



NORTH CAROLINA
Department of Transportation



Mid-Currituck Bridge Project Agency Coordination Meeting

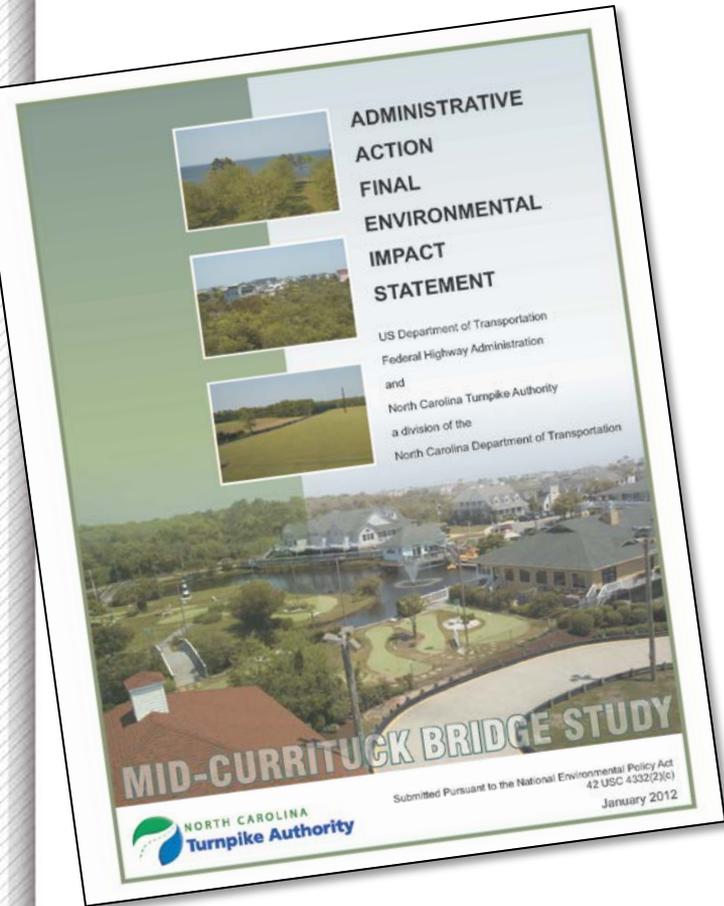
March 14, 2018

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

FEIS

- Released January 2012
- Preferred Alternative Included a Mid-Currituck Bridge
- ROD not released



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

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

FEIS Reevaluation

- Two parts:
 - Reevaluation of Final Environmental Impact Statement
 - Reevaluation of Final Environmental Impact Statement Study Report

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

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

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

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

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

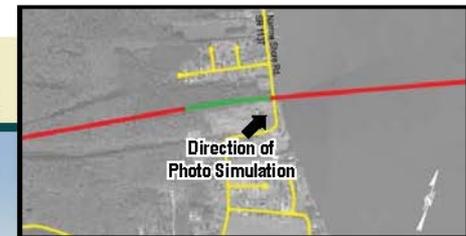
Purpose and Need Remains

- Substantially improve traffic flow
- Substantially reduce travel time
- Substantially reduce hurricane evacuation times from the Outer Banks

Mid-Currituck Bridge Study

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Aydlett Area Photo Simulation



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

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)

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

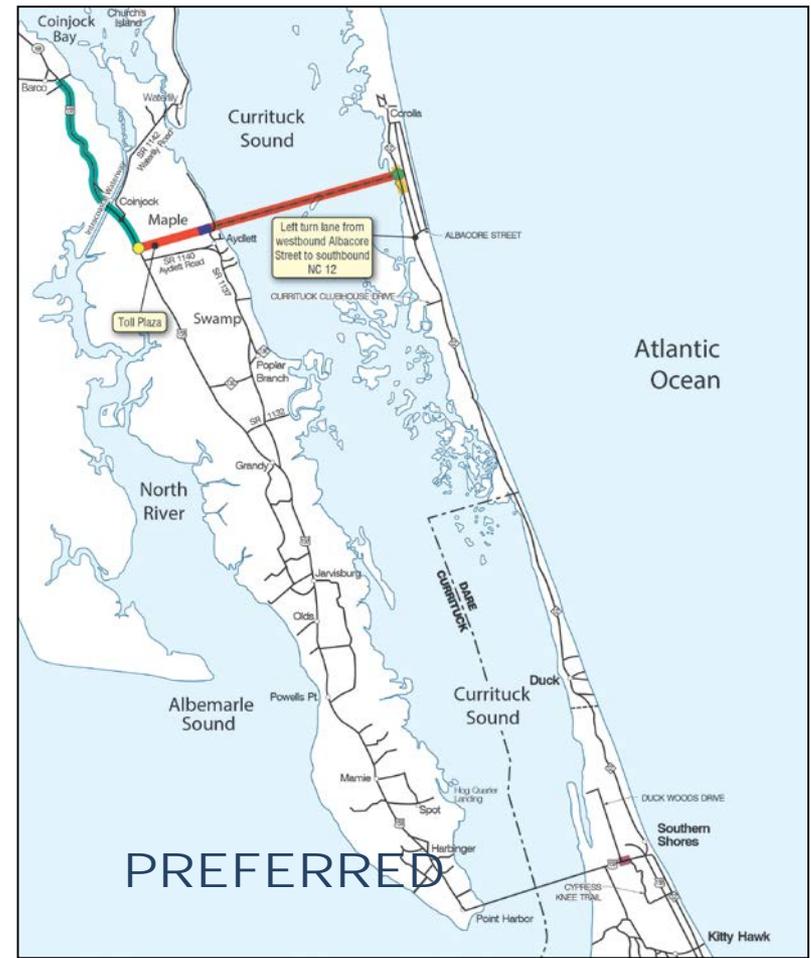
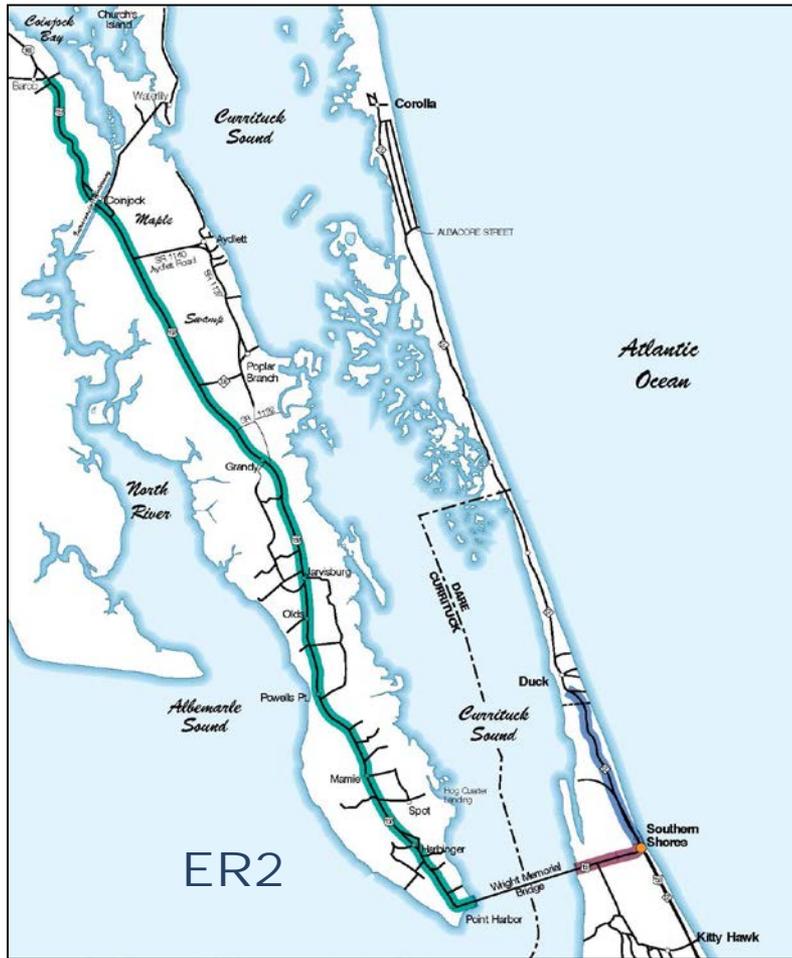
Updated Alternatives Screening

- 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)

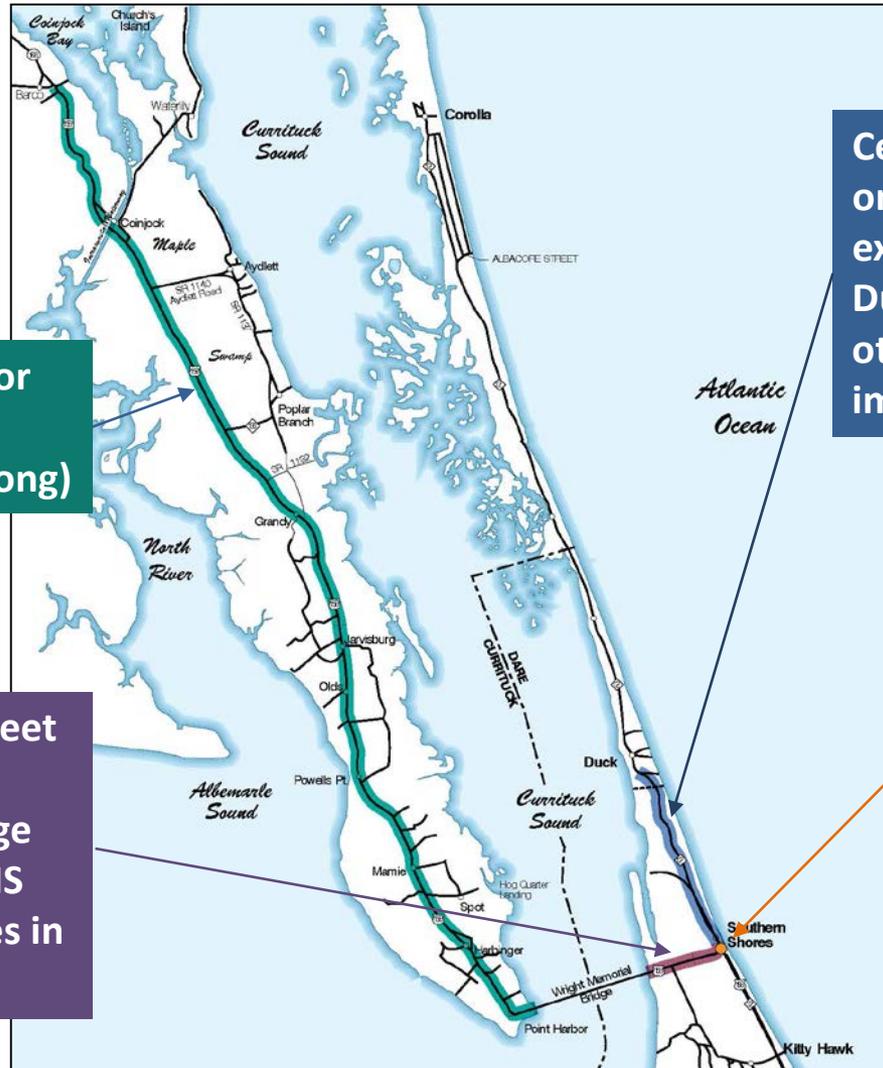
Revised No-Build Alternative

- 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

Reevaluation Detailed Study Alternatives



ER2 Revised Design



Third outbound lane for hurricane evacuation unchanged (27 miles long)

6-lane superstreet from Wright Memorial Bridge to NC 12 (in FEIS included 8 lanes in NC 12 area)

Center turn lane on NC 12 only from US 158 to existing 3-lane section at Duck commercial area; no other NC 12 improvements

Improved NC12/US158 intersection instead of interchange

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.

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)

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

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

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

Natural Resource Specifics

	ER2		Preferred Alternative	
	FEIS	Revaluation	FEIS	Revaluation
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

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

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

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

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

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

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

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

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

Questions