# External Scoping and Section 404/NEPA Merger Project Team Meeting Concurrence Point 1 

July 19, 2018

NC 73 Widening<br>From SR 2693 (Davidson-Concord Road) to US 29 (Concord Parkway) Mecklenburg and Cabarrus Counties, North Carolina - NCDOT Division 10<br>STIP Project No. R-5706<br>WBS No. 46378.1.1

## Purpose of the Meeting

The purpose of today's meeting is to discuss the purpose of and need for the proposed project. Concurrence will be requested.

## Project Description

STIP Project R-5706 proposes widening NC 73 (Davidson-Concord Road/Davidson Highway) from SR 2693 (Davidson-Concord Road) to US 29 (Concord Parkway) to four-lanes. The project is comprised of two segments: R-5706A and R-5706B. R-5706A extends from SR 2693 (Davidson-Concord Road) to SR 1394 (Poplar Tent Road) near the Mecklenburg County - Cabarrus County line. R-5706B extends from SR 1394 (Poplar Tent Road) to US 29 in Cabarrus County. The project will include bicycle and pedestrian accommodations. As currently included in the Charlotte Regional Transportation Planning Organization (CRTPO) 2045 Metropolitan Transportation Plan (MTP) and in the Cabarrus-Rowan Metropolitan Planning Organization 2045 MTP, NC 73 is planned to be widened from two to four lanes with a median, wide outside lanes, and sidewalks. The project vicinity is shown on Figure 1.

## Project Setting and Study Area

NC 73 provides a critical transportation facility for the northern Charlotte region that is currently experiencing significant population and employment growth. I-85 crosses the eastern portion of the corridor, where a diverging diamond interchange at NC 73 was completed in 2015. NC 73 provides a key linkage between I-85 and Davidson-Concord Road during AM and PM peak hours. As one of the main arterials between the City of Concord and the Towns of Huntersville, Cornelius and Davidson, NC 73 also provides access to adjacent residential communities, community resources such as schools and places of worship, commercial/retail establishments, and major employment centers.

The study area is generally centered along NC 73 but is expanded south of Howell Reservoir to encompass alignment alternatives being considered south of the reservoir.

## Project Status and Schedule

The project is listed in 2018-2027 State Transportation Improvement Program (STIP) as Project No. R5706:

- Section A (Davidson-Concord Road to Poplar Tent Road) - Funded
- Section B (Poplar Tent Road to US 29) - Funded

The STIP has allocated $\$ 20,600,000$ for right-of-way acquisition, $\$ 2,600,000$ for utilities, and $\$ 117,800,000$ for construction. Right-of-way acquisition is planned to begin in fiscal year (FY) 2020 and construction is to begin in FY 2022. The project is state-funded and a State Environmental Assessment/Finding of No Significant Impact is being prepared in compliance with North Carolina's State Environmental Policy Act (SEPA).

## Need for Project

The following conditions demonstrate the need for the project.

## Lack of East-West Connectivity

- West of I-85, NC 73 provides the only direct route between the Davidson, Cornelius, Huntersville and western Kannapolis areas and I-85 north of I-485 in the Charlotte region. Other east-west connections are provided through local routes, but these are often indirect and primarily serve local traffic.
- East of I-85, NC 73 is a critical route serving Concord's and Kannapolis' mobility between I-85 and US 29.

Congested Conditions Impede Mobility and are Indicated by Increasing Traffic Volumes, Poor Levels of Service, and Crash Data.

- The current year (2017) annual average daily traffic (AADT) along NC 73 ranges from 12,800 vehicles per day (vpd) to $24,800 \mathrm{vpd}$. In 2040, NC 73 is expected to carry between $22,400 \mathrm{vpd}$ and 46,800 vpd. Population and employment growth will increase travel demand along NC 73, with most sections of the roadway forecasted to increase in traffic volumes by approximately 30 percent in 2040.
- NC 73 is currently congested during peak commuting hours with poor level of service (LOS). The corridor currently operates at LOS E during AM and PM peak hours. Without the proposed improvements, the corridor will continue to operate at LOS E in 2040 during peak hours. With the proposed improvements, the corridor is expected to operate at LOS C during AM peak hour and LOS D during PM peak hour.
- The existing NC 73 corridor currently experiences safety issues likely associated with intersection conflicts and high traffic volumes. The total and non-fatal injury crash rates along NC 73 exceeded the statewide and critical crash rates for the five-year period analyzed (October 2012 to September 2017). The most widely-occurring type of crash along the corridor, including at signalized intersections, was rear-end crashes, which are typically associated with congested conditions.

Intersection crash data is provided in Table 1 and segment crash data comparisons are provided in Table 2.

Table 1. Intersection Crash Data (2012 to 2017)

| Intersection | Crashes | Crashes per <br> 100MVM | Rear End Crash Percentage |
| :---: | :---: | :---: | :---: |
| Davidson-Concord Road | 17 | 46.11 | $53 \%$ |
| Ramah Church Road | 35 | 94.01 | $67 \%$ |
| Bradford Park | 8 | 21.92 | $75 \%$ |
| Poplar Tent Road | 33 | 100.43 | $60 \%$ |


| Crusader Way/Meadow Crossing Drive | 3 | 10.54 | $63 \%$ |
| :---: | :---: | :---: | :---: |
| Wellington Chase Drive /Village <br> Commons Street | 16 | 56.92 | $60 \%$ |
| Odell School Road | 32 | 101.91 | $44 \%$ |
| Crisco/SR 1430/ Kannapolis Parkway | 60 | 200.30 | $19 \%$ |
| Stanley Drive | 12 | 45.03 | $42 \%$ |
| U-Turn | 21 | 57.53 | $35 \%$ |
| Trinity Church Road/SR 1622 | 17 | 38.81 | $75 \%$ |
| I-85 SB Ramps | 25 | 58.98 | $47 \%$ |
| I-85 NB Ramps | 40 | 96.03 | $59 \%$ |
| International Drive/SR 1429/Rhylma | 72 | 186.06 | $35 \%$ |
| Place | 20 | 55.91 | $9 \%$ |
| Branson Road/ Westgate Circle | 5 | 14.42 | $30 \%$ |
| Farrington Drive | 35 | 100.92 | $43 \%$ |
| Winecoff School / SR 1790 | 43 | 147.21 | $4 \%$ |
| Central Drive / SR 1395 | 33 | 200.56 | $60 \%$ |
| US 29 Concord Parkway |  |  |  |

Table 2. Segment Crash Rate Comparison (2012 to 2017)

|  | Crashes | Crashes per <br> 100MVM | Statewide Rate* $^{\text {Critical Rate** }}$ |  |
| :---: | :---: | :---: | :---: | :---: |
| NC 73 between Davidson-Concord Road and US 29 |  |  |  |  |
| Total | 1209 | 332.97 | 241.37 | 258.91 |
| Fatal | 3 | 0.83 | 1.31 | 2.82 |
| Non-Fatal Injury | 415 | 114.29 | 75.62 | 85.54 |

*2013-2015 statewide crash rate for statewide urban 2-lane undivided roads in North Carolina.
${ }^{* *}$ Based on the statewide crash rate ( $95 \%$ level of confidence).
Source: NCDOT Traffic Safety Unit

## Project Purpose

The purpose of the project is to increase mobility between the Davidson, Concord, Huntersville, Kannapolis and Concord areas to $\mathrm{I}-85$, reduce congestion at the intersections, and improve traffic operations along NC 73, with an operational target of LOS D in the 2040 design year. A secondary project purpose is to enhance pedestrian and bicycle mobility.

Figures

1. Project Vicinity Map
2. USGS Quad and Study Area Map
3. Environmental Features and Study Area Map

## Attachments

Project Data Sheet
Traffic Volume Diagrams


## Project Vicinity Map

Widening of NC 73 from Davidson - Concord Road to US 29,
Figure 1 Mecklenburg and Cabarrus Counties



Environmental Features Map
Widening of NC 73 from Davidson-Concord Road to US 29
TIP No: R-5706
WBS \#: 46378.1.1
Mecklenburg and Cabarrus Counties
June 2018


## Environmental Features Map

Widening of NC 73 from Davidson-Concord Road to US 29
TIP No: R-5706
FIGURE 3B


Alternative 1
Alternative 2
Alternative 3
Proposed ROW
A

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$580 \quad 1,160$


Environmental Features Map Widening of NC 73 from Davidson-Concord Road to US 29

TIP No: R-5706
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Mecklenburg and Cabarrus Counties
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Environmental Features Map Widening of NC 73 from Davidson-Concord Road to US 29

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FIGURE 3D



## Environmental Features Map Widening of NC 73 from Davidson-Concord Road to US 29 <br> TIP No: R-5706 <br> WBS \#: 46378.1.1 <br> Mecklenburg and Cabarrus Counties <br> June 2018



## Environmental Features Map

Widening of NC 73 from Davidson-Concord Road to US 29
TIP No: R-5706
WBS \#: 46378.1.1
Mecklenburg and Cabarrus Counties
June 2018

0
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| 0 | 690 | 1,380 |
| :--- | :--- | :--- |
|  | Feet |  |

Streams
Open Water Wetlands

Water Supply Watershed
Study Area
Floodway
Floodplains


## Environmental Features Map

Widening of NC 73 from Davidson-Concord Road to US 29
TIP No: R-5706
WBS \#: 46378.1.1
Mecklenburg and Cabarrus Counties
June 2018


## EXTERNAL SCOPING INFORMATION SHEET

| TIP No.: | R-5706 | Sent Date: | $07 / 13 / 2018$ |
| :--- | :--- | :--- | :--- |
| WBS No.: | 46378.1 .1 | Revision Date: |  |
| Federal Aid No.: | NA | Meeting Date: | $07 / 19 / 2018$ |
| NCDOT Division: | 10 | County: | Mecklenburg/Cabarrus |

## Project Description

STIP Project R-5706 proposes widening NC 73 (Davidson-Concord Road/Davidson Highway) from SR 2693 (Davidson-Concord Road) to US 29 (Concord Parkway) to multilanes. The project will include bicycle and pedestrian accommodations.

## General Project Need

West of I-85, NC 73 provides the only direct route between the Davidson, Cornelius, Huntersville and western Kannapolis areas and I-85 north of I-485 in the Charlotte region. Other east-west connections are provided through local routes, but these are often indirect and primarily serve local traffic. East of I-85, NC 73 is a critical route serving Concord's and Kannapolis' mobility between I-85 and US 29.
The current year (2017) annual average daily traffic (AADT) along NC 73 ranges from 12,800 vehicles per day (vpd) to $24,800 \mathrm{vpd}$. In 2040, NC 73 is expected to carry between 22,400 vpd and 46,800 vpd. Population and employment growth will increase travel demand along NC 73, with most sections of the roadway forecasted to increase in traffic volumes by approximately 30 percent in 2040.
NC 73 is currently congested during peak commuting hours with poor level of service (LOS). The corridor currently operates at LOS E during AM and PM peak hours. Without the proposed improvements, the corridor will continue to operate at LOS E in 2040 during peak hours. With the proposed improvements, the corridor is expected to operate at LOS C during AM peak hour and LOS D during PM peak hour.
The existing NC 73 corridor currently experiences safety issues likely associated with intersection conflicts and high traffic volumes. The total and non-fatal injury crash rates along NC 73 exceeded the statewide and critical crash rates for the five-year period analyzed (October 2012 to September 2017). The most widely-occurring type of crash along the corridor, including at signalized intersections, was rear-end crashes, which are typically associated with congested conditions.
The purpose of the project is to increase mobility between the Davidson, Concord, Huntersville, Kannapolis and Concord areas to l-85, reduce congestion at the intersections, and improve traffic operations along NC 73, with an operational target of LOS D in the 2040 design year. A secondary project purpose is to enhance pedestrian and bicycle mobility.

Metropolitan / Rural Planning Organization Area: Charlotte Regional Transportation Planning Organization (CRTPO)

Cabarrus-Rowan Metropolitan Planning
Organization (CRMPO)
NEPA / 404 Merger Candidate: $\boxtimes$ Yes
Feasibility Study Completed: $\qquad$ Date

Type of Environmental Documents to be Prepared / Project Schedule:

|  | Dates: | Type of Document: |
| :---: | :---: | :---: |
| Environmental Document: | 2019 | Anticipated State EA/FONSI |
| Right of Way: | 2020 |  |
| Let: | 2022 |  |

Air Quality Status: $\square$ Non-attainment $\quad$ Maintenance $\square$ Attainment

## Design Criteria

Length of Project:
Type of Access Control: (Existing / Proposed)

Structure Inventory:

| 11.3 miles (Segment A = 2.4 miles; Segment B = <br> miles) |
| :--- |
| Existing: No access control except I-85 interchange <br> Proposed: Partial Control |
| Rocky River Bridge $\quad$ Coddle Creek Bridge <br> Afton Run Culvert <br> Irish Buffalo Creek Bridge |
| Other Principal Arterial on the Federal Functional <br> Classification System. |
| Not included on the 2015 Strategic Transportation <br> Corridors map. |
| Boulevard Needs Improvement |
| Existing: Mostly 2-lane undivided <br> Proposed: 4-lane divided |

Typical Section in Compliance with Conformity Determination:
$\boxtimes$ Yes $\square$
Right of Way: (Existing / Proposed)

Existing Posted Speed:

Proposed Design Speed:

| Existing: Predominantly 60 feet with some short |
| :--- |
| segments and at some intersections greater than 60 |
| feet. |
| Proposed: Between 102 feet and 114 feet. |
| 55 mph from SR 2693 (Davidson-Concord Road) to |
| 1,900 feet west of SR 1430 (Kannapolis Parkway). |
| 45 mph from 1,900 feet west of SR 1430 |
| (Kannapolis Parkway) to US 29 (Concord Parkway). |
| 50 mph between SR 2693 (Davidson-Concord Road) |
| and I-85. 40-50 mph between I-85 and US 29. |

Traffic Data (AADT)

| Current Year: | 2017 | $12,800-24,800$ |
| ---: | ---: | ---: |
| Design Year: | 2040 | $22,400-46,800$ |


| \% TTST: | $1-3 \%, 1-3 \%$ |
| ---: | :---: |
| \% Dual: | $5-9 \%, 5-9 \%$ |
| \% DHV: | $8-10 \%, 7-10 \%$ |
| Directional Split | $55-65,55-65$ |
|  |  |

Note: For 2017 No Build and 2040 Build Alternative
Source: NCDOT Traffic Estimate for R-5706 - September 27, 2017.

## Railroad Involvement

There are no railroad crossings within the project limits

|  | Construction | ROW and Utilities | Total Cost |
| :--- | :--- | :--- | :--- |
| Cost Estimate | RIP Estimate: | $\$ 117,800,000$ | $\$ 23,200,000$ |

Other STIP Projects in the Area
R-2632AB: NC 73 Widening from NC 115 to Davidson-Concord Road (SR 2693).
B-5136: Bridge replacement on US 29/US 601 over Southern Railroad.
U-6029: Poplar Tent Road Widening from Derita Road to NC 73.

## Long Range Plan History

Project R-5706 is located within the Charlotte Regional Transportation Planning Organization (CRTPO) and Cabarrus-Rowan Metropolitan Planning Organization (CRMPO) areas. The project from Davidson-Concord Road to Poplar Tent Road (Segment A) is listed in the CRTPO 2045 Metropolitan Transportation Plan (MTP) as a widening from 2 to 4 lanes, with median, wide outside lanes and sidewalks for horizon year 2025. The project from Poplar Tent Road to US 29 (Segment B) is listed in the CRMPO 2045 MTP as a widening from 2 to 4 lane, median-divided, with wide outside lanes and sidewalks for horizon year 2025.

## Natural / Human Environment Information

## Natural Environment (from 2017 Natural Resources Technical Report):

- 51 jurisdictional streams were identified and 4 potential streams may exist within the property to which biologists were denied access.
- 75 wetlands were identified.
- 12 open waters are located in the study area: 11 ponds and a portion of Coddle Creek Reservoir.
- No streams are subject to any North Carolina River Basin Buffer Rules.
- No streams are subject to Section 10 of the Rivers and Harbors Act.
- No designated Outstanding Resource Waters (ORW).
- Coddle Creek Reservoir is a High Quality Waters (HQW) and water supply watershed WS-II.
- The following waters are included in the North Carolina 2016 Final 303(d) lists of impaired waters:
- Rocky River for benthos
- Coddle Creek for benthos
- Irish Buffalo Creek for elevated levels of copper
- Neither Cabarrus nor Mecklenburg Counties are designated trout counties.
- Six terrestrial communities were identified within the study area.
- Fourteen species from the NCDOT Invasive Exotic Plant List for North Carolina. Five species are on the Threat list. Seven species are on the Moderate Threat list. Two species are on the Watch List.
- USFWS lists three federally protected species for Cabarrus County, six federally protected species for Mecklenburg County, and one Candidate species proposed for federal protection.
- Schweinitz's sunflower (Cabarrus and Mecklenburg); Biological Conclusion: No Effect.
- Rusty-patched bumble bee (Mecklenburg); Biological Conclusion: No Effect
- Smooth coneflower (Mecklenburg); Biological Conclusion: No Effect
- Michaux's sumac (Mecklenburg); Biological Conclusion: No Effect
- Carolina heelsplitter (Cabarrus and Mecklenburg); Biological Conclusion: No Effect
- Northern long-eared bat (Cabarrus and Mecklenburg); Biological Conclusion: Consistent with 4(D) Rule
- No known Georgia aster occurrences.
- Bald Eagle: One bald eagle was observed however no nests were observed during field survey. Due to the field survey results and minimal impact anticipated for this project, it has been determined that this project is unlikely to adversely affect this species.


## Human Environment (from 2017 Community Characteristics Report):

- One public recreational facility (Bradford Park) adjacent to/accessed from the project corridor that is potential 4(f).
- Several active agricultural operations.
- One transit route (Yellow Route) along NC 73 from Kannapolis Parkway to US 29.
- Several churches in the corridor.
- Notable economic resources:
- Warehousing and distribution along the east end (Concord side) of NC 73.
- Moderate impact on emergency services and reasonable detour routes will need to be made available.
- Traffic challenges associated with NASCAR, NHRA, Carolina Rebellion, and Carolina Renaissance Fair during April, May, September, and October.
- 20 notable community resources.
- Local planning efforts focused on bike/ped facilities and "village" style development.
- Notable presence of minority and low-income populations but anticipated impacts do not appear to be disproportionately high and adverse.
- No disparate impacts are anticipated under Title VI and related statutes.
- Census data does not indicate Limited English Proficient (LEP) but does indicate a Spanish language-speaking population and Asian language-speaking population exceeding 50 persons.
- Node or facility that generates a notable level of vehicular or pedestrian traffic:
- Carolina Renaissance Fair
- NASCAR
- NHRA
- Carolina Rebellion


## Historic and Archaeological Assessment

- Archaeological resource review, conducted by NCDOT archaeologist, determined that a survey would be required (October 9, 2017)
- A map review and site file search was conducted
- Recommendation for a visual inspection of the study area followed by a systematic excavation in areas of moderate to high archaeological probability and know historic resources.
- Cemeteries should be mapped and delineated
- Archeological Survey was conducted in the study area January 29,2018 to February 13, 2018.
- Twelve new sites were identified; All were recommended as 'not eligible' for National Registry of Historic Places (NRHP)
- Two previously recorded and unassessed historic cemeteries were noted. Recommended avoidance of cemeteries; if avoidance is not possible consultation with the State Historic Preservation Officer (HPO) required.
- NCDOT Archaeologist agreed with recommendations.
- No NRHP eligible archaeological sites located in study area
- Draft Historic Structures Report (April 2018)
- Eight previously evaluated properties and three surveyed properties
- The three surveyed properties determined not eligible
- Of the eight previously evaluated properties, two remain eligible: Bradford House/Farm and Jesse and Mary K. Washam Farm


## Project Location Map



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