the represented environmental agencies. NCTA indicated that there was an upcoming slide explaining the alternatives. WSP clarified the naming convention of Existing Road (ER) and Mid-Currituck Bridge (MCB). Previous alternatives from the early alternative screening process were revisited in the Reevaluation Report to reaffirm that they are still not reasonable alternatives. NCTA noted that the reasons for these findings are explained in the Reevaluation Report.

The DCM representative asked if the STIP R-3419 and R-2574 projects (see slide 17) were accounted for in ER2 and MCB, including the no-build alternative. WSP confirmed that these STIP projects were assumed to be in place by the 2040 design year as part of the assessment for ER2 and MCB, including the no-build alternative.

Traffic forecasts were updated and the roadway designs for detailed study alternatives ER2 and MCB were updated because of the lower traffic forecasts. The updates include a reduction of improvements to NC 12 for both alternatives. It was noted that the wetlands were re-delineated. The US 158 interchange was reconfigured and resulted in less impacts to wetlands. CZR noted that there has been no substantive change in the wetland boundaries, jurisdictional waters or submerged aquatic vegetation (SAV) from prior delineations and surveys.

WSP presented that three species were added to the Threatened and Endangered Species list since the FEIS and are now included in the Reevaluation Report. The three species are the Atlantic sturgeon, rufa red knot, and the northern long-eared bat. For MCB, the first two species have a biological determination of “May Affect, Not Likely to Adversely Affect”. For ER2, the biological conclusion is “No Effect.” USFWS representative noted that no consultation is required for the northern long-eared bat due to a programmatic biological opinion (PBO) being in place that covers the entire NCDOT program in Divisions 1 through 8. It was noted that, because of the PBO, the biological conclusion for the species is “May Affect, Likely to Adversely Affect” for both MCB and ER2.

The DCM representative asked what is meant by regulatory changes and policy updates. The WSP team highlighted some of the notable changes and noted all the changes were documented in the Reevaluation Report. For example, Currituck County now regulates beach access by commercial vendors, which was a local regulatory change. A change in state law also occurred that does not allow land use density to be regulated by limiting the number of bedrooms in a house (Currituck County was not using this as a way of regulating density). NCTA noted that the NCDOT noise policy has changed and the FHWA Mobile Source Air Toxic (MSAT) guidance has been updated. All the changes were considered and documented in the Reevaluation Report.

The DCM representative asked if the impacts presented are based on the slope stake limits plus 25-feet; NCTA confirmed this is the case.

The NCWRC representative asked why there was a change in shading impacts for SAV habitat. WSP team explained that it was because of the reduction of 10 foot shoulders to 8 foot shoulders on the bridge over Currituck Sound.

NCTA noted that the team is optimistic that FHWA will approve the Reevaluation Report with a conclusion that there is no need for a Supplemental EIS; however, this decision has not yet been made by FHWA.

The cost estimate for the project and the FHWA Cost Estimate Review (CER) were discussed. FHWA stated that a CER is required for projects estimated to approach or exceed $500 million in cost. The DCM representative asked why the FHWA conducted the CER on the Mid-Currituck Bridge alternative only and not ER2. NCTA and WSP explained that updated cost estimates based on the revised designs for both ER2 and MCB were used to compare the alternatives in the Reevaluation Report, but FHWA does a CER for the Preferred Alternative only since that is the alternative that the financial plan will be based on. The CER must be completed 90 days prior to the final decision document for NEPA. NCTA noted that the CER is a 70% cost review, meaning that the cost estimate is determined such that there is a 70% confidence level that the actual cost will come in at or under the estimate.

NCTA explained that a Public-Private Partnership is not actively being considered; however, it is not being precluded from future consideration as a means to deliver the project.

The DCM representative asked if the Reevaluation Report would be circulated via the state clearinghouse. FHWA noted that the Reevaluation Report is an internal FHWA decision document and that the Record of Decision (ROD) would be circulated. FHWA did note that the Reevaluation Report would be in the project file and administrative record.

The DCM representative asked if the project would follow the Merger Process or continue with the 6002 Agency Coordination Plan (see updated coordination plan attached). FHWA and NCTA confirmed it would continue to follow the 6002 Agency Coordination Plan. The DCM representative was concerned that new staff representatives from the agencies are not familiar with the 6002 Agency Coordination Plan. NCTA noted it was similar to the Merger Process; however, there are no signatures obtained at concurrence points. NCTA indicated that in this process, it is incumbent on the participating and cooperating agencies to raise an “issue of concern” if at any time there is an issue that in the agency’s judgment could result in denial of a permit or substantial delay in issuing a permit.

NCDWR, USFWS and USACE representatives explained that agencies should raise issues of concern early and they would be discussed. By not raising an issue during the comment period, agencies were indicating that there are no foreseeable issues of concern. NCTA requested that the agencies raise issues of concern, if necessary, based on the information being presented and in the forthcoming Reevaluation Report.

NCTA noted that there were previously four issues of concern raised and that NCTA held meetings with the pertinent agencies to resolve them. The issues of concern were dredging in Currituck Sound, stormwater management, submerged aquatic vegetation impacts and fisheries moratorium for in-water construction activities. Dredging is no longer proposed. For the other three issues, the agencies and NCTA agreed that the direction of the project relative to these concerns was appropriate and had the potential to advance the project to permit issuance. The DCM representative noted that not following the Merger Process may create uncertainty for permitting.

If the Reevaluation Report is approved by FHWA with a conclusion that a Supplemental EIS is not required, NCTA noted the next steps would include submitting a draft ROD to FHWA.

The DCM-Fisheries representative noted there were SAV shading impacts. As a SAV mitigation feature, the first 1.5 inches of stormwater runoff will be captured from the eastern terminus of the bridge for a distance of 4,000 feet to prevent direct discharge into the existing SAV habitat along the eastern shore of the sound. The runoff would be piped to the end of the bridge for treatment to a stormwater treatment basin. NCTA noted that this mitigation approach is still a project commitment. The DCM-Fisheries representative said that project commitments and proposed mitigation should be revisited to be consistent with current practice on other similar projects.

NCDOT and the DCM representatives asked if Final EIS mitigation and project commitments would still be adhered to. NCTA confirmed that they would be. Updated mitigation and commitments that would be required would be discussed with individual agencies or a set of agencies to determine what mitigation would allow the project to move forward. It was agreed that meetings to review SAV mitigation and stormwater management could occur prior to a ROD being released.

During the schedule discussion, the let date was questioned. NCTA noted that the project has a schedule for a design-build let date of November 2018, but that although that remains the date in NCDOT's scheduling system, NCTA is reevaluating that date.

The USACE representative asked about the difference in the shaded aquatic bottom and SAV impacts. The WSP team explained that the shaded aquatic bottom less than six feet deep was all SAV habitat and the SAV impacts are areas with observed SAV beds. USACE representative also asked about wetland shading impacts for Maple Swamp. NCWRC representative noted that the impacts of wetland shading have never been used to compare alternatives in the past. WSP confirmed that the impacts are documented in the Reevaluation Report.

There was a question about the height of the bridges over Maple Swamp and Currituck Sound. The bridge will have a height of 16 feet over most of Currituck Sound and will have a single navigation span. The height of the navigation span will be determined in coordination with the US Coast Guard during the permitting process. The Maple Swamp bridge has a 10-foot clearance spanning most of the swamp with the east terminus starting at-grade and the west terminus with a 4-foot clearance.

The NCWRC representative asked about the conservation of a landlocked parcels around the Maple Swamp bridge, as discussed in the Final EIS. NCDOT noted that parcels that would have road access cut off (landlocked) are considered economically 'damaged parcels' and NCDOT would offer to buy the entire parcel. Landlocked parcel owners could choose to be compensated for the loss of access yet continue to own their land. NCDOT also could offer the creation of a conservation easement on the land as another option. The NCWRC representative asked if full purchase or a conservation easement could be required for landlocked parcels. NCDOT said purchase of a conservation easement could not be required. It was noted that the Final EIS commitment needs to be revised to reflect that property owners could choose to keep their land with full ownership even where NCDOT pays property damages because of lack of access. NCTA and WSP agreed to update the commitment language to indicate that landowners of landlocked parcels have this choice.

A USACE representative asked for clarification about the ferry alternative. NCTA indicated that this was an early alternative considered but not selected as an alternative to be studied in detail in the Draft EIS and Final EIS because of low travel benefits, high cost, and high natural resource impacts. The project team revisited and reaffirmed that the ferry alternative continued to not be a reasonable alternative.

Next Steps

- Complete the Reevaluation Report and seek approval by FHWA. When complete, it will be posted to the project website and the agencies will be notified.
- Proceed with a ROD if FHWA finds a Supplemental EIS is not needed.
- Schedule coordination meetings to discuss SAV mitigation and stormwater management.
- Confirm the effects call for the northern long-eared bat is correct in the Reevaluation Report. The biological conclusion is "May Affect, Likely to Adversely Affect" for ER2 and MCB.
- Update language for the landlocked parcels commitment to read: "With the Preferred Alternative, NCTA will pursue the purchase of land-locked parcels north of Aydlett Road in Maple Swamp in addition to purchasing needed project right-of-way. If the landowner agrees to sell their land-locked property, the land-locked property purchased will be set aside as a conservation area and allowed to retain or return to its natural state (see Section 3.3.6.4 of the FEIS)." Note that with the revised design, new right-of-way is no longer being purchased, nor is right-of-access being purchased, west of US 158. Thus, no parcels will be landlocked west of US 158.

Meeting adjourned at 11:33pm.

5

MID-CURRITUCK BRIDGE PROJECT

Agency Coordination Meeting

STIP Project R-2576

March 14, 2018

AGENDA

1.	Introductions	Tracy Roberts
2.	Project History	Natalie Lockhart
3.	Updated Information (Presentation)	Natalie Lockhart
4.	Discussion (Q&A)	All
5.	Conclusion	Tracy Roberts

NORTH CAROLINA
Department of Transportation

Mid-Currituck Bridge Project

Agency Coordination Meeting

March 14, 2018

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Topics Covered in this Presentation

- Why Reevaluation
- Reevaluation Reports
- Updated Information
  - Updated Traffic
  - Updated Purpose and Need Justification
  - Updated Travel Benefits
  - Updated Alternatives Screening
  - Reevaluation Detailed Study Alternatives/Revised Designs
  - Updated Environmental Studies
  - Changes in Project Setting
  - Updated Impacts
  - Updated Project Commitments
- Reevaluation Conclusions
- Cost/Finance/Schedule

2

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FEIS

- Released January 2012
- Preferred Alternative Included a Mid-Currituck Bridge
- ROD not released

3

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State "Gap Funding" Change

- In 2013, the NC General Assembly passed the Strategic Transportation Investments (STI) Law
  - Withdrew the annual state appropriations or "gap funding"
  - Established Strategic Mobility Formula to allocate NCDOT's major revenue sources
- Mid-Currituck Bridge project was scored using the new criteria.
- State funding reintroduced in the 2015 to 2025 STIP

4

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FEIS Reevaluation

- A written evaluation of a FEIS is required if major steps to advance an action have not occurred within 3 years after the approval of a FEIS.
- Reevaluation considers:
  - Changes in the project setting, travel demand, area plans, laws and regulations, and other information or circumstances
  - Whether the FEIS and Preferred Alternative decision remains valid or whether a SEIS is needed
- To be finalized and signed in April

5

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FEIS Reevaluation

- Two parts:
  - Reevaluation of Final Environmental Impact Statement
  - Reevaluation of Final Environmental Impact Statement Study Report

6

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FEIS Reevaluation Report

- Project History
- Updated Information
  - Updated Traffic Studies
  - Updated Purpose and Need and Project Benefits
  - Reaffirmed 2009 Alternatives Screening Findings
  - Updated No-Build Alternative
  - Updated Preliminary Designs for Detailed Study Alternatives
  - Regulatory Changes and Updated Environmental Studies
  - Changes in Project Setting
  - Updated Project Impacts
  - Updated Basis for Choosing the Preferred Alternative
  - Updated Project Commitments
- Conclusion on Need for Supplemental EIS

7

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FEIS Reevaluation Study Report

- Includes more detail on information in the FEIS Reevaluation Study Report
- Appendices for:
  - Responses to Comments on the FEIS
  - Responses to Non-Governmental Organization Comments Received During Reevaluation Preparation
  - Errata to the FEIS
  - Updated Project Commitments

8

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Reevaluation Key Findings

- Updated traffic forecasts less than FEIS forecasts
- Project need remains
- Travel benefits changed because of:
  - Lower forecast traffic
  - Changed road capacity assumptions in 2016 Highway Capacity Manual
  - Updated FEMA/USACE hurricane clearance time model
- Generally reduced environmental impacts because of revised designs

9

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Updated Traffic Studies

- Updated Traffic Forecasts
  - Based on updated counts and recent growth trends
  - Forecast traffic is lower
- Updated Congestion Measures
  - To update purpose and need plus project benefits
  - Used 2016 Highway Capacity Manual
- Design Capacity Studies for Existing Road (ER2) and the Preferred Alternative – To update preliminary design to take into account lower traffic forecasts
- Updated Travel Time Studies – To update purpose and need plus project benefits

10

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Updated Traffic Studies

- Updated Hurricane Clearance Time Assessment
  - To update purpose and need plus project benefits
  - To use 2016 FEMA/USACE clearance model
  - To take into account changes in National Hurricane Center warning time – now issued at 36 hours before land fall instead of 24
- Updated Development Constraints Analysis for No-Build and ER2
  - To use updated traffic information
  - To use 2016 HCM two-lane road capacities
  - Considers the effect of NC 12 capacity on future development levels north of Duck with the No-Build Alternative and ER2

11

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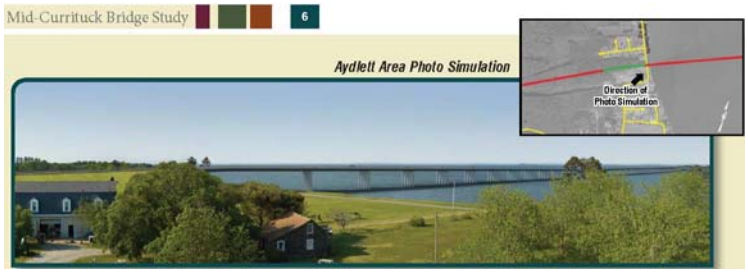
Purpose and Need Remains

- Substantially improve traffic flow
- Substantially reduce travel time
- Substantially reduce hurricane evacuation times from the Outer Banks



12

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Revised Preferred Alternative Travel Benefits

- Congestion
  - Least severe annual congestion (although when assuming the capacity of NC 12 constrains development in Currituck County, total annual congested vehicle-miles traveled now similar to No-Build)
  - Eliminates travel demand above road capacity on summer weekend day except US 158/NC 12 intersection area
  - Shortest duration of summer weekend congestion on NC 12
  - Summer weekend queues on NC 12 unlikely to back-up to US 158
  - Likely substantial reduction in through traffic on local streets

13

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Revised Preferred Alternative Travel Benefits

- Greatest peak period travel time reduction
  - 11 minute travel time from the Currituck County mainland to its Outer Banks over the Mid-Currituck Sound Bridge
  - A reduction of 47 minutes for same trip on existing roads (from 116 minutes to 69 minutes) during typical summer weekday
  - A reduction of 105 minutes for same trip on existing roads (from 187 minutes to 82 minutes) during typical summer weekend day
- Hurricane clearance time
  - 2-hour reduction (from 34.3 hours with No-Build [constrained development] to 32.3 hours)
  - No-Build 37.2 hours without development constraint
- Compared to ER2
  - Greater congestion reduction and travel time benefits
  - Assuming constrained development less hurricane clearance time benefit (ER2 has 3.6-hour reduction)

14

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Updated Alternatives Screening

- Reaffirmed the following alternatives not reasonable:

  Roadway and Bridge Alternatives

  – ER1
  – MCB1
  – MCB3

  Additional Alternatives Considered

  – Shifting rental times
  – Transportation systems management
  – Bus transit
  – Ferry
- Confirmed a composite of ER2 plus the items in last four bullets above is not reasonable

15

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Updated Alternatives Screening

- Affirmed that the following FEIS alternatives did not need to be reevaluated:
  – MCB2 (bridge plus widening existing roads)
  – Mainland design Option B (fill in Maple Swamp and toll plaza in Aydlett)
  – Bridge Corridor C1 (Outer Banks terminus near Albacore Street)

16

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Revised No-Build Alternative

- No-Build Alternative
  - Assumes project not implemented
  - Includes projects in current STIP (now 2018-2027)
- FEIS period STIP included no improvements in project area
- Current STIP projects in project area and thus revised No-Build:
  - R-3419 (part) – Access Management Improvements on US 158 from Wright Memorial Bridge to NC 12
    R/W: 2025
    Construction: 2027
  - R-2574 – 4-lane US 158 from Belcross to NC 168
    R/W: 2023
    Construction: 2025

17

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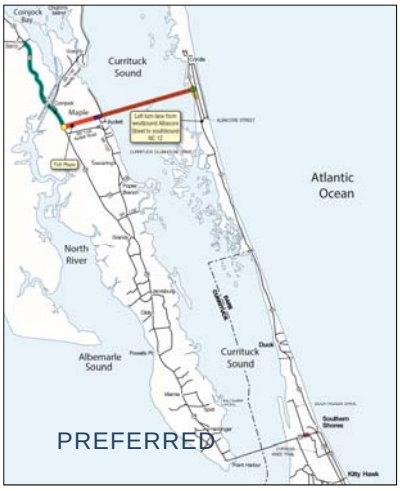
Reevaluation Detailed Study Alternatives



18

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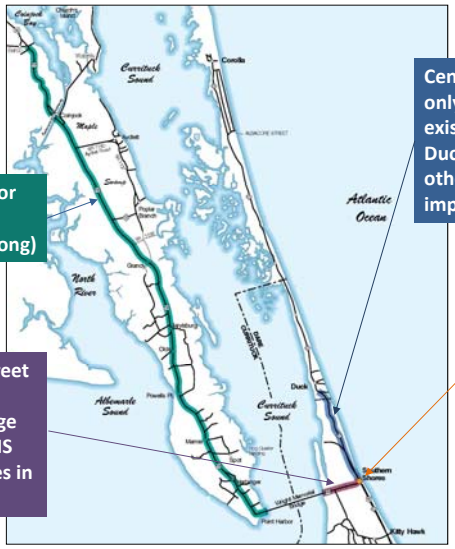
ER2 Revised Design



Center turn lane on NC 12 only from US 158 to existing 3-lane section at Duck commercial area; no other NC 12 improvements

Third outbound lane for hurricane evacuation unchanged (27 miles long)

Improved NC12/US158 intersection instead of interchange

6-lane superstreet from Wright Memorial Bridge to NC 12 (in FEIS included 8 lanes in NC 12 area)

19

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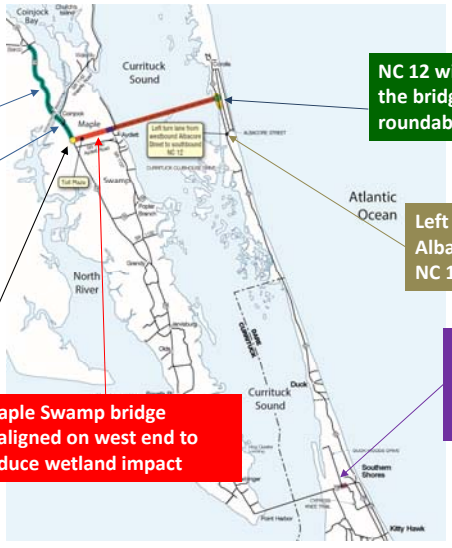
Preferred Alternative Revised Design



Reverse center turn lane for hurricane evacuation unchanged

NC 12 widening only in the bridge terminus roundabout area

Median acceleration lane at US 158/Waterlily Road no longer needed

Left turn lane from Albacore Street to NC 12

Revised interchange/toll plaza to reduce cost and wetland impact

Short third westbound lane on US 158 unchanged

Maple Swamp bridge realigned on west end to reduce wetland impact

20

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Preferred Alternative (LEDPA)

The Preferred Alternative is MCB4/C1 with Option A with refinements made to help avoid and minimize impacts.

- A 4.7-mile-long, two-lane toll bridge across Currituck Sound with 8-foot shoulders.
- A mainland bridge approach road placed between Aydlett Road (SR 1140) and approximately 430 to 720 feet north of the powerline that parallels Aydlett Road. The bridge approach would intersect US 158 with an interchange. A toll plaza would be just east the US 158 interchange.
- The mainland bridge approach road would include a 1.5-mile-long bridge over Maple Swamp. Drivers traveling between US 158 and Aydlett would continue to use Aydlett Road. In Aydlett, the approach road would pass through Aydlett on fill (approximately 3 to 23 feet high) and bridge Narrow Shore Road, as described above for the FEIS design.
- A bridge approach road on the Outer Banks that ends at what was the undeveloped Phase II of the Corolla Bay subdivision.

21

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Updated Environmental Studies

- Community field surveys and conversations with local officials
- Updated demographic data
- Updated natural resource data and regulatory requirements.
- Re-delineation of wetlands and other USACE jurisdictional resources
- Red-cockaded woodpecker (RCW) evaluation in the area of the Preferred Alternative.
- Updated submerged aquatic vegetation (SAV) surveys (latest in 2017)

22

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Updated Environmental Studies

- Updated preliminary Federal Flood Insurance Mapping (issued in 2016)
- Contacted the following environmental resource and regulatory agencies for updating the characteristics of the natural environment:
  - United States Fish and Wildlife Service
  - United States Army Corps of Engineers
  - North Carolina Wildlife Resources Commission
  - North Carolina Division of Marine Fisheries
  - North Carolina Division of Coastal Management
  - North Carolina Division of Water Resources
- Additional Section 7 consultation

23

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Changes in Project Setting

- Limited new development in existing subdivisions
- No need for additional cultural resource surveys
- Changed jurisdictional resource boundaries (considered in revised designs)
- Additional protected species
- Updated flood hazard boundaries
- Additional development projects and regulatory changes in indirect and cumulative impacts study area

24

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Updated Project Impacts

- Most impacts reduced or unchanged with revised designs
- Greater impacts:
  - ER2
    - Increased relocations along US 158 Hurricane Evacuation
    - The length of US 158 shading Jean Guite Creek, a primary nursery area, increased from 36 to 42 feet
  - Preferred Alternative
    - Two additional threatened and endangered species in the project area not addressed in the FEIS, for both the biological conclusion is "May Affect, Not Likely to Adversely Affect"
    - Impacts to cultivated agricultural land increased from 15.3 acres to 22.0 acres, although the use of prime and state and locally important farmland soils decreased
    - Wetland clearing associated with the Maple Swamp bridge increased from 25.4 to 32.9 acres

25

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Natural Resource Specifics

	ER2		Preferred Alternative	
	FEIS	Reevaluation	FEIS	Reevaluation
Water Quality Impact	Increased levels of highway runoff with 89.0 acres of increased impervious surface	Increased levels of highway runoff with 33.7 acres of increased impervious surface	Potential for increased turbidity levels during Mid-Currituck Bridge construction; increased levels of bridge and highway runoff with 71.5 acres of increased impervious surface	Potential for increased turbidity levels during Mid-Currituck Bridge construction; increased levels of bridge and highway runoff with 64.3 acres of increased impervious surface
Natural Upland Biotic Communities Impact				
• Fill in Natural and Naturalized Upland Communities	85.3 acres	23.9 acres	33.6 acres	22.8 acres
• Clearing Natural and Naturalized Upland Communities	0.0 acre	Same as FEIS	1.3 acres	0.0 acres
Land Wildlife Habitat Impact	Least invasive	Same as FEIS	Removal and alteration of wildlife habitat (both by habitat use and bridging) and habitat edge effects	Same as FEIS
Shaded aquatic Bottom <6 feet deep	0.1 acre	0.0 acre	8.7 acres	7.8 acres
Water Wildlife Habitat Impact	Minor	Same as FEIS	Altered light levels and the introduction of piles as a hard substrate in Currituck Sound; localized noise, turbidity, and siltation during construction	Same as FEIS
Shading Jean Guite Creek (a primary nursery area)	36 feet	42 feet	0 feet	Same as FEIS

26

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Natural Resource Specifics

	ER2		Preferred Alternative	
	FEIS	Reevaluation	FEIS	Reevaluation
Submerged Aquatic Vegetation (SAV) Impact				
• Existing SAV Beds Shaded	0.0 acre	Same as FEIS	3.8 acres	3.7 acres
• Existing Beds and Potential (water depths ≤ 6 feet) SAV Shaded	0.1 acre	Same as FEIS	8.7 acres	7.8 acres
Wetlands Impacts				
• Wetlands within Slope-Stake Line, plus Additional 25-foot Buffer	12.6 acres	8.5 acres	8.3 acres	4.2 acres
• Total Coastal Area Management Act (CAMA) Wetland Impacts	0.7 acre	Same as FEIS	0.0 acre	Same as FEIS
• Wetland clearing associated with the Maple Swamp Bridge	0.0 acre	Same as FEIS	25.4 acres	32.9 acres
CAMA Areas of Environmental Concern Affected				
• Fill	0.9 acre	Same as FEIS	0.0 acre	Same as FEIS
• Pilings	0.0 acre	Same as FEIS	0.1 acre	Same as FEIS
• Clearing	0.0 acre	Same as FEIS	0.0 acre	Same as FEIS

27

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Natural Resource Specifics

	ER2		Preferred Alternative	
	FEIS	Reevaluation	FEIS	Reevaluation
Essential Fish Habitat (EFH) Affected				
• Fill	1.8 acres	Same as FEIS	0.0 acre	Same as FEIS
• Pilings	0.0 acre	Same as FEIS	0.1 acre	Same as FEIS
• Shading (water depths ≤ 6 feet)	0.1 acre	Same as FEIS	8.7 acres	7.8 acres
• Shading (SAV habitat)	0.0 acre	Same as FEIS	4.8 acres	4.2 acres
• Clearing	0.0 acre	Same as FEIS	0.0 acre	Same as FEIS
Threatened and Endangered Species Habitat Affected	"No Effect" on the 11 threatened and endangered species under USFWS jurisdiction	Same as FEIS	"May Affect, Not Likely to Adversely Affect" for 3 species and "No Effect" for 8 species under USFWS jurisdiction "May Affect, Not Likely to Adversely Affect" for 4 species and "No Effect" on 2 species under NMFS jurisdiction	"May Affect, Not Likely to Adversely Affect" for 5 species under USFWS jurisdiction. No change for other species

28

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Updated Project Commitments

- Added commitments related to:
  - Invasive plant species control
  - Climate change and extreme weather resilience
  - Considering a connection for cyclists between Narrow Shore Road and a Mid-Currituck Bridge
- Removed commitment to consider "additional avoidance and minimization measures to potentially reduce the documented vehicle mortality of migratory birds on the bridge" based on:
  - Findings of NCDOT bird collision studies that surveyed bird mortality on six bridges in the Outer Banks area
  - Resulting decision that such measures were not needed for Bonner Bridge replacement

29

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Updated Project Commitments

- Removed commitment that said: "NCTA also will provide space in the NC 12 right-of-way and complete the grading for future multi-use paths to be provided by others in three locations along the widened sections of NC 12 in Currituck County."
  - The referenced future multi-use paths have been built and are not affected with the revised designs
  - Commitment is no longer needed
- Added other editorial/clarification changes requested in FEIS comments

30

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Reevaluation Conclusions

- Project need still exists
- The current Preferred Alternative (with revised design) remains the Preferred Alternative
- Based on preliminary findings, a Supplemental EIS is not needed

31

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Cost

- Preferred Alternative
  - FEIS: $502.4 to $594.1 million
  - Reevaluation: $481.7 to $502.6 million *
- ER2
  - FEIS: $416.1 to $523.4 million
  - Reevaluation: $277.9 to $288.1 million

*Reevaluation cost for Preferred Alternative is preliminary pending completion of Cost Estimate Review with FHWA

32

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Preliminary Plan of Finance

- Preferred Alternative Potential Funding Sources:
  - TIFIA loan (backed by toll revenue)
  - Toll revenue bonds
  - GARVEE bonds
  - State matching funds
- A Public-Private Partnership (3P) is not currently planned as a funding option

33

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Current Schedule

• Draft EIS	Completed
• Final EIS	Completed
• Reevaluation	April 2018
• ROD	Spring/Summer 2018
• Begin Construction	To be determined
• Open to Traffic	To be determined

*Schedule is preliminary and subject to change

34

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Questions

35

Section 6002 Coordination Plan for Mid-Currituck Bridge Project
STIP Project R-2576

COORDINATION PLAN

1. Purpose of Plan.

   1.1. Section 6002 Compliance. This plan is intended to satisfy the requirement for a Coordination Plan under Section 6002 of SAFETEA LU (23 U.S.C § 139) for the Mid-Currituck Bridge project (STIP No. R-2576).

   1.2. Integration of NEPA and Section 404 Requirements. The process established in this plan is intended to ensure that the requirements of NEPA and Section 404 of the Clean Water Act can be satisfied as part of a single process. Specifically, this plan is intended ensure that, to the maximum extent practicable,

   - there is regular communication and collaborative discussion among all agencies that have information, experience, and/or expertise relevant to issues considered in Section 404 permitting;

   - NCDEQ can issue Section 401, Riparian Buffer Authorizations, Isolated Wetland Permits, State Stormwater Permits and CAMA permits based on information developed as part of the NEPA process; and

   - the USACE can issue a Section 404 permit for the project promptly following the end of the NEPA process, without the need for supplemental NEPA studies,

   - so, that any other required permits or approvals can be obtained without unexpected issues or delays, such as those required by the U.S. Coast Guard.

   1.3. Agency Communication. This plan establishes a framework for regular communication among all the agencies involved in the environmental review process. This communication will include regular agency coordination meetings. These meetings will provide a forum for open discussion and dialogue among agencies. Meetings with one or more individual agencies also may occur as part of this process. When possible, all Participating Agencies will be informed of a smaller meeting to ensure all appropriate parties are included and will be updated after the meeting.

2. Project Initiation

   2.1. Project Initiation Notice. The environmental review process for a project is initiated when the North Carolina Turnpike Authority submits a project initiation notice to the FHWA. This notice was provided in the form of a letter from NCTA to FHWA on July 15, 2008 and is attached as Exhibit 1.

2.2. Notice of Intent. A Notice of Intent to prepare an Environmental Impact Statement (EIS) for this project was issued on July 6, 1995 and posted in the Federal Register. This notice, and the 1998 Draft EIS, was rescinded by FHWA on June 3, 2008 by notice in the Federal Register. A Notice of Intent to prepare a new Draft EIS for the project was issued on June 16, 2008. These notices are attached as Exhibit 1.

3. Project Schedule

3.1. Schedule. The NCTA will prepare a project schedule showing projected dates for completing all environmental studies and permitting. A draft schedule for the Mid-Currituck Bridge project is shown in Table 1. It is current as on April 2018.

Table 1: Draft Project Schedule

Notice of Intent (NOI)	July 6, 1995
Rescind 1995 NOI and 1998 DEIS; Issue new NOI	June 3 2008; June 16, 2008
Identify Detailed Study Alternatives	July 2, 2008
DEIS	March 10, 2010
Identify Preferred Alternative	January 20, 2011
FEIS	January 2012
FEIS Reevaluation Report	Spring 2018
ROD	Spring/Summer 2018
Permit Application(s)	TBD
Let Contract/Begin Construction	TBD

3.2. Agency Consultation. The schedule will be shared with the agencies and discussed at a meeting. Agency comments will be considered and the schedule may be revised as appropriate.

3.3. Updating Schedules. The project schedule may be revised from time to time by the lead agencies during the environmental review process. Schedule changes will be communicated to all Participating Agencies and the public. Under the statute, the schedule may be extended by the lead agencies for good cause, and may be shortened only with the consent of Cooperating Agencies.

4. Agency Roles

4.1. Lead Federal Agency. FHWA will be the lead Federal agency. As lead Federal agency in the Section 6002 process, FHWA is responsible for making certain decisions as specified in Section 6002. In addition, FHWA has an overall responsibility for facilitating the expeditious completion of the environmental review process.

4.2. Joint Lead Agencies. NCTA will be a joint lead agency, and thus will share with FHWA the responsibilities of the "lead agency" under the process defined in Section 6002.

4.3. Participating Agencies. NCTA will issue letters inviting Federal and non-Federal agencies to serve as Participating Agencies for each project developed under this plan. Participating Agencies include any Federal, State, or local agencies that may have an interest in the project.

4.3.1. Invitation List. Invitations for this project were sent to Federal and non-Federal agencies that, in the judgment of FHWA and NCTA, have an interest in the project. Additional Participating Agencies may be added later in the process based on new information, changes in the project, or changed circumstances. Table 2 lists agencies identified as having an interest in the Mid-Currituck Bridge project. Invitations were distributed on November 14, 2007. All agencies accepted.

Table 2: Agency Roles

	Cooperating Agency	Participating Agency
US Army Corps of Engineers	✓	✓
US Coast Guard	✓	✓
US Environmental Protection Agency		✓
US Fish and Wildlife Service		✓
National Marine Fisheries Service		✓
NC Department of Natural and Cultural Resources – Historic Preservation Office		✓
NC Department of Environmental Quality		✓
Division of Coastal Management		✓
Division of Marine Fisheries		✓
Division of Water Resources		✓
Wildlife Resources Commission		✓

4.3.2. Deadline. Invitation letters will specify a 30-day deadline for agencies to respond to the invitation. For this project, responses were requested by December 14, 2007. As indicated in Section 4.3.1, all agencies accepted.

4.3.3. Federal Invitees. A Federal agency that is invited to be a Participating Agency will be presumed to have accepted the invitation, unless the agency informs NCTA in writing, by the deadline, that it: "(A) has no jurisdiction or authority with respect to the project; (B) has no expertise or information relevant to the project; and (C) does not intend to submit comments on the project."

4.3.4. Non-Federal Invitees. Non-Federal agencies are not required to accept designation; they become Participating Agencies only if they affirmatively accept the invitation. If a non-Federal agency declines or does not respond to the invitation, the agency will not be considered a Participating Agency.

4.3.5. No Implied Support. Designation as a Participating Agency shall not imply that the Participating Agency supports a proposed project; or has any jurisdiction over, or special expertise with respect to evaluation of, the project.

4.3.6. No Effect on Other Laws. Nothing in Section 6002, or in this Coordination Plan, preempts or interferes with any power, jurisdiction, responsibility, or authority that a Federal, State, or local government agency, metropolitan planning organization, Indian tribe, or project sponsor has with respect to carrying out a project or any other provisions of law applicable to projects, plans, or programs.

4.4. Cooperating Agencies. A Participating Agency also may be designated as a Cooperating Agency. The responsibilities of a "Cooperating Agency" are defined in the CEQ regulations and are unchanged by SAFETEA LU. In general, designation as a Cooperating Agency signifies a somewhat higher level of involvement and responsibility in the environmental review process. Federal, State, or local government agencies can be designated as Cooperating Agencies. Table 2 identifies Cooperating Agencies for this project. It is recognized that due to other program commitments, Cooperating Agencies will not be responsible for funding or writing portions of the NEPA document.

5. Turnpike-Environmental Agency Coordination (TEAC) Meetings – *(Note: TEAC meetings and meeting dates described in Sections 5.1 and 5.2 below were an initial process established for turnpike projects. NCTA now intends to utilize NCDOT's monthly interagency calendar.)*

5.1. TEAC Meetings. The principal method for agency coordination on turnpike projects will be Turnpike Environmental Agency Coordination (TEAC) meetings, which will be hosted by NCTA. These meetings will be used as a forum for discussing all turnpike projects, including those being studied under other procedures as well as those being studied under Section 6002. All meetings will be held at the NCDOT office at Century Center in Raleigh, unless otherwise specified in the meeting invitation.

5.2. Meeting Dates. The schedule for the meetings will be determined by FHWA and NCTA after consultation with NCDOT and the Participating Agencies. This schedule will be established, to the extent possible, for 12-month periods. The schedule will be coordinated with NCDOT interagency meetings to avoid or minimize conflicts and minimize travel. Changes to the schedule will be provided to the Participating Agencies as far in advance as possible. Each year, once available, a new schedule will be distributed.

5.3. Meeting Agenda and Objectives. The agenda for each meeting will be circulated via e-mail to all Participating Agencies. The agenda will identify (a) any specific issues that

NCTA would like to resolve at the meeting and (b) any specific issues on which NCTA is seeking comments from the Participating Agencies at the meeting.

5.4. Meeting Materials. NCTA will post the agenda and materials for each meeting on a secure web site (https://xfer.services.ncdot.gov/PDEA/MergerMeetings/ /). Guidelines for circulating meeting materials are provided below.

5.4.1. Timing of Circulation. To the greatest extent possible, NCTA will post the agenda and materials at least two weeks in advance of the meeting. In some cases, materials will be provided less than two weeks in advance, or will be circulated in the meeting itself. NCTA will not seek to resolve issues or obtain Participating Agency comments on materials that the Participating Agencies received less than two weeks in advance of the meeting.

5.4.2. Availability of Paper Copies. In addition to posting documents on the web site, NCTA will make paper copies of meeting materials available to all attendees at each meeting.

5.4.3. Large Documents. Documents that would be difficult or time-consuming for agencies to reproduce (e.g., large maps, lengthy bound documents with color, fold-out pages, etc.) will be made available to Participating Agencies only in pdf format unless requested by a Participating Agency. If requested hard-copies will be provided at the meeting (or by mail two weeks or more in advance) for discussion at a subsequent meeting. NCTA will consult with the Participating Agencies to determine when this type of distribution is appropriate.

5.5. Meeting Summaries. After each meeting, the NCTA will prepare a meeting summary. The summary will list the attendees, topics discussed, unresolved issues, action items, resolutions, and conclusions. The Meeting Summary will be distributed via email in draft form to the meeting attendees for review and comment no later than two weeks in advance of the next meeting. Meetings may be recorded; the recording will be used in preparing the meeting summaries. The meeting summaries will be included in the administrative record.

5.6. Attendees. Participating Agencies (including Cooperating Agencies) will designate primary contacts for each turnpike project. These primary contacts will regularly attend meetings. Attendance may vary from month to month depending on the issues being discussed. Primary contacts for the Mid-Currituck Bridge project as of April 2018 are listed in Table 3.

Table 3: Primary Agency Contacts

US Army Corps of Engineers	Kyle Barnes
US Coast Guard	Marty Bridges
US Environmental Protection Agency	Amanetta Somerville
US Fish and Wildlife Service	Gary Jordan
National Marine Fisheries Service	Fritz Rhode
NC Department of Natural and Cultural Resources – Historic Preservation Office	Renee Gledhill-Earley
NC Department of Environmental Quality	--
Division of Coastal Management	Cathy Brittingham
Division of Marine Fisheries	Kevin Hart
Division of Water Resources	Garcy Ward
Wildlife Resources Commission	Travis Wilson

6. Identification and Resolution of Project Issues

6.1. Constraint Mapping and Environmental Data. As early as practicable in project development, NCTA will provide FHWA and the Participating Agencies with mapping that shows key environmental resources, communities, topographic conditions, and other constraints in the project area. This mapping also will identify potential conceptual alternatives for the project, to the extent possible. (An "alternative" at this stage will generally be defined as a corridor.) The mapping may be accompanied by other supporting materials. This mapping may be presented to the Participating Agencies over a series of meetings and/or field meetings. This work has been completed.

6.2. Field Visits and Agency Meetings. One or more field visits may be held with Participating Agencies to discuss constraints and obtain early input into development of alternatives. Attendees in field visits may be a sub-set of the Participating Agencies, depending on the issues to be discussed on the field visit; however, all Participating Agencies will be informed of upcoming meetings to determine interest in attending. The results of the field visit(s) will be discussed at a meeting, which will provide another opportunity for agency input. This work has been completed, but the same process will be followed as appropriate during project permitting.

6.3. General Project Issues. Throughout the process, Participating Agencies will be invited to identify issues that need to be considered by the Lead Agencies in preparing the environmental documentation and making project decisions, including issues that relate to the agencies' ability to approve (or comment favorably on the approval of) any

necessary permits for the project. These issues will be referred to as "general project issues." Agencies should be prepared to answer the following questions when they raise general project issues at meetings or in correspondence:

- What is the specific issue or aspect of the issue which the agency would like addressed?
- Has the agency established standards, criteria, or thresholds related to the issue?
- What methodology does the agency recommend to evaluate the issue?
- What data or information can the agency provide to assist in evaluating the issue?
- Does the agency believe that the issue is significant or could be an "issue of concern" (see Section 6.4.)?

6.4. Issues of Concern. At any time in the process, a Participating Agency may identify an "issue of concern" as defined in SAFETEA LU which is an issue that in the agency's judgment could result in denial of a permit or substantial delay in issuing a permit.

6.4.1. Format. Participating Agencies will be strongly encouraged to submit any "issues of concern" in writing to FHWA and NCTA on agency letterhead. Issues of concern submitted in other formats (e.g., e-mail) will also be considered.

6.4.2. Timing. Participating Agencies are required by statute to identify any issues of concern "as early as practicable" in the environmental review process, but this determination is based on information provided by the lead agencies. In some cases, it may not be practicable to identify an issue of concern until late in the process. The statute does not set a specific deadline for raising these issues.

6.4.3. Request for Comment. At any point in the process, the NCTA may ask the Participating Agencies to state in writing whether there are any issues of concern. If such a request is made, NCTA will consult with the Participating Agencies before setting a deadline for a response. If agreed by the Lead and Participating Agencies, a deadline longer than 30 days could be established.

6.5. Monitoring and Updating. NCTA will maintain a record of both "general project issues" and "issues of concern" (if any) identified by the Participating Agencies. Separate meetings may be scheduled to resolve general project issues and/or any issues of concern. Additional issues may be added to the record based on new information or changed circumstances at any point in project development. This record will be maintained in the project file.

6.6. Resolving General Project Issues. General project issues that are not resolved among the regular participants in the meetings can be elevated for consideration by the more senior officials within the relevant agencies. Any agency – Lead or Participating – can invoke the elevation process. The process is intended to be flexible, with specific procedures determined on a case-by-case basis depending on the nature of the issue. In general, the elevation process will involve the following steps:

- A Participating Agency requests elevation on an issue within the jurisdiction of that agency. This request can be made in a meeting or in a letter or e-mail to the other Participating Agencies.
- The request for elevation is placed on the agenda for discussion at a subsequent meeting.
- If the issue is not resolved at that subsequent meeting, the issue is elevated to more senior officials within the Participating Agencies .
- Each Participating Agency is responsible for identifying the more senior official(s) within his or her agency who will be directly involved in the elevation.
- The Participating Agency will work together to plan the logistics and timing of the elevation process, including any briefing materials or other documents that need to be prepared prior to a resolution of the issue.

6.7. Resolving Issues of Concern. Under the statute, NCTA or the Governor may request a meeting at any time to resolve issues of concern. If such a meeting is requested, FHWA will convene a meeting in accordance with SAFETEA LU to resolve the specified issues of concern. If an issue of concern is not resolved within 30 days after such a meeting, a report must be submitted to Congress and to the heads of certain agencies, as provided in SAFETEA LU. If such a meeting is not requested, FHWA and NCTA will seek to address and resolve the agencies' issues of concern as part of normal agency coordination during the environmental review process. NCTA anticipates that this process will be invoked rarely.

7. Development of Purpose and Need—This work has been completed.

7.1. Preliminary P&N with Supporting Information. Early in project development, NCTA will prepare a brief preliminary statement of purpose and need – generally no more than one page in length. The preliminary statement purpose and need will be distributed to the agencies. This preliminary statement will be accompanied by supporting information to the extent that it is available. This information will include:

- GIS map of study area (with study area identified)
- Summary of local concerns that resulted in project addition to local transportation plan(s)
- Traffic data related to project needs
- Justification for designation as turnpike project (based on funding needs, etc.)
- Description of how the action will address the need.

7.2. Discussion at Meeting. The preliminary purpose and need will be discussed with the Participating Agencies at a meeting. This will provide an early opportunity for agency input into the purpose and need for the project. In accordance with Section 6002, the comment period will be 30 days (unless otherwise agreed).

7.3. Determination of Purpose and Need. The purpose and need will be refined, as appropriate, based on input from the Participating Agencies and the public. Refinement of the purpose and need may be a gradual, iterative process that occurs during the alternatives development and screening process. This process will include an opportunity for agencies and the public to comment on the purpose and need as part of their review of the alternatives screening report. (See Part 8.4 and 8.5 below.) The purpose and need will be determined by the time of selection of detailed study alternatives.

8. Development and Screening of Alternatives—This work has been completed.

8.1. Conceptual Alternatives. An initial set of conceptual alternatives will be developed as early as practicable in the process. The conceptual alternatives may be developed concurrently with the preliminary purpose and need statement. These alternatives will be provided to the agencies along with the environmental constraint mapping that provides the basis for identifying issues of concern. (See Part 6.4 above.)

8.2. Alternatives Development. Through agency coordination and public involvement, NCTA will develop a range of preliminary alternatives for consideration. This range may extend beyond the initial set of conceptual alternatives. This effort is intended to be comprehensive and inclusive. NCTA will maintain a summary of all alternatives suggested by Participating Agencies and the public.

8.3. Alternatives Screening Report. The NCTA will prepare an alternative screening report that presents the justification for eliminating alternatives from further consideration, and identifies alternatives proposed for detailed study. The alternatives screening report will be provided to the Participating Agencies and discussed in a meeting.

8.4. Opportunity for Public Input. A summary of the purpose and need and alternatives screening report has been made available for public review and comment. A public meeting (or meetings) was held in the project area prior to the distribution of this report. A summary of information detailed in the report was presented at the public meetings and comments were solicited. A report summarizing public input was provided to Participating Agencies. Copies of the report were then made available via the website as well as at local government offices for public review. Postcards were distributed to notify the public of the reports' availability and opportunity to provide comment. This comment period will serve as the public's opportunity for involvement in both developing the purpose and need and determining the range of alternatives to be considered in the EIS. Agencies were given notice of the public meeting and were welcome to attend.

8.5. Opportunity for Agency Input. Participating Agencies were given a 30-day period to provide additional comments on the alternatives screening report following distribution of the report summarizing public comments from the public workshops. Participating Agencies will not be asked to concur on the alternatives screening report. Participating Agencies were asked to submit any significant objections to the alternatives screening report in writing to FHWA and NCTA on agency letterhead.

8.6. Lead Agency Decision. The Lead Agencies identify the detailed study alternatives based on the comments received from Participating Agencies and the public. In general, the NCTA and FHWA will seek to resolve any issues or concerns regarding the range of detailed study alternatives at this stage of the process. Any issues that are not resolved at this stage will need to be resolved prior to issuance of a Section 404 permit by the USACE. It is incumbent on all Participating Agencies to raise issues, concerns, or comments in a timely manner and to also provide suggestions for resolution.

9. Methodologies and Level of Detail for Alternatives Analysis—This work has been completed.

9.1. Proposed Methodologies. Early in project development, NCTA will prepare materials outlining proposed methodologies for analyzing alternatives. The materials will summarize the methodologies intended to be used for each substantive area within the EIS – noise, air, water resources, traffic issues, secondary and cumulative impacts, etc. Standard procedures will simply be referenced, where applicable. Any modifications to standard procedures will be identified and discussed in more depth.

9.2. Opportunity for Agency Input. The proposed methodologies will be developed in consultation with agencies having relevant information, experience, or expertise. For example, the USACE and NCDEQ and other Participating Agencies as appropriate will be consulted in developing the methodology for analyzing impacts to aquatic resources; the SHPO will be consulted in developing methodologies for analyzing impacts to historic sites (including both architectural and archeological resources).

9.3. Ongoing Coordination. Methodologies for alternatives analysis will be refined throughout the environmental review process. The Lead Agencies will discuss adjustments, as appropriate, with Participating Agencies at meetings.

9.4. Level of Detail. The Lead Agencies, in consultation with the Participating Agencies, will determine the appropriate level of design detail for preliminary alternatives, for the detailed study alternatives, and for the preferred alternative.

9.4.1. Preliminary Alternatives. Functional design will be complete for all preliminary alternatives and used as the basis for comparing impacts to aid in the selection of detailed study alternatives.

9.4.2. Detailed Study Alternatives. For this project, preliminary design will be used as the basis for comparing the impacts of the alternatives in the DEIS (known as the detailed study alternatives) and will be used for developing the cost estimates presented in the DEIS.

9.4.3. Bridging Decisions. The Lead Agencies, in consultation with USACE and NCDEQ (and, if appropriate, other Participating Agencies) will determine bridge locations and approximate lengths for each of the detailed study alternatives. These issues also will be discussed in meetings with all Participating Agencies.

9.4.4. Preferred Alternative. The Preferred Alternative may be developed to a higher level of detail in the FEIS, in accordance with procedures specified in FHWA/FTA guidance for the Section 6002 process. If phased construction is anticipated, the higher level of design detail may be developed for a portion of the Preferred Alternative. As allowed under Section 6002, the higher level of design detail may be prepared for the purpose of developing mitigation measures and/or for complying with permitting requirements (e.g., Section 404 permitting).

9.5. Lead Agency Decision. If there are disagreements about methodology, or about the appropriate level of design detail, FHWA and NCTA will seek to resolve those disagreements with the agencies having the concern and those with relevant expertise – for example, the SHPO on historic property issues. After consultation, the Lead Agencies will determine the methodology to be used in the NEPA document. The basis for that decision will be documented in the project file and provided to the Participating Agencies.

10. Selection of Preferred Alternative/LEDPA—This work has been completed and the Preferred Alternative documented in the FEIS.

10.1. Timing for Identifying Preferred Alternative. The following actions will be completed before NCTA submits a Preferred Alternative Report to the Participating Agencies:

- the DEIS has been issued (including a Conceptual Mitigation Proposal) and submitted to the State Clearinghouse;
- a Section 404 Public Notice Request has been submitted to USACE, and the Public Notice has been issued by the USACE;
- a public hearing on the DEIS has been held, and the comment period on the DEIS has ended,

10.2. Process for Identifying Preferred Alternative. The process for identifying a preferred alternative will include:

- the NCTA will prepare an information package containing an impacts comparison matrix, responses to substantive comments on the DEIS that relate to selection of the preferred alternative, and other pertinent information;
- the NCTA will provide the information package to the Participating Agencies at least two weeks prior to the meeting at which the package will be discussed.
- the Participating Agencies will be given a 30-day period following the meeting to provide comments on the information package, and there will be a discussion of the alternatives comparison package at a meeting; and
- if requested by the Participating Agencies, the NCTA will arrange for a field review of the alternatives.

10.3. Preparation of Preferred Alternative Report. The NCTA will prepare a report identifying its preferred alternative and the justification for selecting that alternative. The report will address all applicable regulatory requirements, such as Section 404 and 401 of the Clean Water Act, Section 4(f) of the USDOT Act, and the North Carolina Coastal Area Management Act. The report will be prepared in coordination with FHWA and with input from the Participating Agencies as described in Section 10.2.

10.4. Opportunity for Agency Input. The NCTA will provide FHWA, and all Participating Agencies with a copy of the preferred alternative report. The report will be discussed at a meeting. Agencies will be provided with a 30-day period to comment on the report after the meeting (in addition to the comment opportunities provided under Section 10.1 above). Agencies will not be asked to concur in this report. Agencies will be asked to submit any significant objections in writing to FHWA and NCTA on agency letterhead.

10.5. Lead Agency Decision. FHWA will formally identify its preferred alternative after considering all comments received from Participating Agencies, including both written comments and comments provided in meetings.

11. Avoidance, Minimization, Mitigation, and Enhancement

11.1. Integration into Project Development. Opportunities to avoid, minimize, and mitigate impacts, and to enhance the impacted resources, will be considered throughout the process, including during initial development of alternatives. As allowed under Section 6002, the preferred alternative may be developed to a higher level of detail for purposes of developing mitigation measures and meeting permitting requirements.

11.2. Required Compensatory Mitigation. The Lead Agencies will consult with USACE and NCDEQ (and other Participating Agencies as appropriate) to determine the type, size, and location of required compensatory mitigation for impacts to waters of the United States.

11.2.1. On-Site Mitigation. The potential for on-site mitigation for impacts to waters of the United States will be considered in the DEIS for each of the detailed study alternatives. This discussion will typically include a discussion of conceptual on-site mitigation locations. The potential for on-site mitigation will be discussed in more detail for the Preferred Alternative in the FEIS.

11.2.2. Off-Site/NCDEQ - Division of Mitigation Services (DMS). Where applicable, the NCTA will coordinate with the DMS during project development and design regarding the use of credits from the DMS to meet mitigation requirements for impacts to waters of the United States. The DMS also may be used to carry out on-site mitigation on behalf of NCTA.

12. Section 404/401 Permitting and Other Permits/Approvals

12.1. Early Coordination. NCTA will conduct early coordination with the Participating Agencies to identify applicable permitting requirements and to determine the analysis

and documentation required to satisfy those requirements. See Parts 6 and 9 above. Permits that may be applicable to this project include:

- Section 404/401 Permits
- US Coast Guard Bridge Permit
- CAMA Permit
- Stormwater Permit

12.2. Comment Opportunities. The environmental review process includes multiple opportunities for comment by Participating Agencies, as described below:

12.2.1. Participating Agencies may submit comments at the monthly meetings and in other meetings or field visits held during the environmental review process. NCTA will prepare meeting summaries for all substantive meetings with Participating Agencies. The meeting summaries will document comments provided by Participating Agencies.

12.2.2. Participating Agencies also will be invited to provide written comments at various points in the process as noted above. Agencies are encouraged to provide their written comments on agency letterhead; agencies are strongly encouraged to use letterhead when identifying issues of concern. However, all written comments submitted by agencies, including comments submitted by email, will be accepted and considered in decision-making.

12.2.3. If a Participating Agency raises an issue of concern, the Lead Agencies will confer with that agency, and with other agencies as appropriate, to address those issues.

12.2.4. Meeting summaries and written agency comments (regardless of format) be considered by the Lead Agencies in decision-making and will be included in the project files.

12.2.5. Jurisdictional Determinations. The NCTA will prepare the necessary documentation to obtain jurisdictional determinations by the USACE (and, as appropriate, NCDEQ) for all wetlands and streams within a corridor along each of the detailed study alternatives (unless otherwise determined as part of the discussion of methodologies in accordance with Section 9 of this plan). These determinations will be used as the basis for comparing wetlands and stream impacts in the DEIS. The width of the corridor within which jurisdictional determinations are made will be determined on a project-by-project basis. This work has been completed. Updated wetland delineations were made during the reevaluation and documented in the *FEIS Reevaluation Report*.

12.3. Pre-Application Consultation. The NCTA will engage in pre-application consultation, as appropriate, with each agency that is responsible for making a permit decision on the project. For projects requiring a Section 401 and Section 404 permits and/or

CAMA permits for those projects located within the 20 coastal counties, the pre-application consultation will include a detailed hydraulic design review.

12.4. Request for Public Notice. The NCTA will submit the Section 404 permit application to the USACE at the time the DEIS is issued. This application will typically be submitted prior to identification of a preferred alternative; therefore, it typically will not identify the specific alternative for which the permit is being requested. This submittal will enable the USACE to issue a public notice and to use the FHWA/NCTA public hearing on the DEIS as the USACE's public hearing on the Section 404 application. This work has been completed.

12.5. Public Hearing. The public hearing on the DEIS will also serve as the public hearing for the Section 404 permit application. This work has been completed.

12.6. Refining the Permit Application. After selection of a preferred alternative, the NCTA will coordinate on a regular basis with the USACE, NCDEQ, and other Participating Agencies as appropriate regarding all applicable permit applications for the project. This coordination may occur as part of the meetings and/or in separate meetings convened to discuss permitting issues. These meetings will include discussions of:

- avoidance and minimization measures
- compensatory mitigation
- review of hydraulic design
- review of stormwater management plans
- review of construction methods
- review of final permit drawings

12.7. Permit Application and Decision. After the permitting meetings described above, the NCTA will submit an updated Section 404 permit application to the USACE and a Section 401 certification request to NCDEQ. Permit applications under other applicable laws (e.g., a bridge permit, or a CAMA permit) will also be filed. All permit applications shall be filed in accordance with the respective agency permitting requirements in place at the time of application. All respective permitting agencies shall forward the permit applications to other agencies for review as required by the respective agency regulations and/or rules.

12.8. Permit Decisions. The permitting agencies will consider and act upon the permit applications in accordance with their procedures.

12.9. Permitting Delay. If a Section 404 permit (or any other permit or approval) is not issued within 180 days after the FHWA issues a ROD *and* a complete permit application is submitted, the USDOT will be required by Section 6002 to submit a report to the Congress – specifically, to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure in the House of Representatives. Reports must be submitted every 60 days thereafter until the issue is resolved. The same requirement applies to other permitting decisions.

12.10. Coordination After Permit Issuance. After permit issuance, NCTA will coordinate directly with permitting agencies and others as required by the terms of project permits. Such coordination may include issues such as reviewing final project plans, tracking compliance with permit conditions, and modifying permits to address changes to the project's design, construction methodology or construction timeframe.

12.11. Permitting for Phased Construction. [This is a placeholder. If a phased approach is contemplated for a project, a section will be added here to describe that approach. It will be modeled on phasing as used in the NCDOT Merger agreement.]

Exhibit 1

PROJECT INITIATION NOTICE
&
FEDERAL REGISTER NOTICES

STATE OF NORTH CAROLINA
TURNPIKE AUTHORITY

MICHAEL F. EASLEY
GOVERNOR

1578 MAIL SERVICE CENTER, RALEIGH, N.C. 27699-1578

DAVID W. JOYNER
EXECUTIVE DIRECTOR

July 15, 2008

John F. Sullivan, III, P.E.
Division Administrator
FHWA North Carolina Division
310 New Bern Avenue, Suite 410
Raleigh, NC 27601-1418

RE: STIP R-2576 Mid-Currituck Bridge Project
Notification of Project Initiation under Section 6002 of SAFETEA-LU

Dear Mr. Sullivan,

In accordance with Section 6002 of SAFETEA-LU, the North Carolina Turnpike Authority (NCTA) is notifying the Federal Highway Administration (FHWA) that planning, environmental, and engineering studies for the proposed Mid-Currituck Bridge project in Currituck and Dare Counties are underway. The project is included in the 2007-2013 North Carolina State Transportation Improvement Program (STIP) as Project R-2576.

NCTA, in cooperation with North Carolina Department of Transportation (NCDOT), is preparing an Environmental Impact Statement (EIS) addressing proposed improvements in the Currituck Sound area. The proposed study area includes US 158 from NC 168 to NC 12 (including the Wright Memorial Bridge) and NC 12 north of its intersection with US 158 to its terminus in Currituck County.

It is anticipated that a Clean Water Act 404 Individual Permit will be required from the US Army Corps of Engineers (USACE), and a US Coast Guard (USCG) Bridge Permit will be required. NCTA will coordinate throughout project development with the USACE and USCG to ensure that their concerns are addressed and incorporated into the EIS.

On July 6, 1995, FHWA published a notice of intent to prepare an environmental impact statement (EIS) for a Mid-Currituck Sound Bridge project in Currituck County, North Carolina, which involved a proposal to build a bridge and approach roadways connecting US 158 on the mainland to NC 12 on the Outer Banks. The FHWA, in cooperation with the NCDOT, issued a Draft EIS on the project in January 1998. FHWA and NCDOT held public hearings and provided a comment period on the Draft EIS. Since the 1998 Draft EIS, there have been several changes in the project. These changes led to the decision to rescind the 1995 notice of intent and the 1998 Draft EIS (Federal Register Vol. 73, No. 107, page 31733) and to issue a new notice of intent. The new notice of intent was issued on June 16, 2008 (Federal Register Vol. 73, No. 116, page 34065). Copies of these are attached for your reference.

If you have any questions or would like to discuss the project in more detail, please contact Jennifer Harris at (919) 571-3004.

Sincerely,

Steven D. DeWitt, P.E.
Chief Engineer

cc: Mr. George Hoops, P.E., FHWA
Ms. Jennifer Harris, P.E., NCTA
Ms. Deborah Barbour, P.E., NCDOT

Questions may be directed to the individual named above under the heading, **FOR FURTHER INFORMATION CONTACT:**

Issued in Orlando, Florida May 17, 1995.

Charles E. Blair,

Manager, Orlando Airports District Office.

[FR Doc. 95–16552 Filed 7–5–95; 8:45 am]

BILLING CODE 4910–13–M

Civil Tiltrotor Development Advisory Committee; Infrastructure Subcommittee

Pursuant to Section 10(A) (2) of the Federal Advisory Committee Act Public Law (72–362); 5 U.S.C. (App. I), notice is hereby given of a meeting of the Federal Aviation Administration (FAA) sponsored Civil Tiltrotor Development Advisory Committee (CTRDAC) Infrastructure Subcommittee that will be held on July 17, 1995 at the headquarters of the Helicopter Association International located at 1635 Prince Street, Alexandria, Virginia. This site is within easy walking distance of the King Street Metro Station. The meeting will begin at 10:00 a.m. and conclude by 5:00 p.m.

The agenda for the Infrastructure Subcommittee meeting will include the following:

(1) Review and discussion of the Subcommittee draft report.

(2) Review the Infrastructure Subcommittee work plans/schedule.

Persons who plan to attend the meeting should notify Ms. Karen Braxton on 202–267–9451 by July 11. Attendance is open to the interested public, but limited to space available. With the approval of the Chairperson, members of the public may present oral statements at the meeting.

Members of the public may provide a written statement to the Subcommittee at any time.

Persons with a disability requiring special services, such as an interpreter for the hearing impaired, should contact Ms. Karen Braxton at least seven days prior to the meeting. Issued in Washington, D.C., June 29, 1995.

Eileen R. Verna,

Acting Designated Federal Official, Civil Tiltrotor Development, Advisory Committee.

[FR Doc. 95–16550 Filed 7–5–95; 8:45 am]

BILLING CODE 4910–13–M

Civil Tiltrotor Development Advisory Committee Environment & Safety Subcommittee

Pursuant to Section 10(A) (2) of the Federal Advisory Committee Act Public Law (72–362); 5 U.S.C. (App. I), notice is hereby given of a meeting of the Federal Aviation Administration (FAA) sponsored Civil Tiltrotor Development Advisory Committee (CTRDAC) Environment & Safety Subcommittee will be on July 18, 1995 at the headquarters of the Helicopter Association International located at 1635 Prince Street, Alexandria, Virginia. This site is within easy walking distance of the King Street Metro Station. The meeting will begin at 8:00 a.m. on June 18 and conclude by 5:00 p.m.

The agenda for the Environment & Safety Subcommittee meeting will include the following:

(1) Discussion of draft Subcommittee report on Safety Issues

(2) Discussion of draft Subcommittee report on Environmental Issues

(3) Review Subcommittee Work Plan/ Schedule

All persons who plan to attend the meeting must notify Ms. Karen Braxton at 202–267–9451 by July 12, 1995.

Attendance is open to the interested public, but limited to space available. With the approval of the Chairperson, members of the public may present oral statements at the meeting.

Members of the public may provide a written statement to the Subcommittee at any time.

Persons with a disability requiring special services, such as an interpreter for the hearing impaired, should contact Ms. Braxton at least seven days prior to the meeting.

Issued in Washington, D.C., June 29, 1995.

Eileen R. Verna,

Acting Designated Federal Official, Civil Tiltrotor Development, Advisory Committee.

[FR Doc. 95–16551 Filed 7–5–95; 8:45 am]

BILLING CODE 4910–13–M

Federal Highway Administration

Environmental Impact Statement: Currituck County, NC

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of Intent.

SUMMARY: The Federal Highway Administration is issuing this notice to advise the public that an environmental impact statement will be prepared for a Mid-Currituck Sound bridge in Currituck County, North Carolina.

FOR FURTHER INFORMATION CONTACT: Roy C. Shelton, Operations Engineer, 310 New Bern Avenue, Suite 410, Raleigh, North Carolina 27601, Telephone: (919) 856–4350.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the North Carolina Department of Transportation (NCDOT), will prepare an environmental impact statement (EIS) on a proposal to build a bridge and approach roadway connecting US 158 on the mainland to NC 12 on the Outer Banks, crossing Currituck Sound. The proposed project would include approximately 3.7 kilometers (2.3 miles) of approach road on the mainland and a bridge across the sound of approximately 7.6 kilometers (4.7 miles).

The proposed project is considered necessary to relieve forecast congestion on US 158 and NC 12, to improve access to public services for Outer Bank residents and to improve future emergency evaluation times. Alternatives under consideration include (1) taking no action and (2) building a bridge in one of six corridors made up of differing combinations of three mainland approach corridors and two Outer Bank termini.

The alternatives to be evaluated in the EIS were chosen based on the results of an alternatives study conducted in 1994 and 1995. Nine bridge alternatives and several no-bridge alternatives were studied. The no-bridge alternatives were: improve existing roads, improving public services on the Outer Banks, altering storm evacuation plans and a ferry alternative. The reasonableness of widening existing roads in lieu of building the bridge will be examined further. Improving public services on the Outer Banks and altering storm evacuation plans are options Currituck County could implement if the no action alternative was found to be unreasonable.

In April 1994, a letter describing the proposed action and soliciting comments was sent to appropriate federal, state and local agencies. An interagency scoping meeting was held on May 26, 1994 to introduce the project to federal and state regulatory agencies. Key environmental issues raised during the meeting were (1) the potential for secondary and cumulative impacts, particularly in terms of the potential for the bridge to alter existing development trends in Currituck County, (2) the need to evaluate no bridge alternatives, (3) disturbance of existing communities on the mainland by the approach road and its associated traffic and (4) the sensitivity and importance of Currituck Sound, Maple Swamp and the Outer Banks as natural resources.

During the alternative study, two sets of citizen informational workshops (August 1994 and April 1995) and one additional interagency meeting (November 1994) were held. Prior to selection of the alternatives to be

evaluated in the EIS, the results of the alternatives study were discussed at the second workshop and second interagency meeting.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be directed to the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on federal programs and activities apply to this program.)

Issued on: June 27, 1995.

Roy C. Shelton,

Operations Engineer, Raleigh, North Carolina.

[FR Doc. 95–16486 Filed 7–5–95; 8:45 am]

BILLING CODE 4910–22–M

Federal Railroad Administration

[Waiver Petition Docket Nos. RSOR–94–1, RSOP–94–5, RSAD–94–1, HS–94–3, RESQ–94–7]

Petition for a Waiver Compliance; Public Hearing

The James River Corporation seeks permanent exemption from all requirements associated with title 49 Code of Federal Regulations parts 217 Railroad Operating Rules, 218 Railroad Operating Practices, 219 Control of Alcohol and Drug Use, 228 Hours of Service, and 240 Qualification of Certification Locomotive Engineers. The James River Corporation operates a plant railroad inside their Naheola paper mill, located in Pennington, Alabama, and occasionally operates over the Meridian and Bigbee Railroad (MBRR), which is also owned by James River Corporation. The method of operation on the MBRR is yard limits. The petitioner indicates that granting the exemption will greatly facilitate the movement of cars within the yard limits and is in the public interest and will not adversely affect safety.

The Federal Railroad Administration (FRA) has determined that a public hearing be held in this matter. Accordingly, a public hearing is hereby scheduled for 8 a.m., July 19, 1995, in the Police Court Room at 2415 Sixth Street, Meridian, Mississippi. The hearing will be informal and conducted in accordance with Rule 25 of the FRA rules of practice (Title 49 CFR 211.25), by a representative designated by the FRA. The hearing will be a nonadversarial proceeding in which all interested parties will be given the opportunity to express their view regarding this waiver petition.

Issued in Washington, DC., on June 28, 1995.

James T. Schultz,

Acting Director, Office of Safety Enforcement.

[FR Doc. 95–16493 Filed 7–5–95; 8:45 am]

BILLING CODE 4910–06–M

Research and Special Programs Administration

Office of Hazardous Materials Safety; Delays in Processing of Exemption Applications

AGENCY: Research and Special Program Administration, DOT.

ACTION: List of Applications Delayed more than 180 days.

SUMMARY: In accordance with the requirements of 49 U.S.C. 5117(c), RSPA is publishing the following list of exemption applications that have been in process for 180 days or more. The reason(s) for delay and the expected completion date for action on each application is provided in association with each identified application.

FOR FURTHER INFORMATION CONTACT: J. Suzanne Hedgepeth, Office of Hazardous Materials Exemptions and Approvals, Research and Special Programs Administration, U.S. Department of Transportation, 400 Seventh Street, SW, Washington, DC 20590–0001. (202) 366–4535.

Key to "Reasons for Delay"

1. Awaiting additional information from applicant
2. Extensive Public comment under review
3. Applicant is technically very complex and is of significant impact or precedent-setting and requires extensive analysis
4. Staff review delayed by other priority issues or volume of exemption applications.

Meaning of Application Number Suffixes

N—New application

M—Modification request

PM—Party to application with modification request

Issued in Washington, DC, On June 30, 1995.

J. Suzanne Hedgepeth,

Chief, Exemption Programs, Office of Hazardous Materials Exemptions and Approvals.

NEW EXEMPTION APPLICATIONS

Applications No.	Applicant	Reason for delay	Estimated date of completion
10443–N	Accuracy Systems, Inc., Phoenix, AZ	1	08/15/1995
10581–N	Luxfer UK Limited, Nottingham, England	4	08/01/1995
10592–N	MG Industries, Valley Forge, PA	1, 3, 4	09/25/1995
10606–N	General Oil Equipment Co., Inc., Tonawanda, NY	4	08/15/1995
10664–N	EFIC Corporation, San Jose, CA	1, 3, 4	08/30/1995
10704–N	Liquid Air Corporation, Walnut Creek, CA	1, 4	07/30/1995
10740–N	CSXT/BIDS, Philadelphia, PA	4	08/01/1995
10747–N	Shell Oil Company, Houston, TX	4	07/15/1995
10760–N	Applied Companies, San Fernando, CA	4	09/01/1995
10778–N	Liquid Carbonic Specialty Gas Corporation, Chicago, IL	1, 4	08/15/1995
10829–N	Amoco Pipeline Company, Levelland, TX	4	07/15/1995
10835–N	Shell Oil Company, Houston, TX	4	07/15/1995
10875–N	Morton International, Inc., Ogden, UT	4	08/01/1995
10896–N	Air Products and Chemicals, Inc., Allentown, PA	1	08/10/1995
10915–N	Luxfer USA Limited, Riverside, CA	1, 3, 4	08/30/1995
10945–N	Structural Composites Industries, Pomona, CA	1, 3, 4	08/30/1995
10946–N	Airco Gases of The BOC Group Inc., Murray Hill, NJ	1, 4	08/15/1995
10996–N	AeroTech, Inc. & Industrial Solid Propulsion, Inc., Las Vegas, NV	1, 3	09/01/1995
10997–N	HR Textron, Inc., Pacoima, CA	1, 4	09/15/1995

for the proper performance of our functions.

• Evaluate the accuracy of our estimate of the burden of the proposed collection, including the validity of the methodology and assumptions used.

• Enhance the quality, utility, and clarity of the information to be collected.

• Minimize the reporting burden on those who are to respond, including the use of automated collection techniques or other forms of technology.

Abstract of proposed collection: The export, temporary import, temporary export and brokering of defense articles, defense services and related technical data are licensed by the Directorate of Defense Trade Controls in accordance with the International Traffic in Arms Regulations (22 CFR parts 120–130) and section 38 of the Arms Export Control Act. Those of the public who manufacture or export defense articles, defense services, and related technical data, or the brokering thereof, must register with the Department of State. Persons desiring to engage in export, temporary import, and brokering activities must submit an application or written request to conduct the transaction to the Department to obtain a decision whether it is in the interests of U.S. foreign policy and national security to approve the transaction. Also, registered brokers must submit annual reports regarding all brokering activity that was transacted, and registered manufacturers and exporter must maintain records of defense trade activities for five years.

Methodology: These forms/information collections may be sent to the Directorate of Defense Trade Controls via the following methods: Electronically, mail, personal delivery, and/or fax.

Dated: May 5, 2008.

Frank J. Ruggiero,

Deputy Assistant Secretary for Defense Trade and Regional Security, Bureau of Political-Military Affairs, U.S. Department of State.

[FR Doc. E8–12403 Filed 6–2–08; 8:45 am]

BILLING CODE 4710–25–P

DEPARTMENT OF THE TREASURY

Open Meeting of the President's Advisory Council on Financial Literacy

AGENCY: Office of Financial Education, Treasury.

ACTION: Notice of meeting.

SUMMARY: The President's Advisory Council on Financial Literacy (Council) will convene its third meeting on Wednesday, June 18, 2008, in the Cash Room of the Main Department Building, 1500 Pennsylvania Avenue, NW., Washington, DC, beginning at 10 a.m. Eastern Time. The meeting will be open to the public. Members of the public who plan to attend the meeting must contact the Office of Financial Education at 202–622–1783 or *FinancialLiteracyCouncil@do.treas.gov* by 5 p.m. Eastern Time on Friday, June 13, 2008, to provide the information that is required to facilitate entry into the Main Department Building.

ADDRESSES: The public is invited to submit written statements with the President's Advisory Council on Financial Literacy by any one of the following methods:

Electronic Statements

E-mail: *FinancialLiteracyCouncil@do.treas.gov*; or

Paper Statements

Send paper statements in triplicate to President's Advisory Council on Financial Literacy, Office of Financial Education, Room 1332, Department of the Treasury, 1500 Pennsylvania Avenue, NW., Washington, DC 20220. In general, the Department will post all statements on its Web site (*http://www.treasury.gov/offices/domesticfinance/ financial-institution/fineducation/council/index.shtml*) without change, including any business or personal information provided such as names, addresses, e-mail addresses, or telephone numbers. The Department will make such statements available for public inspection and copying in the Department's library, room 1428, Main Department Building, 1500 Pennsylvania Avenue, NW., Washington, DC 20220, on official business days between the hours of 10 a.m. and 5 p.m. You can make an appointment to inspect statements by telephoning (202) 622–0990. All statements, including attachments and other supporting materials, received are part of the public record and subject to public disclosure. You should submit only information that you wish to make available publicly.

FOR FURTHER INFORMATION CONTACT: Edwin Bodensiek, Director of Outreach, Department of the Treasury, Main Department Building, 1500 Pennsylvania Avenue, NW., Washington, DC 20220, at *ed.bodensiek@do.treas.gov.*

SUPPLEMENTARY INFORMATION: In accordance with section 10(a) of the Federal Advisory Committee Act, 5 U.S.C. App. 2 and the regulations thereunder, Dubis Correal, Designated Federal Officer of the Advisory Council, has ordered publication of this notice that the President's Advisory Council on Financial Literacy will convene its third meeting on Wednesday, June 18, 2008, in the Cash Room in the Main Department Building, 1500 Pennsylvania Avenue, NW., Washington, DC, beginning at 10 a.m. Eastern Time. The meeting will be open to the public.

Because the meeting will be held in a secured facility, members of the public who plan to attend the meeting must contact the Office of Financial Education at 202–622–1783 or *FinancialLiteracyCouncil@do.treas.gov* by 5 p.m. Eastern Time on Friday, June 13, 2008, to provide the information that will be required to facilitate entry into the Main Department Building.

During this meeting, the Council Committees, (Outreach, Research, Underserved, Workplace and Youth), which are subgroups of the President's Council, will be reporting back to the Council on their progress.

Dated: May 28, 2008.

Taiya Smith,

Executive Secretary.

[FR Doc. E8–12372 Filed 6–2–08; 8:45 am]

BILLING CODE 4810–25–P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement: Currituck and Dare Counties, NC

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Rescinding of Notice of Intent and Draft Environmental Impact Statement (DEIS).

SUMMARY: The FHWA is issuing this notice to advise the public that we are rescinding the notice of intent and the public notice to prepare an environmental impact statement (EIS) for a proposed highway project in Currituck and Dare Counties, North Carolina.

FOR FURTHER INFORMATION CONTACT: Mr. George Hoops, P.E., Major Projects Engineer, Federal Highway Administration, 310 Bern Avenue, Suite 410, Raleigh, North Carolina 27601–1418, Telephone: (919) 747–7022.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the North Carolina Department of Transportation (NCDOT) and the North Carolina Turnpike Authority (NCTA), is rescinding the notice of intent to prepare an EIS for a proposed bridge

and approach roadway connecting U.S. 158 on the mainland to NC 12 on the Outer Banks, crossing Currituck Sound. On July 6, 1995, FHWA issued a notice of intent to prepare an environmental impact statement (EIS) for a Mid-Currituck Sound Bridge project in Currituck and Dare Counties, North Carolina. The FHWA, in cooperation with the NCDOT, issued a Draft Environmental Impact Statement (DEIS) on the project in January 1998. FHWA and NCDOT held a public hearing and provided a comment period on the DEIS.

Since the 1998 DEIS, there have been several changes in the project including the expansion of the project study area, modification of the purpose and need statement, and analysis of additional alternatives. During this time period, state legislation and plans, including the North Carolina Intrastate System and the North Carolina Strategic Highway Corridor System, have also been developed or amended to incorporate the proposed project. In 2006, the project was adopted by the North Carolina Turnpike Authority (NCTA) for consideration as a candidate toll project, and the environmental studies for the project are now being completed by NCTA, in coordination with FHWA and NCDOT.

In light of these changes the FHWA is now rescinding the notice of intent and 1998 DEIS. The FHWA, NCDOT, and NCTA plan to prepare a new Draft EIS for the proposed project. A notice of intent to prepare the EIS will be issued subsequent to this rescinding notice. The new Draft EIS will include a toll alternative among the full range of alternatives that will be analyzed. Comments or questions concerning the decision to not prepare Final EIS should be directed to FHWA at the address provided above. To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be directed to the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation of Federal programs and activities apply to this program.)

Dated: May 28, 2008.

George Hoops,

Major Projects Engineer, Raleigh, North Carolina.

[FR Doc. E8–12304 Filed 6–2–08; 8:45 am]

BILLING CODE 4910–22–P

DEPARTMENT OF TRANSPORTATION

Federal Motor Carrier Safety Administration

[FMCSA Docket No. FMCSA–2008–0071]

Qualification of Drivers; Exemption Applications; Diabetes

AGENCY: Federal Motor Carrier Safety Administration (FMCSA), DOT.

ACTION: Notice of final disposition.

SUMMARY: FMCSA announces its decision to exempt twenty-nine individuals from its rule prohibiting persons with insulin-treated diabetes mellitus (ITDM) from operating commercial motor vehicles (CMVs) in interstate commerce. The exemptions will enable these individuals to operate CMVs in interstate commerce.

DATES: The exemptions are effective June 3, 2008. The exemptions expire on June 3, 2010.

FOR FURTHER INFORMATION CONTACT: Dr. Mary D. Gunnels, Director, Medical Programs, (202) 366–4001, *fmcsamedical@dot.gov,* FMCSA, Room W64–224, Department of Transportation, 1200 New Jersey Avenue, SE., Washington, DC 20590–0001. Office hours are from 8:30 a.m. to 5 p.m., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Electronic Access

You may see all the comments online through the Federal Document Management System (FDMS) at: *http://www.regulations.gov.*

Docket: For access to the docket to read background documents or comments, go to *http://www.regulations.gov* and/or Room W12–140 on the ground level of the West Building, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Privacy Act: Anyone may search the electronic form of all comments received into any of DOT's dockets by the name of the individual submitting the comment (or of the person signing the comment, if submitted on behalf of an association, business, labor union, or other entity). You may review DOT's complete Privacy Act Statement in the **Federal Register** (65 FR 19476, Apr. 11, 2000). This statement is also available at *http://Docketinfo.dot.gov.*

Background

On March 31, 2008, FMCSA published a notice of receipt of Federal diabetes exemption applications from twenty-nine individuals, and requested comments from the public (73 FR 16946). The public comment period closed on April 30, 2008 and one comment was received.

FMCSA has evaluated the eligibility of the twenty-nine applicants and determined that granting the exemptions to these individuals would achieve a level of safety equivalent to, or greater than, the level that would be achieved by complying with the current regulation 49 CFR 391.41(b)(3).

Diabetes Mellitus and Driving Experience of the Applicants

The Agency established the current standard for diabetes in 1970 because several risk studies indicated that diabetic drivers had a higher rate of crash involvement than the general population. The diabetes rule provides that ''A person is physically qualified to drive a commercial motor vehicle if that person has no established medical history or clinical diagnosis of diabetes mellitus currently requiring insulin for control'' (49 CFR 391.41(b)(3)).

FMCSA established its diabetes exemption program, based on the Agency's July 2000 study entitled ''A Report to Congress on the Feasibility of a Program to Qualify Individuals with Insulin-Treated Diabetes Mellitus to Operate in Interstate Commerce as Directed by the Transportation Act for the 21st Century.'' The report concluded that a safe and practicable protocol to allow some drivers with ITDM to operate CMVs is feasible. The 2003 Notice (68 FR 52442) in conjunction with the November 8, 2005 (70 FR 67777) **Federal Register** Notice provides the current protocol for allowing such drivers to operate CMVs in interstate commerce.

These twenty-nine applicants have had ITDM over a range of 1 to 35 years. These applicants report no hypoglycemic reaction that resulted in loss of consciousness or seizure, that required the assistance of another person, or resulted in impaired cognitive function without warning symptoms in the past 5 years (with one year of stability following any such episode). In each case, an endocrinologist has verified that the driver has demonstrated willingness to properly monitor and manage their diabetes, received education related to

Docket Number: DOT–OST–2008–0123.

Date Filed: March 28, 2008.

Parties: Members of the International Air Transport Association.

Subject: Mail Vote 560—Flex Fares Package. TC23/123 Europe-Japan. Korea Special Passenger Amending. Resolutions Between Europe and Korea (Rep. of), Korea (Dem. Rep. of), (Memo 0169). Intended effective date: 1 June 2008.

Renee V. Wright,

Program Manager, Docket Operations, Federal Register Liaison.

[FR Doc. E8–13447 Filed 6–13–08; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

Notice of Applications for Certificates of Public Convenience and Necessity and Foreign Air Carrier Permits Filed Under Subpart B (Formerly Subpart Q) During the Week Ending March 28, 2008

The following Applications for Certificates of Public Convenience and Necessity and Foreign Air Carrier Permits were filed under Subpart B (formerly Subpart Q) of the Department of Transportation's Procedural Regulations (See 14 CFR 301.201 *et seq.*). The due date for Answers, Conforming Applications, or Motions to Modify Scope are set forth below for each application. Following the Answer period DOT may process the application by expedited procedures. Such procedures may consist of the adoption of a show-cause order, a tentative order, or in appropriate cases a final order without further proceedings.

Docket Number: DOT–OST–2008–0124.

Date Filed: March 28, 2008.

Due Date for Answers, Conforming Applications, or Motion to Modify Scope: April 18, 2008.

Description: Application of TUI Airlines Belgium N.V. d/b/a Jetairfly requesting an expedited exemption, and a foreign air carrier permit, authorizing foreign scheduled and charter air transportation of persons, property and mail to the full extent permitted under the United States-European Air Transport Agreement; and to engage in such other air transportation as the Department may authorize pursuant to the prior approval of Part 212.

[FR Doc. E8–13448 Filed 6–13–08; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Notice of Approval of the Record of Decision for Proposed Development at the Flying Cloud Airport, Eden Prairie, MN

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of approval of the Record of Decision (ROD).

SUMMARY: The FAA is announcing approval of the Record of Decision on the Final Environmental Impact Statement and Section 303c Evaluation for proposed development at the Flying Cloud Airport (FCM), Eden Prairie, Minnesota.

FOR FURTHER INFORMATION CONTACT: Mr. Glen Orcutt, FAA, Airports District Office, 6020 28th Avenue South, Suite 102, Minneapolis, MN 55450, telephone (612) 713–4354; fax: (612) 713–4364.

SUPPLEMENTARY INFORMATION: The ROD approves the proposed development at Flying Cloud Airport including: extension of the main runway to 5,000 feet and the other parallel runway to 3,900 feet; the construction of a new building area; land acquisition; service roads around the east and west ends of the parallel runways; hangar removal; Federal actions regarding installation of navigational aides, airspace use, and approach and departure procedures associated with the proposed development; and noise mitigation requirements included in the Final Agreement and MOU between the Metropolitan Airports Commission and the City of Eden Prairie.

The ROD indicates the project is consistent with existing environmental policies and objectives as set forth in the National Environmental Policy Act (NEPA) of 1969, as amended, and will not significantly affect the quality of the environment.

In reaching this decision, the FAA has given careful consideration to: (a) The role of FCM in the national air transportation system, (b) aviation safety, (c) preferences of the airport owner, (d) anticipated environmental impact, and (e) the decisions of the Minnesota State Legislature.

Discussions of these factors are documented in the Draft Environmental Impact Statement, the Final Environmental Impact Statement (FEIS) and Section 303c Evaluation, for the project. The notice of availability of the FEIS appeared in the **Federal Register** on June 18, 2004 (Volume 69, Number 117, Pages 34161–34162), and the comment period ran through September 17, 2004. The FAA's determinations on the project are outlined in the ROD, which was approved on May 15, 2008.

Issued in Minneapolis, Minnesota, on May 28, 2008.

Robert A. Huber,

Manager, Minneapolis Airports District Office, FAA, Great Lakes Region.

[FR Doc. E8–13521 Filed 6–13–08; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION [4910–22]

Federal Highway Administration

Environmental Impact Statement: Currituck and Dare Counties, North Carolina

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of Intent (NOI).

SUMMARY: The FHWA is issuing this notice to advise the public that an Environmental Impact Statement (EIS) will be prepared for a proposed project in Currituck and Dare Counties, North Carolina.

FOR FURTHER INFORMATION CONTACT: Mr. George Hoops, P.E., Major Projects Engineer, Federal Highway Administration, 310 New Bern Avenue, Suite 410, Raleigh, North Carolina 27601–1418, Telephone: (919) 747–7022.

SUPPLEMENTARY INFORMATION: Pursuant to Title 23, Code of Federal Regulations, Part 771, Environmental Impact and Related Procedures, the FHWA, in cooperation with the North Carolina Turnpike Authority (NCTA) and the North Carolina Department of Transportation (NCDOT), will prepare an EIS addressing proposed improvements in the Currituck Sound area. The proposed study area includes U.S. 158 from NC 168 to NC 12 (including the Wright Memorial Bridge) and NC 12 north of its intersection with U.S. 158 to its terminus in Currituck County. The proposed action is included in NCDOT's 2007–2013 State Transportation Improvement Program (STIP), as well as NCDOT's Draft 2009–2015 STIP, and the Thoroughfare Plan for Currituck County.

On July 6, 1995, FHWA published a notice of intent to prepare an environmental impact statement (EIS) for a Mid-Currituck Sound Bridge project in Currituck County, North Carolina. The Mid-Currituck Sound Bridge project involved a proposal to build a bridge and approach roadways connecting U.S. 158 on the mainland to

NC 12 on the Outer Banks. The FHWA, in cooperation with the North Carolina Department of Transportation (NCDOT), issued a Draft Environmental Impact Statement (DEIS) on the project in January 1998. FHWA and NCDOT held public hearings and provided a comment period on the DEIS. Since the 1998 DEIS, there have been several changes in the project. These changes led to the decision to rescind the 1995 notice of intent and the 1998 DEIS (**Federal Register** Vol. 73, No. 107, page 31733) and to issue this notice of intent.

Before releasing this notice of intent, FHWA and NCTA began coordinating with Federal and state environmental regulatory and resource agencies and the public in the development of the purpose and need for the proposed action and a conceptual range of alternatives in the project study area. The draft purpose and need for the proposed action includes the following elements: (i) Improving traffic flow on the project area's thoroughfares (NC 12 and U.S. 158), (ii) reducing travel time for persons traveling between Currituck County mainland and Currituck County Outer Banks, and (iii) reducing hurricane clearance times for residents and visitors who use NC 168 and U.S. 158 during a coastal evacuation.

The EIS for the proposed action will consider alternatives that include improving existing roadways (NC 12 and U.S. 158), as well as alternatives that involve building a new Mid-Currituck Sound bridge in combination with improving existing roads. The analysis will also include a range of non-highway improvement alternatives, including no-build, ferry service, expanding transit service, transportation demand management/shifting rental unit start times, and transportation systems management (TSM) alternatives. In addition, NCTA is considering a range of alternatives for the proposed bridge crossing, including (1) Two, three, or four-lane bridges; (2) various interchange configurations for the bridge's connections to the existing roadway network; and (3) a range of potential corridors for the bridge. As part of the EIS, NCTA will also study the feasibility and impacts of developing the proposed project as a tolled facility.

FHWA and NCTA will continue to provide the agencies, local governments, and the public with opportunities for involvement through informational workshops, project newsletters, informational mailings, and other means. Information on the dates, times, and locations of future citizens informational workshops will be posted on the NCTA Web site and will be advertised in the local news media, and newsletters will be mailed to those on the project mailing list. If you wish to be placed on the mailing list, contact Jennifer Harris at the address listed below or by submitting an e-mail to *midcurrituck@ncturnpike.org*. Once completed, the Draft EIS will be available for public and agency review and comment prior to the public hearing.

To ensure the full range of issues related to the proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments and questions concerning the proposed action should be directed to the FHWA at the address provided above or directed to: Ms. Jennifer Harris, P.E., Staff Engineer, North Carolina Turnpike Authority, 5400 Glenwood Avenue, Suite 400, Raleigh, North Carolina 27612, Telephone (919) 571–3000.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Research, Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation of Federal programs and activities apply to this program.)

Issued on: June 10, 2008.

George Hoops,

Major Projects Engineer, Federal Highway Administration, Raleigh, North Carolina.

[FR Doc. E8–13444 Filed 6–13–08; 8:45 am]

BILLING CODE 4910–22–P

DEPARTMENT OF TRANSPORTATION

Maritime Administration

[Docket No. MARAD–2008 0052]

Requested Administrative Waiver of the Coastwise Trade Laws

AGENCY: Maritime Administration, Department of Transportation.

ACTION: Invitation for public comments on a requested administrative waiver of the Coastwise Trade Laws for the vessel CHUT LOON.

SUMMARY: As authorized by Pub. L. 105–383 and Pub. L. 107–295, the Secretary of Transportation, as represented by the Maritime Administration (MARAD), is authorized to grant waivers of the U.S.-build requirement of the coastwise laws under certain circumstances. A request for such a waiver has been received by MARAD. The vessel, and a brief description of the proposed service, is listed below. The complete application is given in DOT docket MARAD–2008–0052 at *http://www.regulations.gov*. Interested parties may comment on the effect this action may have on U.S. vessel builders or businesses in the U.S. that use U.S.-flag vessels. If MARAD determines, in accordance with Pub. L. 105–383 and MARAD's regulations at 46 CFR Part 388 (68 FR 23084; April 30, 2003), that the issuance of the waiver will have an unduly adverse effect on a U.S.-vessel builder or a business that uses U.S.-flag vessels in that business, a waiver will not be granted. Comments should refer to the docket number of this notice and the vessel name in order for MARAD to properly consider the comments. Comments should also state the commenter's interest in the waiver application, and address the waiver criteria given in § 388.4 of MARAD's regulations at 46 CFR Part 388.

DATES: Submit comments on or before July 16, 2008.

ADDRESSES: Comments should refer to docket number MARAD–2008–0052. Written comments may be submitted by hand or by mail to the Docket Clerk, U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590. You may also send comments electronically via the Internet at *http://www.regulations.gov*. All comments will become part of this docket and will be available for inspection and copying at the above address between 10 a.m. and 5 p.m., E.T., Monday through Friday, except federal holidays. An electronic version of this document and all documents entered into this docket is available on the World Wide Web at *http://www.regulations.gov*.

FOR FURTHER INFORMATION CONTACT: Joann Spittle, U.S. Department of Transportation, Maritime Administration, 1200 New Jersey Avenue, SE., Room W21–203, Washington, DC 20590. Telephone 202–366–5979.

SUPPLEMENTARY INFORMATION: As described by the applicant the intended service of the vessel CHUT LOON is:

Intended Use: ''charters.''

Geographic Region: ''San Sebastian River, ICW from Oyster Creek Marina in St. Augustine, Florida.''

Privacy Act

Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register**