

## 3. COMMENTS AND COORDINATION



*Section 3 details coordination efforts with the public, as well as federal, state, and local agencies, that have taken place since the Draft EIS was circulated in March 2009. A summary of substantive comments on the Draft EIS and responses to those comments also are included.*

### 3.1 PUBLIC INVOLVEMENT

The continued involvement of the public is an integral part of the planning process for the Monroe Connector/Bypass project. The public involvement program since the Draft EIS was circulated has included Pre-Hearing Open Houses, Public Hearings, and the formation of an aesthetics committee.

#### 3.1.1 AVAILABILITY OF DRAFT EIS FOR REVIEW

A Notice of Availability of the Monroe Connector/Bypass was published in the Federal Register on May 1, 2009 (Federal Register Volume 74, No. 83, page 20297). The Draft EIS was made available for public review beginning March 31, 2009, at local libraries and government offices, as listed in Section 11.4 and Section 11.5 of the Draft EIS. The Draft EIS in its entirety also is available for download at the NCTA Web site: [www.ncturnpike.org/projects/monroe](http://www.ncturnpike.org/projects/monroe).

#### 3.1.2 PRE-HEARING OPEN HOUSES AND PUBLIC HEARINGS

##### 3.1.2.1 Advertisement of Pre-Hearing Open Houses and Public Hearings

The Pre-Hearing Open Houses and Public Hearings held in May 2009 were announced via a postcard to area property owners and residents (20,527 postcards), newspaper advertisements, and website postings.

Public notice was provided by the NCTA and USACE. Advertisements were published in the *Charlotte Observer* on April 23 and 26, 2009 and May 3, 17, and 20, 2009. Advertisements were published in the *Charlotte Post* on April 30, 2009 and May 7, 14, and 21, 2009.

##### 3.1.2.2 Pre-Hearing Open Houses and Local Officials Meeting

Four Pre-Hearing Open Houses and one Local Officials Meeting were held the week of May 18, 2009 to present the Draft EIS and Recommended Alternative. These were presented in an informal open-house format. Attendees were encouraged to sign-in, read a handout, view a slide show and project displays, and to discuss the project one-on-one with project team representatives. There were no formal presentations given at the open houses.

The first Pre-Hearing Open House was held at South Piedmont Community College on May 18, 2009 from 4:00 pm to 8:00 pm. Approximately 233 people attended and 23 written comments were placed in the comment box.

The second Pre-Hearing Open House was held on May 19, 2009 from 4:00 pm to 8:00 pm at the Matthews Community Center. Approximately 97 people attended and 20 written comments were placed in the comment box.

The third Pre-Hearing Open House was held on May 20, 2009 from 1:00 pm to 8:00 pm at the Union County Agricultural Center. There were 81 people in attendance, and seven comments were submitted.

The fourth Pre-Hearing Open House was held on May 21, 2009 from 2:30 pm to 6:30 pm at Cuddy Arena at Wingate University. There were 78 attendees and four comments submitted.

A Local Officials Meeting was held from 1:30 pm to 3:00 pm on May 18, 2009 at South Piedmont Community College. Twenty-six people attended this meeting.



College

### 3.1.2.3 Public Hearings



Two Public Hearings were held in conjunction with the Pre-Hearing Open House series on May 19, 2009 and May 21, 2009. The auditoriums at the Matthews Community Center (in Mecklenburg County) and Wingate University (in Union County) were used for the Public Hearings.

The Public Hearings began with a formal presentation by NCTA followed by a comment period. Citizens were provided the opportunity to sign up in advance to speak at the Pre-Hearing Open Houses, through the project website, via email, or by calling the NCTA. Citizens were also able to sign up to speak

immediately prior to each Public Hearing. Attendees who had not pre-registered to speak were able to do so after the pre-registered speakers. Each speaker was allotted three minutes. Anyone requesting additional time was allowed to return after all others were given an opportunity to speak. There were 19 speakers at the May 19<sup>th</sup> Public Hearing and seven speakers at the May 21<sup>st</sup> Public Hearing.

### 3.1.2.4 Public Comment Period

Comments regarding the project have been accepted throughout the planning process. However, the formal public comment period on the Draft EIS is set based on the date a Draft EIS Notice of Availability is posted in the Federal Register, which for this project was May 1, 2009. SAFETEA-LU mandates that the DEIS comment period not exceed 60 days, unless agreement is reached with lead agencies, the project sponsor, and all participating agencies. The public review period ended June 15, 2009.

As discussed in **Section 3.3**, numerous comments were received from the public, interest groups, and federal, state, and local agencies via letter, comment form, email, petition, or resolution, or verbally during the Public Hearing. Comments received between April 2, 2009 and June 15, 2009 are included in **Appendix B**, along with responses to comments, as needed.

### 3.1.3 AESTHETICS COMMITTEE

The NCTA is committed to constructing roadway projects with aesthetic designs that compliment the communities where the projects are located. As such, an aesthetics committee was created to develop aesthetic design elements that will be incorporated into the Design/Build Contract. Members of the committee consisted of project team staff and local elected officials, MUMPO members, Union County Chamber of Commerce, Regional Roads Committee/Charlotte Chamber of Commerce, and Union County Historical Society, along with NCTA and NCDOT Board members.

The first meeting of the aesthetic committee occurred on July 28, 2009, at the Union West Branch of the Union County Library in Indian Trail. Committee members had the opportunity to review four draft aesthetic design themes and were asked to provide feedback to project staff. Following their review, the regional architecture theme was selected for further development.

Input received at the July 28<sup>th</sup> meeting was incorporated into the aesthetic design theme and presented at the second meeting of the aesthetics design committee on August 25, 2009, at the Union County Chamber of Commerce. Two preferred aesthetic design concepts were created depicting the selected regional architecture theme. Concept “A” (shown in **Figure 3-1**) involves a combination of bricks (or material that provides the appearance of brick) and arches with the potential for a city icon to be placed on the bridge at each city boundary. Concept “A” was chosen by the committee as the preferred aesthetic design concept for the final design guidelines. Concept “B” presented a stone look with names and medallions on the bridge that would vary by location. Both concepts show treatment to various elements such as sound walls, retaining walls, abutments, and night lighting. Additional information regarding the aesthetic committee can be found on the NCTA Web site ([www.ncturnpike.org/pdf/Monroe%20Aesthetic%20summary10.30.09.pdf](http://www.ncturnpike.org/pdf/Monroe%20Aesthetic%20summary10.30.09.pdf)).

## 3.2 AGENCY COORDINATION

### 3.2.1 TEAC MEETINGS

TEAC meetings have been held throughout the duration of this study and will continue throughout the remainder of the project planning process. **Section 1.4.2** of this Final EIS describes the agency coordination that occurred prior to publishing the Draft EIS. **Table 3-1** below provides summaries of the TEAC meetings held for the Monroe Connector/Bypass since the Draft EIS was published.

**TABLE 3-1: TEAC Meeting Summaries**

Meeting Date	Meeting Purpose and Summary
07/21/09	Discussed comments received from the agencies and the public on the Draft EIS and introduced information in order to achieve agreement on the Least Environmentally Damaging Practicable Alternative (LEDPA) and Preferred Alternative.
08/12/09	Reviewed responses to substantive comments received on the Draft EIS relative to selection of the LEDPA and Preferred Alternative and discussed scope of work for the quantitative indirect and cumulative effects analysis.

**TABLE 3-1: TEAC Meeting Summaries**

Meeting Date	Meeting Purpose and Summary
09/08/09	Continued discussion of LEDPA and Preferred Alternative. USACE stated they could concur with DSA D as the Preferred Alternative, expressing preference with DSA D over the other DSAs studied. USFWS agreed with USACE and no objections were raised by NCWRC or NCDENR-DWQ. Agreement was reached that DSA D was likely also the LEDPA, pending review of the results of the land use analysis portion of the indirect and cumulative effects analysis. USEPA stated they could not formally concur with a LEDPA due to outstanding issues with regional air quality conformity.
10/13/09	A presentation was made describing the methodologies and assumptions used in the indirect and cumulative effects analysis, including land use projections and the Generalized Water Loading Function (GWLF) model being used for the quantitative indirect and cumulative effects water quality analysis.
11/10/09	Discussed the preliminary indirect and cumulative effects quantitative analysis, status of water quality modeling, and preparation of the Biological Assessment.
2/16/10	Provided updates on the Quantitative ICE Land Use Study, Quantitative ICE Water Quality Analysis, and the preparation of the Biological Assessment. Discussed avoidance and minimization efforts for the Preferred Alternative.

**3.2.2 SELECTION OF DSA D AS THE LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE**

Based upon Clean Water Act Section 404(b)(1) Guidelines (40 CFR 230.10(a)), the LEDPA is the alternative that is the least damaging to aquatic resources (e.g. wetlands, streams, and other Waters of the United States), so long as the alternative does not have other significant adverse environmental consequences. The regulations define practicable as “available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.”

The evaluation of practicable alternatives must consider the impact to Waters of the US that would result from an alternative before compensatory mitigation is considered, and requires the selection of an alternative that avoids and minimizes impacts to wetlands and other waters of the US. The Section 404(b)(1) Guidelines require that the LEDPA to aquatic resources be chosen by the USACE for permitting purposes.

Based upon impact evaluations, DSA D, the Preferred Alternative, is likely the LEDPA. It is one of the three DSAs with the fewest impacts to jurisdictional resources and the one which provides the best overall balance of impacts when considering both jurisdictional and non-jurisdictional resources. No single DSA exhibits the lowest amount of impact in every category analyzed. From a natural environment standpoint, DSA D is in the middle range of wetland impacts (approximately 8 acres), it exhibits the least impact to perennial streams (approximately 9,700 feet), and has lower impacts to intermittent streams (approximately 11,900 feet). Overall, DSA D would result in less total impacts to higher quality streams, has the least total stream crossings and fewer crossings of 303(d) listed streams.

Selection of the LEDPA and Preferred Alternative was discussed at TEAC meetings on July 21, August 12, and September 8, 2009. At the September 8, 2009 meeting, the USACE stated they agreed with DSA D as the Preferred Alternative, but needed data from the indirect and cumulative effects quantitative analysis to identify the LEDPA. The USFWS stated agreement

with the USACE. The NCWRC and NCDENR-DWQ did not raise any objections to the selection of DSA D as either the Preferred Alternative or LEDPA. The USEPA stated that they preferred DSA D as compared to the other DSAs, but they could not agree with its selection as the LEDPA due to outstanding issues regarding regional air quality conformity, which has since been resolved.

USACE will identify the LEDPA during the permitting process.

**3.2.3 COORDINATION WITH MUMPO**

NCTA presented regular project updates at the bi-monthly meetings of the MUMPO and at the monthly meetings of the MUMPO TCC. **Table 3-2** and **Table 3-3** summarize the MUMPO meetings held for the Monroe Connector/Bypass since the Draft EIS was published. Meeting minutes for these meetings can be found on the MUMPO Web site: [www.mumpo.org](http://www.mumpo.org).

**TABLE 3-2: MUMPO Meeting Summaries**

Meeting Date	Meeting Purpose and Summary
07/15/09	NCTA provided an update on the project’s status, focusing on the successful outreach effort in June to obtain public input on the Draft EIS.
09/16/09	A presentation was made to MUMPO describing the NEPA process and relevant legislation regarding the identification of the LEDPA. Reasons why NCTA recommended DSA D as the Preferred Alternative were also presented.
11/18/09	Informed MUMPO that NCTA is issuing a press release announcing DSA D as the Preferred Alternative. Final EIS is in preparation. A group has been assembled to address project aesthetics. Preparation of a Request for Qualifications package for design-build contracts has begun.
01/20/10	NCTA provided a brief overview of the project history for the recently elected MUMPO members. The tolling concept along US 74 from I-485 to Stallings Road was explained and the overall project schedule was reviewed. In response to a question regarding when the right-of-way acquisition process would begin, NCTA responded that no negotiations would begin until money was available and environmental permits were received.
03/24/10	Provided an update on the preparation of the Final EIS, current investigative field work, traffic and revenue studies and activities associated with the procurement of the design/build team.

**TABLE 3-3: MUMPO Technical Coordinating Committee Meeting Summaries**

Meeting Date	Meeting Purpose and Summary
06/04/09	NCTA reported on participation at the elected officials meeting, open houses and public hearings held during the week of May 18, 2009. Impacts from the Recommended Alternative (DSA D) on the towns of Indian Trail and Stallings were discussed. A representative from Indian Trail discussed reasons why the town supports DSA B. A representative from Stallings discussed the town’s support of DSA D and ways to mitigate impacts.
07/09/09	NCTA announced upcoming meetings with environmental resource and regulatory agencies to identify the Preferred Alternative and the LEDPA. The beginning of the design-build procurement process and service road study were also announced.
08/06/09	NCTA provided a summary of comments received on the Draft EIS during the public comment period and stated that work had begun on the Final EIS.

**TABLE 3-3: MUMPO Technical Coordinating Committee Meeting Summaries**

Meeting Date	Meeting Purpose and Summary
09/03/09	NCTA explained the process that resulted in the selection of DSA D as the Recommended Alternative. Sixteen votes were cast in favor of a motion to support Alternative D and three votes were cast in opposition (Indian Trail, Stallings, and Wesley Chapel).
10/01/09	NCTA announced plans to proceed with DSA D as the Preferred Alternative and preparation of the Final EIS to document the selection of the Preferred Alternative and its impacts. Staff discussed plans to assemble the design-build request for qualifications (RFQ) package to be advertised in early 2010. NCTA has been working with a committee of local stakeholders to develop aesthetic treatment guidelines for the project.
11/12/09	Informed MUMPO TCC that NCTA is issuing a press release announcing DSA D as the Preferred Alternative. Final EIS is in preparation. A group has been assembled to address project aesthetics. Preparation of a Request for Qualifications package for design-build contracts has begun.
12/03/09	Updated MUMPO TCC regarding status of the preparation of the Final EIS, indirect and cumulative effects quantitative analysis, Aesthetic Treatment Guidelines, RFQ for design-build procurement, signing plans, and property access issues along US 74 between Stallings Road and I-485.
01/07/10	Updated MUMPO TCC on the status of the preparation of the Final EIS, noting review of early drafts of the document. Also provided updates on the Aesthetic Treatment Guidelines, RFQ for design-build procurement, signing plans, and property access issues along US 74 between Stallings Road and I-485.
02/04/10	Updated MUMPO TCC on the status of the preparation of the Final EIS, RFQ for design-build procurement, and clarification of final project name. An update was also presented regarding the coordination between NCTA and the Towns of Matthews and Stallings on the proposed extension of McKee Road. Addressed rumors regarding project delays due to project funding issues.
03/11/10	Informed MUMPO TCC that the draft Final EIS was in Atlanta for a legal sufficiency review. Updated the status of the Aesthetic Treatment Guidelines and requested input from local municipalities on the development of bicycle and pedestrian accommodations as part of the final design of the project. Also announced the upcoming design/build workshop to be held at Wingate University.
04/01/10	Updated MUMPO TCC on the status of the FHWA review of the Final EIS, RFQ for design-build procurement, Aesthetic Treatment Guide and again requested input on the development of bicycle and pedestrian accommodations as part of the final design of the project.

### 3.3 SUBSTANTIVE COMMENTS ON THE DRAFT EIS AND RESPONSES

This section discusses substantive comments on the Draft EIS as well as other comments relative to the selection of the Preferred Alternative. Comments received from state and federal agencies, local governments, and the public were reviewed to identify common questions and comments on major items of the Draft EIS. These comments were divided into five generalized categories: 1) purpose and need; 2) alternatives considered; 3) air quality; 4) indirect and cumulative effects; and 5) protected species. Responses to these generalized comments are provided below.

All comments received from state and federal agencies, local governments, and the public (including interest groups and organizations) during the comment period for the Draft EIS, along with individual responses, are included in **Appendix B**.

### 3.3.1 RESPONSES TO GENERALIZED COMMENTS ON PURPOSE AND NEED

**Comment 1:** *The use of “high speed” as part of the statement may narrow the purpose and need and bias the alternatives in favor of those on new location.*

**Response:** The term “high speed” in relation to this project is supported by numerous local and state plans, including the MUMPO 2030 LRTP (recently updated to 2035), the NC Intrastate System (NC General Statutes 136-178), and the NCDOT SHC initiative; as described in detail in Section 1 of the Draft EIS.

As discussed in Section 1.5.1 of the Draft EIS, the SHC *Vision Plan* for US 74 identifies a freeway (which by definition is high speed) as the minimum preferred type of roadway for the corridor. NCDOT, NC Department of Commerce, and NCDENR collaborated in developing the SHC concepts and selecting the SHCs. In developing the SHC concepts, NCDOT also held nine regional forums to solicit public input.

Section 6002 of SAFETEA-LU supports the use of federal, state, and local plans in developing a project’s purpose and need. This is stated in 23 USC Section 139 (f) (3):

The statement of purpose and need shall include a clear statement of the objectives that the proposed action is intended to achieve, which may include –

- (A) achieving a transportation objective identified in an applicable statewide or metropolitan transportation plan;
- (B) supporting land use, economic development, or growth objectives established in applicable Federal, State, local, or tribal plans; and
- (C) serving national defense, national security, or other national objectives, as established in Federal laws, plans, or policies.

In considering a project purpose, an agency should define as sharply as possible the fundamental reasons why the project is being proposed (AASHTO Practitioners Handbook, “Determining the Purpose and Need and Determining the Range of Alternatives for Transportation Projects”). This means that the project purpose should be neither unduly narrow, collapsing alternatives to just one possibility, nor unduly broad, where an infinite number of alternatives would accomplish the purpose. The criteria used in the Qualitative First Screening of alternative concepts were developed based on the project’s purpose and need, as discussed in Section 2.2.1 of the Draft EIS.

The term “high speed” on its own, as used in the Monroe Connector/Bypass Draft EIS, including as part of the screening criteria, does not unduly narrow alternatives nor preordain any one particular alternative. As discussed at the March 22, 2007 TEAC meeting, the term “high speed” is defined as 50 miles per hour (mph). This travel speed might be achieved by several different types of facilities on any number of new location alignments or along existing roadways, for example; controlled-access freeways, Superstreets, or even public transportation on dedicated right of way. Other factors (e.g., travel demand, travel patterns, land use, design constraints, other purpose and need elements) would determine whether any of these options would be viable for a particular corridor or situation.

Environmental resource and regulatory agencies and the public had the opportunity to provide input early in the development of the Purpose and Need Statement. In accordance with Section 6002 of SAFETEA-LU, cooperating agencies, participating agencies, and the public were provided opportunities to participate in the development of the purpose and need for the project. Based on comments received, the Purpose and Need Statement was revised as appropriate and

several versions of the document were progressively presented for agency review and comment during the TEAC meetings. The Purpose and Need Statement for the project was discussed at TEAC meetings held in 2007 on January 4, January 25, February 14, March 22, August 15, and September 27. The public provided input at workshops held June 25, and 26, 2007. The majority of public comments supported the project purpose as presented at the workshops.

During earlier TEAC meetings noted above, concerns regarding the use of “high speed” in the Purpose and Need were discussed. At the last meeting where purpose and need was discussed (September 27, 2007), only two sets of comments were received. Most comments were editorial, with the exception of two issues: 1) provide the basis for the statement that Union County is the fastest growing county in North Carolina, and 2) explain why the existing crash data was not compared to the rate for North Carolina. In response to the first issue, the Purpose and Need Statement was revised to clarify the growth of Union County. In response to the second issue, it was explained that safety is not identified as a purpose or need for the project. The crash data is included in the existing conditions section of the Purpose and Need Statement as evidence in support of the level of congestion in the area.

Since no other written comments were received after the September 27, 2007 TEAC meeting, the NCTA concluded that all comments, issues, and concerns regarding the purpose and need had been addressed through the coordination process, in accordance with the Section 6002 Coordination Plan, and the discussions regarding purpose and need were assumed to be complete.

### 3.3.2 RESPONSES TO GENERALIZED COMMENTS ON RANGE OF ALTERNATIVES

***Comment 1:*** *The State-mandated condition of a parallel “free route” severely limits the potential range of reasonable and feasible alternatives under NEPA.*

***Response:*** The NCTA must follow the laws and regulations of the State of North Carolina. State law prohibits tolling of existing roadways and requires a free alternative route (NCGS 136-89.197). This requirement does not severely limit the range of reasonable and feasible alternatives considered, but it would influence the design of toll alternatives. For toll alternatives, the Draft EIS, and supporting technical memoranda, developed feasible/constructible designs for both new location alignments and for improving existing US 74 to a freeway.

When considering designs for upgrading existing US 74 to a freeway, there is a need to maintain access to adjacent properties whether the upgrade is a toll facility or a non-toll facility, resulting in service roads along with controlled-access route in either case. In the case of the toll facility option, the service road would also serve as the parallel free facility. The need to maintain access to properties along existing US 74 is discussed in Section 1 of the Draft EIS. Existing US 74 is an important commercial corridor for Union County, with many retail, commercial, and employment centers having direct access to/from existing US 74.

Other alternatives evaluated included non-toll alternatives such as upgrade existing US 74 by widening, upgrade existing US 74 to a Superstreet design, TSM Alternatives, and TDM Alternatives. Mass Transit/Multi-Modal Alternatives (the mass transit component likely would include user fees) also were considered. These were eliminated from detailed study for reasons unrelated to the State law requiring free alternate routes for toll roads.

***Comment 2:*** *The Draft EIS did not objectively analyze a full range of alternatives, including the combinations of Transportation System Management (TSM) measures, Transportation Demand Management (TDM) alternatives, and Mass Transit/Multi-Modal Alternatives.*

**Response:** As described in Section 2 of the Draft EIS, and in more detail in the *Alternatives Development and Analysis Report* (PBS&J, April 2008), the NCTA employed an objective multi-step screening process in the development of the DSAs for the project. This process was developed with input from environmental resource and regulatory agencies and opportunities for public review and comment.

The FHWA recommends that the basic alternative concepts listed below should be considered “when determining reasonable alternatives” (FHWA Technical Advisory T6640.8A, 1987):

- No-Build or No-Action Alternative
- Transportation Demand Management Alternatives  
*The TDM Alternative includes measures and activities that change traveler behavior.*
- Transportation System Management Alternatives  
*The TSM Alternative includes those activities which maximize the efficiency of the present transportation system.*
- Mass Transit/Multi-Modal Alternatives
- Build Alternatives  
*Build Alternatives include both Improve Existing Roadways and New Location Alternatives.*

For the Monroe Connector/Bypass project, additional hybrid concepts were considered, consisting of constructing part of the corridor on new location roadway and improving existing roadways for the remaining part.

Screening was conducted in three steps: Qualitative First Screening, Qualitative Second Screening, and Quantitative Third Screening. The TSM measures, TDM alternatives, and Mass Transit/Multi-Modal Alternatives were eliminated in the Qualitative First Screening, which is discussed below.

The Qualitative First Screening evaluated all the alternative concepts listed in the bullets above, and identified which could be developed to meet the project purpose and need. The following screening criteria, which were based on the purpose and need, were applied (Section 2.2.1 of the Draft EIS):

- Does the alternative address the need to enhance mobility and increase capacity in the US 74 corridor?
- Is the alternative consistent with the NC Strategic Highway Corridor program and NC Intrastate System (i.e., does it allow for high-speed regional travel)?
- Does the alternative maintain access to properties along existing US 74?

The *Alternatives Development and Analysis Report* (PBS&J, April 2008) provides background on these primary criteria. Additional criteria considered included consistency with the Strategic Highway Corridor program vision for the US 74 corridor as a freeway facility and consistency with the NC Intrastate System.

Mobility and capacity criteria were described in terms of congestion and delays in the existing US 74 corridor. High speed regional travel is an objective for the US 74 corridor included in the NC Strategic Highway Corridor Program and the NC Intrastate System. High speed was considered to be 50 mph or greater, and average travel speed was the factor used to consider this criterion. Travel speed is discussed in more detail in Section 1.1.2.1 of the *Alternatives Development and Analysis Report* (PBS&J, April 2008). To provide context for identifying

50 mph or greater as high speed, Table 1-1 from the Alternatives Report (reproduced below as Table 3-4) lists desirable average travel speeds for a variety of roadway types.

Maintaining access to properties along existing US 74 was included because numerous industries, offices, retail businesses, and institutions are located along the corridor, many of which have US 74 as their only access. US 74 is a critical commercial corridor for the economic vitality of Union County. In 2004, Union County’s tax base was composed of approximately 80 percent residential and 20 percent business. For every dollar Union County received from residential development, the County provides an average of \$1.31 in services. Commercial and industrial developments add to the tax base.

**TABLE 3-4: Desirable Average Travel Speeds During Peak Traffic Conditions**

Street Classification	Suburban Areas (mph)	Intermediate Areas (mph)	Central Business Areas (mph)
Primary Freeway	50-60	50-55	45-55
Urban Freeway	45-55	45-55	45-50
Parkway	40-45	40	35
Expressway	45	35-45	30-35
Major Arterials	35-45	30-40	20-30

Source: NCDOT Policy on Desirable Levels of Service for State Highway System Streets and Highways in Urban Areas, October 29, 1997.

TSM measures, TDM alternatives, and Mass Transit/Multi-Modal alternatives were eliminated in the Qualitative First Screening because they would not meet one or more of the criteria used in the Qualitative First Screening. See Comment 4 below for additional information regarding these alternatives.

**Comment 3:** *The Draft EIS gives little justification for how it defines the scope of the TSM, TDM, and Mass Transit/Multi-Modal Alternatives. The Draft EIS ignores the possibility of combining these strategies.*

**Response:** *The Alternatives Development and Analysis Report provides more detail on the TSM, TDM, and Mass Transit/Multi-Modal Alternatives.*

Additional information is available that was not included in the Draft EIS or *Alternatives Development and Analysis Report* (PBS&J, April 2008). During the comment period for the Draft EIS, it was brought to the attention of NCTA that NCDOT Division 10 conducted a study of the existing US 74 corridor titled, *US 74 Corridor Study* (July 2007). Study goals were “to identify and develop improvements that, where possible, would provide a LOS [level of service] of D or better at each signalized intersection for projected 2015 traffic volumes. Because of development along the study corridor and agency budgetary constraints, LOS goals were not attainable at all locations. Where LOS goals could not be attained, reasonable improvements were recommended within the study constraints.” The information from this study, including a description of the improvements studied and the results have been added to the discussions of an additional scenario for the TSM Alternative as discussed below.

Below is a summary of the Qualitative First Screening for the TDM, TSM, and Mass Transit/Multi-Modal Alternatives combining information from the Draft EIS, the *Alternatives Development and Analysis Report*, and the *US 74 Corridor Study* (July 2007). The new information does not change the decision to eliminate these alternatives from detailed study.

### **TDM Alternatives**

TDM Alternative concepts include measures and activities that change traveler behavior. Typically, they do not involve major capital improvements. The TDM Alternative would include demand management strategies currently implemented in Mecklenburg and Union Counties, such as staggered work hours and flex-time (employer focused) and ridesharing. Ridesharing, such as carpools and vanpools, is generally viewed as more convenient than bus transit with regard to access, door-to-door travel times, and comfort. However, the ability of these voluntary programs to reduce traffic volumes on particular roadways is minimal.

Presently, the Charlotte Area Transit System (CATS) promotes ridesharing to employment destinations in the Charlotte area by providing a car rideshare matching service and a vanpool program. The CATS vanpool program currently has 78 vanpools (Charlotte-Mecklenburg website: [www.charmeck.org/Departments/CATS/Commute+Options/Vanpool+List.htm](http://www.charmeck.org/Departments/CATS/Commute+Options/Vanpool+List.htm)). Two of these vanpools originate in Union County - one in Indian Trail and one in Waxhaw. CATS also promotes employer programs for managing travel demand. There are 57 companies currently participating in CATS Employee Transportation Coordinator (ETC) Program (Charlotte-Mecklenburg website: [www.charmeck.org/Departments/CATS/Transit+Programs/Home.htm](http://www.charmeck.org/Departments/CATS/Transit+Programs/Home.htm)).

The TDM Alternative was eliminated from further study because it did not meet the project's purpose and need. TDM measures would provide increased transportation choices in the area, however, only a small percentage of travelers would take advantage of these options. TDM measures would not provide for high-speed regional travel, enhanced mobility, nor increased capacity for the majority of travelers in the US 74 corridor. The following points were considered in this determination:

- The TDM Alternative would result in only a nominal increase in capacity and incremental enhancement of mobility for the small percentage of travelers that would use these opportunities. Staggered work hours, flex-time, or modified work weeks can be implemented on a corridor level by large employers along the corridor who experience congestion at their entrances and exits. Although the US 74 corridor does contain some large businesses, it is not expected that such adjustments to work schedules would significantly reduce peak hour traffic volumes within the project study area.

Historically, vehicle occupancy in the Charlotte area has remained at approximately 1.2 persons per vehicle. A much higher participation rate, beyond that which can reasonably be expected, would be required for ridesharing, vanpooling, staggered work hours, and other transportation demand measures to provide a noticeable improvement in traffic conditions in the US 74 corridor.

- The TDM Alternative concept would not provide high-speed regional travel. Travelers who take advantage of TDM measures would still travel along existing US 74. Existing US 74 is not serving high-speed travel now, and increasing traffic volumes in the area will not allow US 74 to serve high-speed regional travel in the future.
- The TDM Alternative concept would maintain access to properties along existing US 74 since that access currently exists and the TDM Alternative would not involve any capital improvements to the corridor.

It should also be noted that the TDM Alternative concept would not be consistent with the vision for the US 74 corridor defined in the NC SHC program since this alternative concept would not create a freeway facility in the US 74 corridor. The TDM Alternative concept would not be consistent with the NC Intrastate System. The current facility does not accommodate high-

speed travel, and this alternative concept would not involve capital improvements to the corridor that would achieve high-speed travel.

### **TSM Alternatives**

Two TSM Alternative concepts are discussed below. Concept 1 is the concept included in the Draft EIS. Concept 2 is based on the recommendations included in the *US 74 Corridor Study* (July 2007).

*TSM Alternative Concept 1.* This TSM concept was included in the *Alternatives Development and Analysis Report* (PBS&J, April 2008) and in Section 2 of the Draft EIS. This TSM Alternative concept considered minor operational and physical improvements to increase capacity along existing US 74 consisting of traffic signal timing optimization, access control measures (e.g. driveway consolidation, closing median breaks), and intersection improvements such as adding intersection turn lanes and extending turn lanes to accommodate longer queues. This alternative concept could also include converting existing lanes on US 74 to high occupancy vehicle (HOV) lanes.

According to the *Highway Capacity Manual 2000*, the functional design for a high-speed facility would limit signal spacing to between 0.5 and 2.0 miles. This spacing is required in order to limit traffic disruptions and, depending on traffic volumes, maintain a speed of 45 to 55 mph (*Highway Capacity Manual 2000, Table 10-4*). The existence of too many intersections per mile also increases delay and congestion by disrupting the traffic flow through the area. Traffic signals along US 74 between I-485 and Fowler Secrest Road (SR 1754) are spaced 0.7 to 1.3 miles apart. However, from Fowler Secrest Road (SR 1754) to the US 74 / US 601 South split, the traffic signals are spaced about 0.25 to 0.5 miles apart.

Coordinated traffic signals could result in some improvement in traffic flow, particularly where the traffic signals are more closely spaced. However, there would continue to be delays experienced at the intersections and slowed traffic due to motorists turning into and out of driveways and at median breaks and due to the presence of tractor-trailer trucks. Closing median breaks and some driveways would not be effective since limiting turning movements between signalized intersections would increase the turning movement volumes at signalized intersections.

In general, TSM improvements are low-cost measures that can be effective in solving localized or site-specific capacity, safety, and operational problems in urban areas. TSM improvements for individual intersections, interchange ramps, or other similar types of improvements could result in a minor improvement in mobility due to increased intersection capacities at the specific locations of the improvements. However, the effectiveness of these TSM improvements likely would be overwhelmed by widespread existing traffic congestion, as well as the substantial increase in traffic volumes expected by 2035. In addition, the TSM Alternative concept would not provide for high-speed regional travel, although access to properties along existing US 74 would be maintained. Therefore, this alternative was eliminated from further consideration. The following points were considered in this determination:

- The TSM Alternative Concept 1 could have minor improvements to mobility and capacity due to increased intersection capacity resulting from improved traffic progression with coordinated signals. However, the amount of traffic projected for 2035 along US 74 would overwhelm the effectiveness of minor TSM improvements and congestion would continue to be present along US 74.
- The TSM Alternative Concept 1 would not serve high-speed regional travel. Coordinated signals might provide minor improvement in traffic flow in the area between I-485 and

Monroe, but the continued presence of these signals, along with the numerous driveways and unsignalized intersections, would not result in a high-speed facility.

- The TSM Alternative would maintain access to properties along existing US 74.

It should also be noted that the TSM Alternative Concept 1 would not be consistent with the vision for the US 74 corridor defined in the NC SHC program since this alternative concept would not create a freeway facility in the US 74 corridor. The TSM Alternative Concept 1 would not be consistent with the NC Intrastate System as it would not provide high-speed regional travel.

*TSM Alternative Concept 2.* This TSM concept is based on the recommendations included in the *US 74 Corridor Study* (July 2007). Concept 2 includes more improvements than Concept 1 as discussed below.

The *US 74 Corridor Study* (July 2007) evaluated the US 74 corridor from I-485 to US 601 South. The study analyzed projected conditions in 2015 and recommended a series of improvements to provide, where possible, a LOS D or better at each signalized intersection for projected 2015 volumes.

Improvements included in Concept 2 are those labeled Long Term Improvements in the *US 74 Corridor Study* (July 2007). By long term improvements, the authors of that study meant improvements to be implemented by 2015. The improvements include closing of median openings, converting US 74 to a Superstreet from Stallings Road (SR 1365) to Unionville-Indian Trail Road (SR 1367), a distance of about 2.7 miles, and a series of intersection improvements. These improvements are listed in **Table 3-5**.

**TABLE 3-5: TSM Alternative – Concept 2**

US 74 Segment or Intersection	Improvements
Stallings Road to Unionville-Indian Trail Road	Convert to a Superstreet (approximately 2.7 miles)
Faith Church Road	Optimize signal timing
Wesley Chapel-Stouts Road/Sardis Church Road	Dual lefts in northbound approach Left, thru, right in southbound approach Add right turn lane on eastbound US 74 Change to 8-phase signal Optimize signal timing
Chamber Drive	Provide right turn lane in southbound direction Optimize signal timing
Rocky River Road	Provide left lane in southbound approach Provide left turn lane in northbound approach Change to 8-phase signal
Fowler-Secret Road	Optimize signal timing
Poplin Place (Target Shopping Center)	
Rolling Hills Drive	
Roland Drive	Add thru lane eastbound and westbound on US 74 Optimize signal timing
Williams Road	Add thru lane eastbound and westbound on US 74 Change to 8-phase signal Optimize signal timing
Hanover Drive	Add thru lane eastbound and westbound on US 74 Increase westbound left length Change westbound right turn to a thru/right shared lane

**TABLE 3-5: TSM Alternative – Concept 2**

US 74 Segment or Intersection	Improvements
	Change to 8-phase signal
Dickerson Boulevard	Optimize signal timing
Secrest Shortcut Road	Lengthen southbound left turn to 300 ft Optimize signal timing
Stafford Street	Change to 8-phase signal Optimize signal timing
Boyte Street	Optimize signal timing
Morgan Mill Road	Length southbound left and right turn lanes to 200 ft Optimize signal timing
Walkup Avenue	Lengthen westbound left to 300 ft Provide dual left turn lane in eastbound approach Lengthen southbound left and right turn lanes to 200 ft Optimize signal timing
Sutherland Avenue	Optimize signal timing
Venus Steet/Dove Street	
Franklin Street	
US 601 South	

The *US 74 Corridor Study* concluded that by implementing the improvements listed in the table, an overall LOS D in 2015 could be attained at the intersections along the US 74 study corridor, except for the intersection of US 74 at Rocky River Road (SR 1514). However, these improvements would not result in high-speed travel through the corridor in 2015. With the improvements listed in the table, average travel speeds in 2015 for the eastbound direction in the pm peak were estimated to be 30 mph along the Superstreet design and 29 mph for the remainder of the corridor evaluated. Travel times were calculated and reported in Appendix IV and Appendix VII (Superstreet Design Area) of the *US 74 Corridor Study*. A review of the travel time tables shows one consistent anomaly across all tables. This anomaly occurs for the segment from Faith Church Road to Unionville-Indian Trail Road, where average travel speeds are reported as well above speed limits (e.g. 101.4 mph, 127.8 mph). This anomaly was removed from the travel time reported here.

A comparison of the year 2015 traffic volumes used in the *US 74 Corridor Study* to the year 2035 No-Build volumes used in the Monroe Connector/Bypass Draft EIS, shows that the volumes in 2035 along US 74 would generally be more than double the 2015 traffic volumes. Therefore, the levels of service at the intersections in 2035 would be expected to degrade to below LOS D and travel speeds also would decrease to less than 30 mph.

TSM Alternative Concept 2 was eliminated from further consideration. The following points were considered in this determination:

- Concept 2 could have minor improvements to mobility and capacity due to increased intersection capacity resulting from improved traffic progression with coordinated signals. However, the amount of traffic projected for 2035 along US 74 would overwhelm the effectiveness of this concept and congestion would continue to be present along US 74, with expected levels of service at intersections below LOS D.
- Concept 2 would not serve high-speed regional travel. Average travel speeds with these improvements are expected to be less than 30 mph through the corridor in 2035.

- Concept 2 would maintain access to properties along existing US 74, with some modifications for driveway consolidations.

### **Mass Transit/Multi-Modal Alternatives**

The Mass Transit Alternative concept would include bus or rail passenger service. A major advantage of mass transit is that it can provide high-capacity, energy-efficient movement in densely traveled corridors. It also serves high density areas by offering an option for automobile owners who do not wish to drive, as well as service to those without access to an automobile. The Multi-Modal Alternative concept would combine mass transit with existing roadway improvements described under the TSM Alternatives.

Separate studies of mass transit are being undertaken in Mecklenburg County by CATS. Plans and existing services in Union County and between Union County and Mecklenburg County are described below.

Neither Union County nor the City of Monroe operates a public transportation system, with the exception of on-demand paratransit services. There are no plans to begin other public transportation services in the near future.

CATS operates an express bus service to and from Uptown Charlotte, stopping at three park and ride lots in Union County. The first is located at Union Towne Shopping Center off US 74 in Indian Trail. The second is located at the K-Mart at 2120 West Roosevelt Boulevard (US 74) in Monroe, and the third one is located at Christ Bible Teaching Center at 1103 Unarco Road off (US 74) in Marshville. (CATS Web site: [www.charmeck.org/departments/CATS](http://www.charmeck.org/departments/CATS)).

CATS is planning a major expansion of its mass transit service throughout Mecklenburg County. In November 1998, Mecklenburg County citizens approved a local sales tax (one-half percent) to support implementation of the *2025 Integrated Transit/Land Use Plan*, which identified five major mass transit corridors. One of these corridors, the Southeast Corridor, has a study area that extends from Center City Charlotte southeast along US 74 to Central Piedmont Community College just east of I-485 in Mecklenburg County. This project is also known as the LYNX Silver Line, and there are currently no plans to extend the project into Union County.

The Mass Transit and Multi-Modal Alternatives were eliminated from further consideration. Transit service, particularly on a dedicated right of way, could provide increased mobility and capacity between Union County and Mecklenburg County by providing an alternative mode choice for commuters and other county-to-county and intra-county travelers. However, this alternative concept (either new rapid transit or expanded bus service) would not divert enough vehicular traffic to improve traffic flow on US 74 nor provide a high-speed facility that serves both individual travelers and freight trips. There is also no program currently in place in Union County to fund mass transit improvements.

The Mass Transit Alternative concept for this project would need to connect to the Southeast Corridor Rapid Transit Project in Mecklenburg County, and that project has been delayed until after 2020. Also, current land uses along US 74 likely would not support a rapid transit line.

Combining a Mass Transit Alternative concept with other modes also would not be practicable. The mass transit element would add substantial costs to any alternative that includes road improvements, but would do very little to improve traffic flow on US 74. The following points were considered in the decision to eliminate the Mass Transit and Multi-Modal Alternatives from consideration.

- The Mass Transit Alternative concept would enhance mobility by providing an alternative mode of transportation. If located on a dedicated separate right of way, the Mass Transit Alternative would increase capacity in the US 74 corridor.
- A Mass Transit Alternative concept or a Multi-Modal Alternative generally would not serve high-speed regional travel. A mass transit system with a dedicated, separate right of way could provide high-speed service for some users, but it would serve much lower volumes than a roadway and would serve only individual passengers, not freight.

Mass transit would not be expected to divert substantial volumes of traffic off of US 74 and travel speeds would be low, even with the addition of TSM improvements. According to the 2000 US Census, the percent of commuters that used transit in Mecklenburg County was only about 2.6 percent, even with a robust transit system in place such as the one in Mecklenburg County. A decrease in commuter traffic of 2 to 3 percent would not be enough to change projected congestion on US 74 in the project area. Long distance through travelers, freight traffic, and some local traffic that could not use mass transit would not benefit, since US 74 would continue to have numerous signalized and unsignalized intersections, driveways, and median breaks that contribute to delay and low average travel speeds.

- A mass transit system that used existing roadways (instead of a dedicated, separate right of way), even together with TSM improvements, would not provide for high-speed regional travel because of congestion and delays along existing routes, including US 74.
- A Mass Transit Alternative concept that used existing roadways could maintain the existing access to properties along US 74. A Mass Transit Alternative on a dedicated, separate right of way likely could be designed to maintain access to properties along existing US 74. This need would influence the alignment and design of a mass transit line.

It should also be noted that the Mass Transit Alternative and Multi-Modal Alternative would not be consistent with the vision for the US 74 corridor defined in the NC SHC program since this alternative concept would not create a freeway facility in the US 74 corridor. These alternatives would not be consistent with the NC Intrastate System as they would not provide high-speed regional travel.

***Comment 4:*** *The Draft EIS should evaluate new location alternatives with fewer interchanges in areas that may induce development in the Goose Creek watershed.*

**Response:** The qualitative indirect and cumulative effects study summarized in the Draft EIS includes discussions of development potential in the Goose Creek watershed. The Goose Creek watershed is included in the Future Land Use Study Area (FLUSA) Zone 2. As summarized in Section 7.8.1 of the Draft EIS, the DSAs would not be expected to induce substantial land use changes or growth in Zone 2, which includes designated critical habitat for the federally-endangered Carolina heelsplitter in Goose Creek. Growth would not be expected to increase substantially in Zone 2 as a result of the project as land use and environmental restrictions, lack of water/sewer service, unsuitable soils for development, and a local desire to maintain rural character are constraints to development in this area.

The *Qualitative Indirect and Cumulative Effects Assessment* (HNTB, January 2009) assessed the potential indirect impacts of the project with and without the US 601 interchange. This section of the report is reproduced below.

### US 601 Interchange

As part of scoping for the project and for this study, environmental resource and regulatory agency representatives noted that the US 601 interchange proposed as part of the New Location Alternatives seemed to have high potential to induce development, particularly north of the facility in Unionville and the Goose Creek watershed area. They requested that a qualitative discussion of the potential indirect impacts of this interchange be included in this analysis. To facilitate this, local planners were asked about potential land use changes related to implementation of the New Location Alternatives with and without an interchange at US 601.

Local planners commented that this interchange would facilitate access into downtown Monroe and help promote redevelopment efforts ongoing there. This interchange would also provide a direct connection to US 601, which is proposed for widening between the proposed Monroe Connector/Bypass and US 74 and is currently being improved from US 74 to the South Carolina line. This is anticipated to be a primary route for truck traffic traveling from west from Wilmington to bypass Monroe and existing US 74 on the way to South Carolina.

Construction of an interchange at US 601 would also improve access into areas north of the New Location Alternatives (Zone 2), including Unionville and Fairview. However, Unionville has recently denied requests to develop commercial uses along this corridor within its jurisdiction.

If the US 601 interchange is not constructed as part of the New Location Alternatives, any induced non-residential development would likely occur at this interchange would shift to another proposed interchange (most likely the Rocky River Road (SR 1514) interchange and/or one of the proposed interchanges near Old Hickory Business Park in Indian Trail). An interchange at Rocky River Road (SR 1514) would provide more direct access from the northern part of the county to the Monroe Regional Airport and surrounding industrial parks.

Residential development patterns are not likely to change if the US 601 interchange is not constructed. Although, local planners generally agree that removal of the US 601 interchange from the New Location Alternatives would negatively impact redevelopment efforts in Monroe, south of the New Location Alternatives.

The *Indirect and Cumulative Effects Quantitative Analysis* prepared by Michael Baker Engineering, Inc. (April 2010) for the project takes another look at indirect and cumulative effects for the Preferred Alternative, including effects surrounding interchanges. Based on input from the US Fish and Wildlife Service, scenarios included in the *Indirect and Cumulative Effects Quantitative Analysis* include the No-Build Alternative and a new location alternative (with and without an interchange at US 601).

The *Indirect and Cumulative Effects Quantitative Analysis* concluded that there would be no reportable change in impervious surface in the Goose Creek watershed by 2030 with the Preferred Alternative compared to the No Build Alternative.

The proposed locations of interchanges along the Preferred Alternative are consistent with those included in the MUMPO 2035 LRTP. Several interchanges, including Unionville-Indian Trail Road, Rocky River Road, and Forest Hills School Road were reviewed considering both traffic volumes, as well as potential toll revenue, to determine if they could be removed. These proposed interchanges were determined necessary to serve projected traffic demand in the design year 2035, as well as to support toll revenue bonds required to finance the project.

**Comment 5:** *The Draft EIS does not mention the possibility of improving freight rail.*

**Response:** The purpose of the project is to improve mobility and capacity within the project study area by providing a facility for the US 74 corridor from near I-485 in Mecklenburg County to between the towns of Wingate and Marshville in Union County that allows for high-speed regional travel. Consideration of freight rail would not address this project purpose.

### 3.3.3 RESPONSES TO GENERALIZED COMMENTS ON AIR QUALITY

**Comment 1:** *The Monroe Bypass portion of the project is shown as a non-toll facility in the 2030 LRTP and conformity determination.*

**Response:** FHWA is aware of this discrepancy in the MUMPO 2030 LRTP. MUMPO supported tolling the entire facility in a resolution dated September 19, 2007. The MUMPO 2035 LRTP includes the entire project as a toll facility. Regarding conformity determination, the Draft *Conformity Analysis and Determination Report for the Cabarrus-Rowan MPO, Mecklenburg-Union MPO, and the Gaston Urban Area MPO 2035 Long Range Transportation Plans and the FY 2009-2015 Transportation Improvement Programs for Non-MPO Areas of Lincoln County, Iredell County, Gaston County, and Union County areas (8-Hour Ozone, and CO (Mecklenburg County Only))* was made available for public review on February 5, 2010. Public meetings to solicit comments on these documents as well as the Draft 2035 LRTP and the 2009 – 2015 STIP Amendment were held on February 24, 2010 in the Charlotte Mecklenburg Government Center, and on February 25, 2010 in the Indian Trail Town Hall. All of the above referenced documents were made available for review until the close of the public review and comment period on March 8, 2010. As of that date, no substantive comments were received and all were endorsed by the MUMPO TCC on March 11, 2010 and by MUMPO on March 24, 2010. USDOT issued a conformity determination on the LRTPs and TIPs on May 3, 2010.

**Comment 2:** *It is highly improbable that the Charlotte area will be able to retain its moderate non-attainment status for the 8-hour ozone that is required by June 15, 2010.*

**Response:** On May 8, 2009, USEPA published a Finding of Failure to Submit a SIP for the Charlotte region in the Federal Register. On November 17, 2008, the USEPA informed NCDENR it could not approve the ozone air quality plan or SIP for the Metrolina region, since the area was unlikely to attain the 1997 ozone standard by June 15, 2010 or meet the requirements for a one-year extension of the attainment date. NCDENR committed to develop a SIP that would address the air quality issues for the Metrolina region. In January 2010, USEPA notified the NCDENR that the modified SIP was adequate for the purposes of transportation conformity. Please also refer to Response to Comment 1 of this section.

**Comment 3:** *EPA believes vehicle miles traveled (VMT's) will substantially increase from the proposed action, particularly in the Union County area.*

**Response:** The VMT analysis was conducted for Union County using output from the Metrolina Travel Demand Model (MRM). The VMT experienced a slight decrease in the “Build” Scenario due primarily to two factors:

- The MRM highway network includes the Monroe Connector/Bypass as an 18.5 mile facility. Between the same two points, US 74 is 18.75 miles long in the model highway network. This difference of 0.25 mile is enough to produce reductions in VMT.
- The vehicles that were previously accessing US 74 from the north now have a shorter route to the Monroe Connector/Bypass. The cumulative effect of these shorter trips is a reduction in overall VMT in Union County.

**Comment 4:** *Alternatives being considered should be compared using their potential impacts associated with Mobile Source Air Toxics as one of the measures for comparison.*

**Response:** The MSAT analysis was conducted in accordance with the FHWA *Interim Guidance on Air Toxic Analysis in NEPA Documents* dated February 3, 2006. The interim guidance establishes three levels of review:

- No analysis for projects with no potential for meaningful MSAT effects;
- Qualitative analysis for projects with low potential MSAT effects; or
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Projects requiring a quantitative analysis include projects that have the potential for meaningful differences among project alternatives. To fall into this category, projects must:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location; or
- Create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the annual average daily traffic volumes (AADT) are projected to be in the range of 140,000 to 150,000, or greater, by the design year; and also
- Be proposed to be located in proximity to populated areas or in rural areas, in proximity to concentrations of vulnerable populations (i.e., schools, nursing homes, hospitals).

The proposed project falls into the qualitative analysis category due to its length and regional importance. The project would not qualify as requiring a quantitative analysis because it would not significantly alter a major intermodal facility, nor would the AADT be in the range of 140,000 to 150,000.

Updated guidance was published by the FHWA on September 30, 2009. This updated guidance is summarized in **Section 1.3.2.2** and **Appendix E** of this Final EIS. The updated guidance did not change the criteria used to determine the level of MSAT analysis needed.

The overall approach applied in the MSAT guidance characterizes the trend in MSAT emissions and the difference in MSAT emissions between alternatives, but does not attempt to characterize health risks or microscale impacts, due to the uncertainty associated with available analysis tools. In late 2007, the US District Court in the Southern District of Maryland upheld this approach in ruling on a challenge to the Inter-County Connector project, stating that “the Defendants’ methodology was reasonable and should be upheld...Defendant’s failure to consider Plaintiffs’ approach to the health effects analysis, which could be ascertained, if at all, only through uncertain modeling techniques, did not preclude informed decision-making under NEPA.”

**Comment 5:** *The Draft EIS does not propose any air quality related mitigation to address the potential direct impact or indirect and cumulative effects.*

**Response:** Air quality impacts are discussed in Section 4.2.5 of the Draft EIS. As stated in Section 4.2.5.3 of the Draft EIS, appropriate measures to minimize impacts to air quality will be taken. The NCTA will conduct any burning in accordance with applicable laws, local ordinances, and regulations of the North Carolina SIP for air quality in compliance with 15A NCAC 02D.1903. For construction in Mecklenburg County, open burning (if allowed) will require a permit from the Mecklenburg County Land Use and Environmental Services Agency Department of Air Quality.

Also during construction in either Union County or Mecklenburg County, measures will be taken to reduce dust generated by construction when the control of dust is necessary for the protection and comfort of motorists and area residents. Dust suppression measures may include watering unpaved work areas, temporary and permanent seeding and mulching, covering stockpiled materials, and using covered haul trucks.

As previously noted, USDOT issued a conformity determination on the LRTPs and TIPs on May 3, 2010. As such, no other measures are necessary at this time.

**Comment 6:** *No discussion of greenhouse gases.*

**Response:** The following text was added to **Section 2.5.2.2** of the Final EIS. The issue of greenhouse gas emissions and their effects on global climate is an important national and global issue in which FHWA is actively engaged. FHWA has been working with other Federal agencies, including the USEPA and the Department of Energy, to evaluate effective approaches consistent with our national goals. However, no national approach has yet been set in law or regulations, nor has the USEPA established criteria or thresholds for greenhouse gas emissions. Because a national strategy to address greenhouse gas emissions from transportation and all other sectors is still being developed, FHWA believes that it is premature to implement policies that attempt to incorporate consideration of greenhouse gas emissions into transportation planning.

From a NEPA perspective, it is analytically problematic to conduct a project-level cumulative effects analysis of greenhouse gas emissions on a problem that is global in nature. It is technically infeasible to accurately model the negligible increases or decreases of carbon dioxide emissions at a project level and to determine how these changes would contribute to the global issue. Given the level of uncertainty involved, the results of such an analysis would not be likely to inform decision-making at the project level, while adding considerable administrative burdens to the NEPA process. The scope of any such analysis, with any results being purely speculative, goes far beyond the disclosure of impacts needed to make sound transportation decisions. FHWA believes this approach meets the stated purpose of NEPA. In accordance with CEQ regulations, agencies should concentrate on the analyses of issues that can be truly meaningful to the project decision, rather than simply amassing data (40 CFR 1502.2 and 1502.15).

### 3.3.4 RESPONSES TO GENERALIZED COMMENTS ON INDIRECT AND CUMULATIVE EFFECTS

**Comment 1:** *Concerns about secondary and cumulative impacts of this project. A quantitative analysis of cumulative and secondary impacts anticipated as a result of this project is required, including the acreage of induced growth from the Preferred Alternative and potential impervious surfaces added for each watershed.*

**Response:** In accordance with NCDOT procedure, the *Indirect and Cumulative Effects Assessment* (HNTB, January 2009) report was completed and summarized in Section 7 of the Draft EIS. Multiple requests were made to perform a quantitative analysis.

NCTA prepared an *Indirect and Cumulative Effects Quantitative Analysis* (Michael Baker Engineering, Inc., April 2010), summarized in **Section 2.5.5** of this Final EIS and included as **Appendix H**. This report includes two parts. The *Indirect and Cumulative Effects Quantitative Analysis* includes analysis of the No Build Alternative and the Preferred Alternative. Prior to commencement of this study, an agency scoping meeting was held to ensure that the study approach and scope met the expectations of the environmental resources and regulatory agencies.

**Comment 2:** *Reliance on local land use plans to minimize secondary and cumulative impacts may be insufficient.*

**Response:** Reliance on local plans may not be ideal, but the NCTA lacks authority regarding local jurisdictions' regulations, ordinances, or land use planning. The following is copied from the NEPA 40 Frequently Asked Questions from CEQ Web site (<http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm>):

*Question 19b. How should an EIS treat the subject of available mitigation measures that are (1) **outside the jurisdiction** of the lead or cooperating agencies, or (2) **unlikely** to be adopted or enforced by the responsible agency?*

*A. All relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead agency or the cooperating agencies, and thus would not be committed as part of the RODs of these agencies. Sections 1502.16(h), 1505.2(c). This will serve to [46 FR 18032] alert agencies or officials who can implement these extra measures, and will encourage them to do so. Because the EIS is the most comprehensive environmental document, it is an ideal vehicle in which to lay out not only the full range of environmental impacts but also the full spectrum of appropriate mitigation.*

*However, to ensure that environmental effects of a proposed action are fairly assessed, the probability of the mitigation measures being implemented must also be discussed. Thus the EIS and the Record of Decision should indicate the likelihood that such measures will be adopted or enforced by the responsible agencies. Sections 1502.16(h), 1505.2. If there is a history of nonenforcement or opposition to such measures, the EIS and Record of Decision should acknowledge such opposition or nonenforcement. If the necessary mitigation measures will not be ready for a long period of time, this fact, of course, should also be recognized.*

The *Indirect and Cumulative Effects Quantitative Analysis* concludes the Preferred Alternative scenario shows little difference compared to the No Build Alternative scenario. It is estimated that under the Preferred Alternative there would be approximately 1,200 fewer low-density residential acres, 700 additional median density residential acres, less than 100 additional high density residential acres, 200 additional commercial acres, and 100 additional industrial/office/institutional acres in the FLUSA compared to the No Build Alternative. Most of this development is expected within approximately one mile of the project's interchanges. This is expected because the accessibility improvements are most marked around the interchanges and because local land use policy and the lack of access to sewer service, particularly north of the project in Unionville, are not conducive to additional development or increases in density.

NCTA can encourage local governments to adopt regulations and land use plans that would help protect significant natural resources, but NCTA lacks the enforcement authority to ensure their adoption or adherence. However, it is reasonable to assume that development within the FLUSA will continue within the guidelines of established environmental laws and generally in accordance with existing land use plans. Also, see response to Comment 3 below regarding mitigation.

**Comment 3:** *Lack of mitigation proposed for indirect and cumulative impacts to water quality.*

**Response:** It has not been determined at this time whether mitigation measures are necessary. The qualitative *Indirect and Cumulative Effects Assessment* (HNTB, January 2009) report identified areas of potential growth or land use change under the No-Build, Upgrade Existing US 74, and New Location scenarios. There would be no substantial differences between new location

Detailed Study Alternatives. The report also summarized local land use plans, stream buffer ordinances, and regulations. The conclusions of this report did not indicate that these land use changes would rise to the level of adverse impacts that require discussion of mitigation.

The *Indirect and Cumulative Effects Quantitative Analysis* (Michael Baker Engineering, Inc., April 2010) addresses the Preferred Alternative's potential impacts to percent of impervious surface. With regard to percent impervious surface cover as an indicator for water quality impacts, the report findings show no measurable differences in percent impervious surface between the Preferred Alternative and No Build Alternative for the FLUSA as a whole. The findings show only as much as a one percent difference with respect to changes in percent impervious surface in any individual watershed. A more detailed quantitative water quality modeling report also was prepared for the Preferred Alternative, and is summarized in **Section 2.5.5.2**.

Provisions regarding FHWA's legal responsibility and authority for mitigating project impacts are found in FHWA's Environmental regulations Section 771.105(d):

*"Measures necessary to mitigate adverse impacts will be incorporated into the action and are eligible for Federal funding when the Administration determines that:*

- 1. The impacts for which the mitigation is proposed actually result from the Administrative action; and*
- 2. The proposed mitigation represents a reasonable public expenditure after considering the impacts of the action and the benefits of the proposed mitigation measures. In making this determination, the Administration will consider, among other factors, the extent to which the proposed measures would assist in complying with a Federal statute, Executive Order, or Administration regulation or policy."*

Furthermore, as stated in the *FHWA Position Paper: Secondary and Cumulative Impact Assessment In the Highway Project Development Process*:

"After the analysis is complete a valid question will remain: If a proposed highway improvement is determined to cause potential secondary and cumulative effects, what can and should be done to mitigate the adverse impacts? This is a difficult question for which there are no simple solutions. Consistent with existing FHWA regulations mitigation proposals must be both reasonable and related to project impacts. However, the opportunities for environmental enhancement that are now available under the highway program may greatly expand our traditional view of mitigation. Changing a proposed transportation improvement to lessen its contribution of indirect impacts may likely result from a combination of mitigation and enhancement measures that address area-wide concerns, not just the immediate influence of the project. Unfortunately, measures that would be appropriate to offset most future developmental impacts in the area of a project often will be beyond the control and funding authority of the highway program. In these situations, the best approach would be to work with local agencies that can influence future growth and promote the benefits of controls that incorporate environmental protection into all planned development."

### 3.3.5 RESPONSES TO GENERALIZED COMMENTS ON PROTECTED SPECIES

***Comment 1:*** *It is premature to determine that there will be no impacts to the Schweinitz's sunflower (*Helianthus schweinitzii*) from this project without more specifics about design and any changes that may result from public comment.*

***Response:*** Two populations of Schweinitz's sunflower were identified in the vicinity of the Unionville-Indian Trail Road interchange. As the interchange was designed and described in the Draft EIS, a conclusion of "May Affect, Not Likely to Adversely Affect" for Schweinitz's sunflower was reached. USFWS comments on the Draft EIS (dated June 12, 2009) indicated that "*it is premature to determine that there will be no impacts to the Schweinitz's sunflower (*Helianthus schweinitzii*) from this project. Until more specifics about design and any changes that may result from public comment or other information are available we believe the appropriate conclusion for this species is 'unresolved.'*"

The *Biological Assessment for the Monroe Connector-Bypass Project (R-3329/R-2559)* (The Catena Group, May 2010), prepared for the Preferred Alternative, examined impacts to Michaux's sumac (*Rhus michauxii*), Schweinitz's sunflower (*Helianthus schweinitzii*), and Smooth coneflower (*Echinacea laevigata*). The Biological Assessment also addressed freshwater mussels, in particular the federally endangered Carolina heelsplitter (*Lasmigona decorate*).

Based on the Biological Assessment, a biological conclusion of May Affect/Not Likely to Adversely Affect was reached for the Schweinitz's sunflower. The Biological Assessment was submitted to the US Fish and Wildlife Service on April 19, 2010, for their review and concurrence. Concurrence on the biological conclusions for all the species addressed in the Biological Assessment will be achieved prior to the ROD. This is a project commitment listed in **Section PC** of the Final EIS. See **Section 2.5.4.5** for additional information.



NOT TO SCALE



STIP PROJECT  
NO. R-3329/R-2559

Union County and  
Mecklenburg County

MONROE CONNECTOR/  
BYPASS

AESTHETIC  
DESIGN CONCEPT  
A

Figure 3-1