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Durham County  
Orange County  
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City of Durham  
Town of Hillsborough*

# **Durham-Chapel Hill-Carrboro Metropolitan Planning Organization**

Comprehensive Transportation Plan  
November 2017





# 2017 Durham-Chapel Hill-Carrboro Metropolitan Planning Organization Comprehensive Transportation Plan

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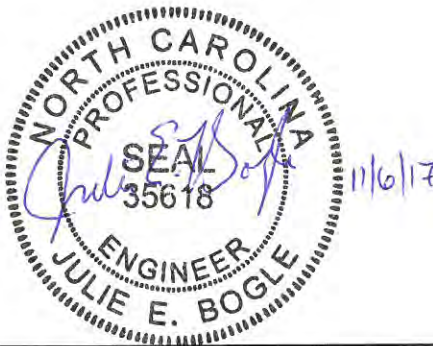
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**In Cooperation with:**

Chatham County  
Durham County  
Orange County  
Town of Carrboro  
Town of Chapel Hill  
City of Durham  
Town of Hillsborough  
Chapel Hill Transit

GoTriangle/GoDurham  
Orange Public Transit  
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# Executive Summary

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In January of 2014, the Transportation Planning Branch of the North Carolina Department of Transportation (NCDOT) and Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) initiated a study to cooperatively develop the DCHC MPO Comprehensive Transportation Plan (CTP), which includes the towns of Carrboro, Chapel Hill, Hillsborough; the city of Durham; and Chatham, Durham and Orange Counties. This is a long range multimodal transportation plan that covers transportation needs through 2040. Modes of transportation evaluated as part of this plan include: highway, public transportation and rail, bicycle, and pedestrian. This plan does not cover routine maintenance or minor operations issues. Refer to Appendix A for contact information on these types of issues.

Findings of this CTP study were based on an analysis of the transportation system, environmental screening and public input, which are detailed in Chapter 1. Figure 1, starting on page vii, shows the CTP maps, which were mutually adopted by DCHC MPO and NCDOT in 2017. Descriptive information and definitions for designations depicted on the CTP maps can be found in Appendix B. Implementation of the plan is the responsibility of the counties and their municipalities, and NCDOT. Refer to Chapter 2 for information on the implementation process.

This report documents the recommendations for improvements that are included in the DCHC MPO CTP. The major highway recommendations for improvements are listed in the table below. Other major non-highway projects are listed on page vi. More detailed information about these and other recommendations can be found in Chapter 2 and Appendix C.

## Major Highway Recommendations:

Table 1

Facility	Project Location	Status	Recommendation
<i>Chatham County</i>			
US 15-501	Smith Level Road (SR 1919) to south of Andrews Store Road (SR 1528)	Needs Improvement	Improve access management along US 15-501 in accordance with the 2014 Corridor Study recommendations.
NC 751	Durham County to Martha's Chapel Road (SR 1752)	Needs Improvement	Improve to a boulevard facility. Further study is needed for cross section.

Facility	Project Location	Status	Recommendation
<i>Durham County</i>			
I-40	Wake County to NC 147	Needs Improvement	Widen freeway to 12 lanes. With 8 general purpose and 4 managed lanes.
I-40	NC 147 to NC 54	Needs Improvement	Widen freeway to 10 lanes. With 6 to 8 general purpose and 2 to 4 managed lanes.
I-40	NC 54 to US 15-501	Needs Improvement	Widen freeway to 8 lanes. With 6 general purpose and 2 managed lanes.
I-85	US 70 to Granville County	Needs Improvement	Widen to a 6-lane freeway and upgrade interchanges and ramps.
US 15-501	I-40 to US 15-501 Bypass	Needs Improvement	Convert to freeway with interchanges.
US 15-501	US 15-501 Business to I-85	Needs Improvement	Widen freeway to 6 lanes with interchange improvements.
US 15-501 Business	US 15-501 to University Drive (SR 1183)	Needs Improvement	Improve to boulevard facility to accommodate multimodal traffic.
US 501 (North Roxboro Road)	North Duke Street (US 501) to Sandlewood Drive (SR 1698)	Needs Improvement	Improve to a 4-lane divided synchronized street (also known as superstreet).
US 501 (North Duke Street)	I-85 to US 501 Business (North Roxboro Street)	Needs Improvement	Improve to a 4-lane divided synchronized street (also known as superstreet).
US 501 Business (North Roxboro Street)	Old Oxford Road (SR 1004) to East Club Boulevard (SR 1669)	Needs Improvement	Improve to a 4-lane divided boulevard with a narrow median.
US 70	Pleasant Drive (SR 1815) to Wake County	Needs Improvement	Widen to a 6-lane freeway with grade separations and interchanges.

Facility	Project Location	Status	Recommendation
<i>Durham County</i>			
NC 147 (Durham Freeway)	I-40 to I-85	Needs Improvement	<ul style="list-style-type: none"> <li>- I-40 to EEC: Widen freeway to 8 lanes with managed lanes and interchange improvements.</li> <li>- EEC to NC 55 (Alston Avenue): Widen freeway to 6 lanes with interchange improvements.</li> <li>- NC 55 (Alston Avenue) to I-85: Upgrade freeway with interchange improvements.</li> </ul>
NC 55	NC 147 to Holloway Street (US 70 Business /NC 98)	Needs Improvement	Widen to a 4-lane divided boulevard facility.
NC 54	US 15-501 to NC 55	Needs Improvement	<ul style="list-style-type: none"> <li>- US 15-501 to I-40: Improve to synchronized street (also known as superstreet) with interchanges.</li> <li>- Barbee Chapel Road (SR 1110) to NC 55 (Durham County): Add two travel lanes.</li> <li>- Throughout corridor: Improved bicycle, pedestrian and light rail transit accommodation.</li> </ul>
NC 55 (Avondale Drive)	I-85 to East Geer Street (SR 1670)	Needs Improvement	Widen to 4-lane boulevard (with a narrow median), and bicycle lanes and sidewalks; Consider multi-use path per city of Durham option.
NC 98	Junction Road (SR 1838) to Wake County	Needs Improvement	<ul style="list-style-type: none"> <li>- Junction Road (SR 1838) to Nichols Farm Drive: Add narrow median, bicycle lanes and sidewalks to improve current 4-lane undivided section.</li> <li>- Nichols Farms Drive to Wake County: Widen to a 4-lane divided boulevard.</li> </ul>
NC 751	NC 54 to Chatham County	Needs Improvement	Improve to a boulevard facility. Further study is needed for cross section.
North Alston Avenue Extension	US 501 Business (North Roxboro Street)/ Old Oxford Road (SR 1004) to NC 55 (North Alston Avenue)	Recommended New Facility	Construct new boulevard facility. Further study is needed for cross section and alignment.

Facility	Project Location	Status	Recommendation
<i>Durham County</i>			
Northern Durham Parkway (NDP)	US 70 to I-85 to Old Oxford Road (SR 1004)	Recommended New Facility	Construct a new 4-lane divided boulevard facility with separate bicycle lanes and sidewalks.
South Roxboro Street Extension	Martin Luther King Jr Parkway to Cornwallis Road (SR 1158)	Recommended New Facility	Construct new boulevard facility with sidewalks and bicycle lanes.
SW Durham Drive (SR 1110)/ Farrington Road (SR 1110)/ George King Road (SR 1112)/ Mount Moriah Road Extension/ George King Road Extension	Mount Moriah Road (SR 2294) to NC 54	Needs Improvement and Recommended New Facility	<p>- Mount Moriah Road (SR 2294) to I-40: 4-lane divided with sidewalks and bicycle accommodations. Extend Mount Moriah Road (SR 2294) to US 15-501 at SW Durham Drive (SR 1110).</p> <p>- I-40 to NC 54: 2-lane divided with sidewalks and bicycle lanes. Extend Farrington Road (SR 1110) at I-40 to George King Road (SR 1112) at Ephesus Church Road (SR 1113). Extend George King Road (SR 1112) to NC 54.</p>
<i>Orange County</i>			
I-40	I-85 to NC 86	Needs Improvement	Widen freeway to 6 general purpose lanes.
I-40	NC 86 to 15-501	Needs Improvement	Widen freeway to 6 lanes. With 4 general purpose and 2 managed lanes.
I-85	I-40 to Durham County	Needs Improvement	Widen freeway to 6 general purpose lanes with a raised median and interchange improvements.
US 15-501	NC 86 (South Columbia Street) to I-40	Needs Improvement	<p>- NC 86 (S Columbia St) – Ephesus Church Rd: In the draft STIP FY 2017-2027, U-5304 indicates capacity improvements and intersection/ interchange improvements with sidewalks, wide outside lanes and transit accommodations.</p> <p>- Ephesus Church Rd – I-40: In the draft STIP FY 2017-2027, U-5304 indicates corridor capacity improvements.</p>



Facility	Project Location	Status	Recommendation
<i>Orange County</i>			
US 70	I-85/US 70 Connector to US 70 Alternate	Needs Improvement	Widen to a 4-lane divided cross section with 5-foot bike lanes and 5-foot sidewalks separate from travel lanes.
NC 54	US 15-501 to NC 55 (in Durham County)	Needs Improvement	<p>- US 15-501 (Fordham Blvd) – I-40: In the draft STIP FY 2017-2027, U-5774 indicates the upgrade of the roadway corridor with upgrade of US 15-501 interchange, interchange improvements at I-40, conversion of at-grade intersections to interchanges (or construct intersection improvements per CTP option from Chapel Hill) with Barbee Chapel Rd and Falconbridge Rd, and conversion of at-grade intersection with Farrington Rd to grade separation. Projects are to improve bicycle and pedestrian travel the complete length of the corridor, and accommodate the D-O LRT.</p> <p>- I-40 – NC 55: In the draft STIP FY 2017-2027, U-5774 indicates the upgrade of the roadway corridor.</p>
NC 54	Old Fayetteville Road (SR 1107) to Bethel Hickory Grove Church Road (SR 1104)	Needs Improvement	Provide operational improvements; further study is needed to determine specific long-term improvements.
NC 86	US 70 Business to Old NC 10 (SR 1710)	Needs Improvement	Widen to a 4-lane divided cross section with a raised median with bike lanes and sidewalks.
NC 86	US 70 Bypass (Cornelius Street) to north of the NC 86/ NC 57 split	Needs Improvement	Improvements are needed to accommodate projected traffic and to improve pedestrian safety. Further study is needed for specific improvements.
I-85/ US 70 Connector	I-85 to US 70	Needs Improvement	Improve existing I-85/US 70 Connector interchange with US 70 to a full-movement interchange.
S Churton Street (US 70/ NC 86/ SR 1009)	Eno River Bridge to I-40	Needs Improvement	Widen to a 4-lane divided cross section with a raised median with bike lanes and sidewalks.

Facility	Project Location	Status	Recommendation
<i>Orange County</i>			
Eubanks Road (SR 1727)	NC 86 to Millhouse Road (SR 1725)	Needs Improvement	Widen to a 4-lane divided boulevard.
Eno Mountain Road realignment	Eno Mountain Road (SR 1148) to intersection of Mayo Street (SR 1192) and Orange Grove Road (SR 1006)	Recommended New Facility	Realignment of Eno Mountain Road (SR 1148) at the intersection of Mayo Street (SR 1192) and Orange Grove Road (SR 1006) with on-road bicycle, pedestrian and bus accommodations.
Orange Grove Road Extension	South Churton Street (SR 1009) to US 70 Business	Recommended New Facility	Construct a new 4-lane divided boulevard facility with bicycle, pedestrian and bus accommodations.

There are many recommended improvements associated with the public transportation and rail mode, such as light rail transit, commuter rail, bus rapid transit, express bus, improved regular bus service, park and ride facilities, transit centers, multimodal centers and rail stations. Major public transportation and rail recommendations include:

- Durham-Orange Light Rail Transit (D-O LRT): Light rail system running from UNC Hospitals in Chapel Hill to NCCU in Durham.
- North-South Corridor Bus Rapid Transit (N-S BRT): Bus Rapid Transit route along NC 86 (Martin Luther King Jr Boulevard/ South Columbia Street) and US 15-501 from the Eubanks Park and Ride to Southern Village.

There are many recommended improvements associated with the bicycle and pedestrian modes, such as bicycle lanes, wide paved shoulders, wide outside lanes and off-road bicycle trails, off-road pedestrian paths, and multi-use paths. One major multi-use recommendation is:

- Durham-Orange Light Rail Transit Multi-use Path: A multi-use path, or a combination of separate bicycle and pedestrian accommodations when appropriate, constructed generally parallel to the Durham-Orange Light Rail corridor from Chapel Hill to Durham.

Optimal viewing of the CTP maps for all the modes is online at the following links and QR code shown here:

- Online interactive maps: <http://bit.ly/DCHCMPO--Adopted-CTP> (see Adopted tab), and
- Poster-sized PDF maps: <http://tinyurl.com/DCHC-CTP> (or QR code).





# DCHC MPO - CTP ADOPTION SHEET AND HIGHWAY MAP

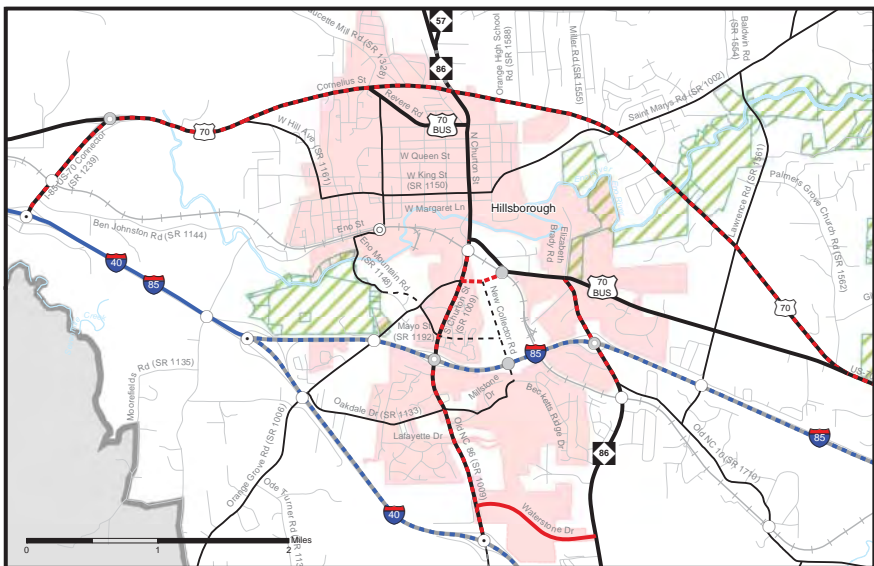
**Adopted by:**

**Durham-Chapel Hill-Carrboro MPC**  
**Date: May 10, 2017**

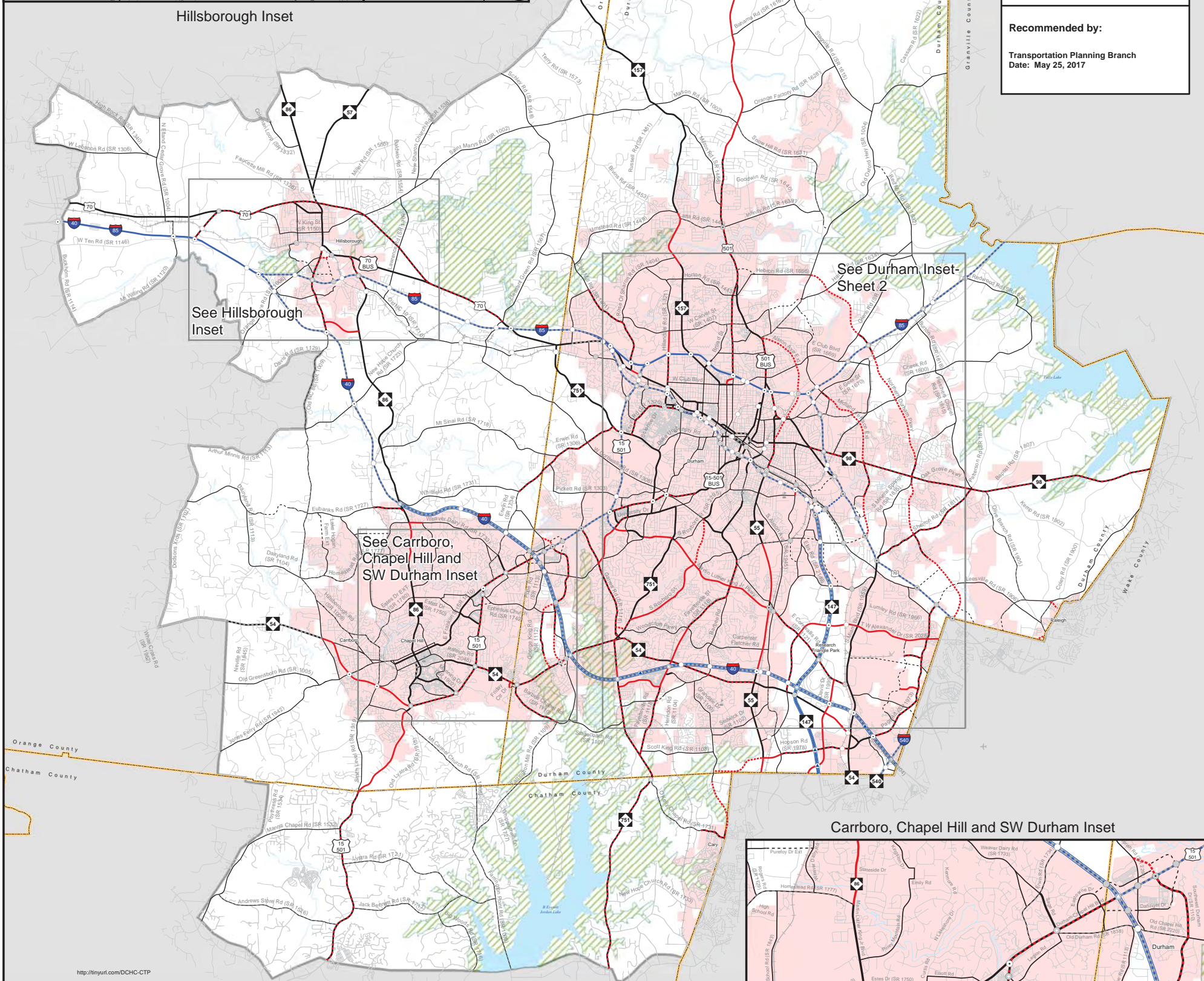
NCDOT  
Date: August 3, 2017

**Recommended by:**

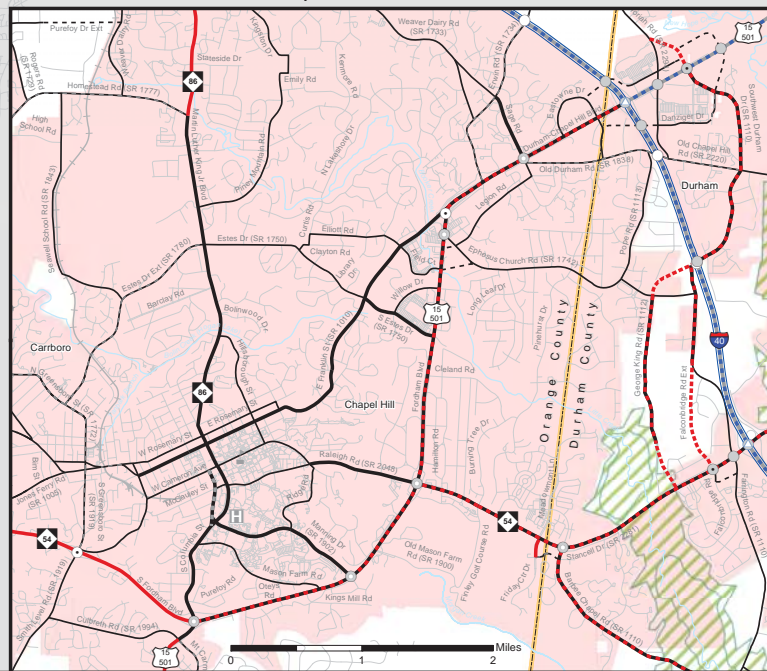
Transportation Planning Branch  
Date: May 25, 2017



Hillsborough Inset



Carrboro, Chapel Hill and SW Durham Inse



Note: The Strategic Transportation Investments (STI) law (House Bill 817) establishes design elements that emphasize safety, mobility, complete streets, and accessibility for multiple modes of travel. The "typical" highway cross sections used in this CTP were updated on May 5, 2014 in response to STI law.

NCDOT's Complete Streets Policy "requires that NCDOT's planners and designers will consider and incorporate multimodal alternatives in the design and improvement of all appropriate transportation projects within a growth area of a town or city unless exceptional circumstances exist." (For more information on Complete Streets, go to <http://www.completestreetsnc.org/>).

Note: The concepts shown on a CTP are for planning purposes and are subject to change. These concepts will need additional analysis to meet state and federal environmental regulations, to determine final locations and designs, and to be funded for implementation. Local zoning or subdivision ordinances may require the dedication of right

of way based on the concepts shown on the CTP and local collector street plans, based on N.C.G.S. § 136-66.2 and § 136-66.10.

Sheet	Map Title	Legend	Freeways	Other Major Thoroughfares	Interchanges (or Intersections)	Grade Separations	Interchanges with Managed Lanes Access
Sheet 1	Adoption Sheet and Highway Map	<b>Legend</b> Schools Airports Hospitals Railroads Roads County Boundaries Rivers and Streams Water Bodies Parks and Game Lands Municipalities MPO Boundaries	Existing Needs Improvement Recommended	Existing Needs Improvement Recommended	Existing Needs Improvement Recommended	Existing Needs Improvement Recommended	Existing Needs Improvement Recommended
Sheet 2	Highway Map Inset		<b>Freeways with Managed Lanes</b> Existing Needs Improvement Recommended	<b>Minor Thoroughfares</b> Existing Needs Improvement Recommended			
Sheet 3	Public Transportation and Rail Map		<b>Expressways</b> Existing Needs Improvement Recommended				
Sheet 4	Bicycle and Pedestrian Map						
Sheet 5	Bicycle and Pedestrian Map Inset						

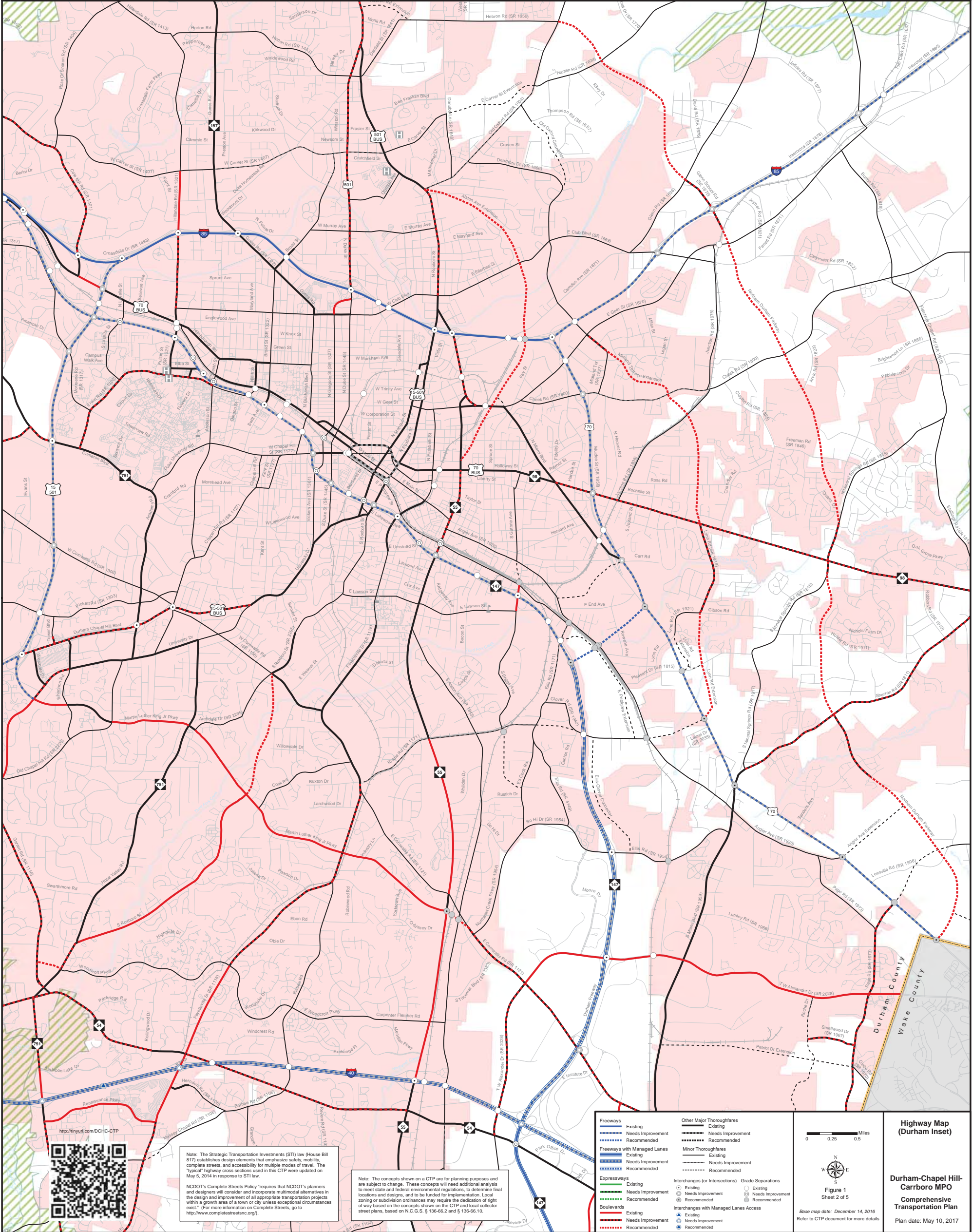
**Figure 1**  
 Sheet 1 of 5  
 Base map date: December 14, 2016  
 Refer to CTP document for more details

**Adoption Sheet/  
Highway Map**  
  
**Durham-Chapel Hill-  
Carrboro MPO**  
Chatham, Durham,  
and Orange Counties,  
North Carolina  
  
**Comprehensive  
Transportation Plan**  
 Plan date: May 10, 2017



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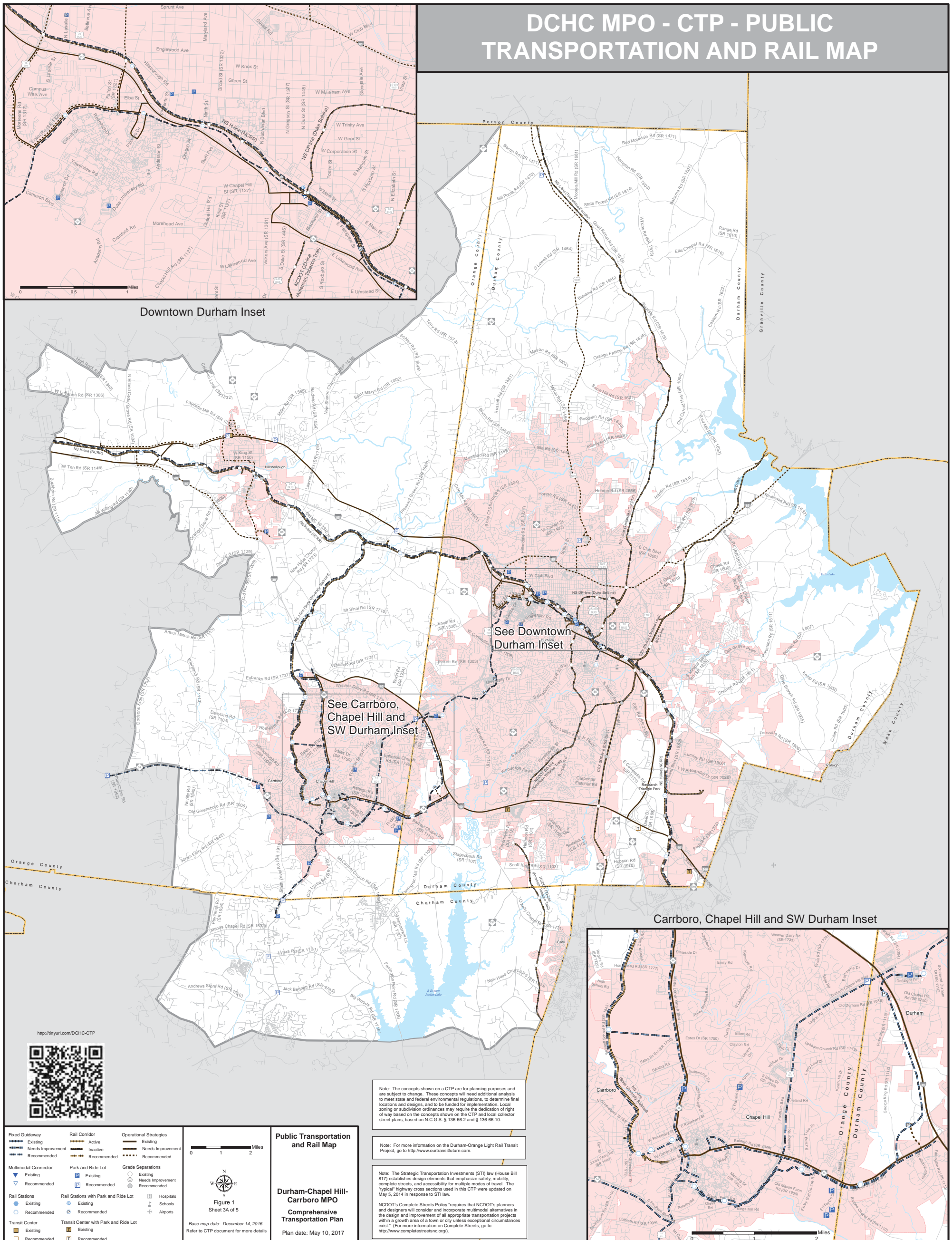
DCHC MPO - CTP - HIGHWAY MAP (DURHAM INSET)



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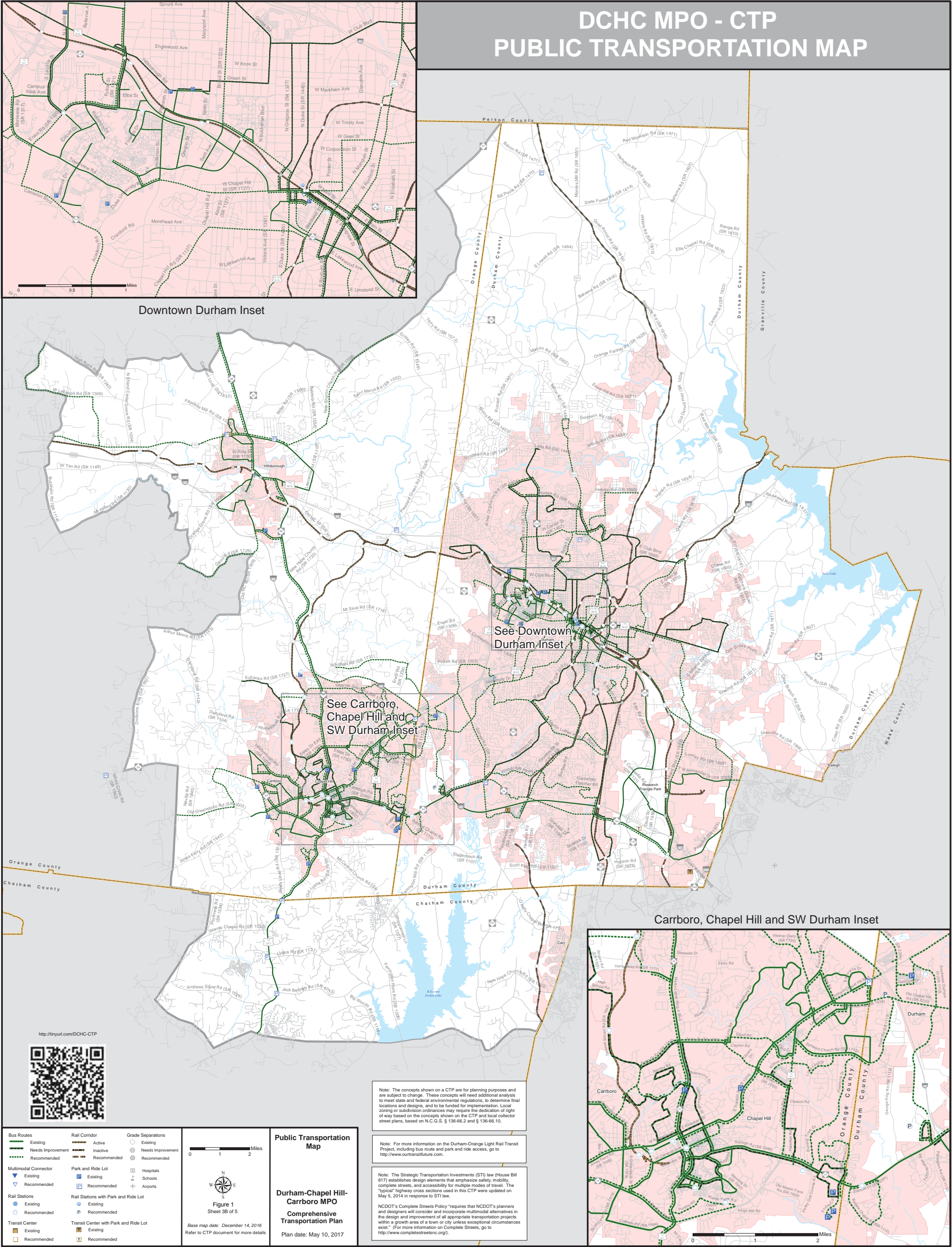


# DCHC MPO - CTP - PUBLIC TRANSPORTATION AND RAIL MAP



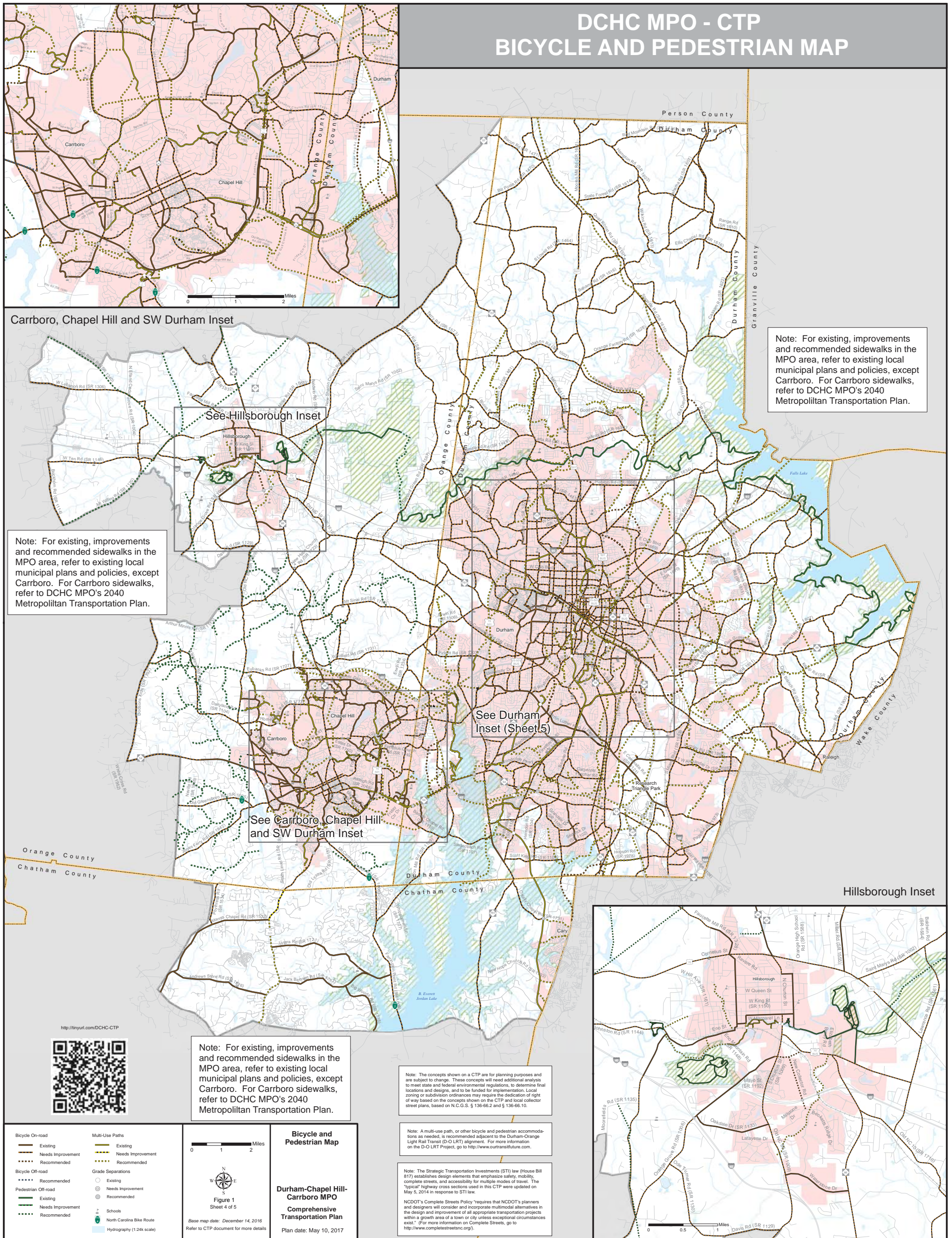


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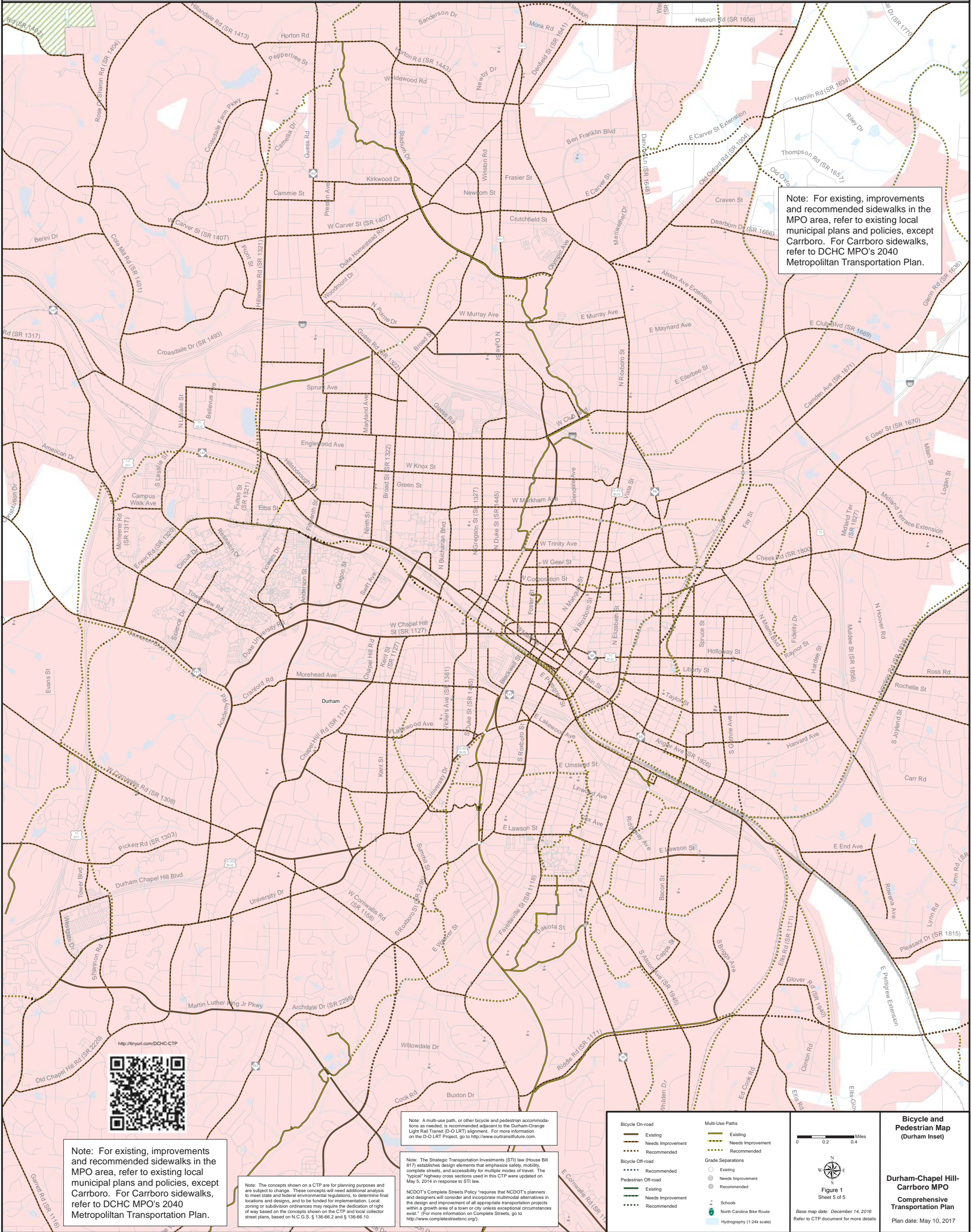






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DCHC MPO - CTP - BICYCLE & PEDESTRIAN MAP (DURHAM INSET)



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# Chapter 1:

## Analysis of the Existing and Future Transportation System

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A Comprehensive Transportation Plan (CTP) is developed to ensure that the transportation system meets the needs of the region for the planning period. The CTP serves as an official guide to providing a well-coordinated, efficient, and economical transportation and multimodal system for the future of the region. Local officials should use this document to ensure that planned transportation facilities reflect the needs of the public, while minimizing the disruption to local residents, businesses and environmental resources.

In order to develop a CTP, the following are considered:

- ❖ Analysis of the transportation system, including the impact of population and employment forecasts and any local and statewide initiatives;
- ❖ Impacts to the natural and human environment, including natural resources, historic resources, homes, and businesses; and
- ❖ Public input, including community vision and goals and objectives, and the feedback from citizens and local officials.

### 1.1 Analysis Methodology and Data Requirements

#### a) Roadway System Analysis – Level of Service (LOS)

##### Purpose

The highway volume-to-capacity maps show the level of projected congestion of the CTP highway study segments. This information can be used to identify highways that are expected to need future improvements, such as lane additions and intersection improvements, or need capacity increases on parallel routes.

##### Methodology – Volume-to-Capacity (V/C) Maps

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) highway network was identified for analysis and divided into discrete study segments using information such as the number of lanes and projected volumes to separate the network into segments. The V/C maps show the projected 2040 volume divided by the capacity, thus any value of 1 or greater indicates that the volume is expected to exceed the capacity if no improvements are made. Some key factors in these maps include:

- ❖ This is a no-build scenario developed from the Triangle Regional Model (TRM) which applies the 2040 population and employment data on the current

transportation network. This is sometimes referred to as the Existing Plus Committed (E+C) network or no-build scenario. Commonly, the E+C network also includes any highway projects that have right-of-way or construction funding in the first five years of the current Transportation Improvement Program (TIP).

The TRM is a regional travel demand model that includes all of the DCHC MPO planning area and all, or parts of, ten Triangle area counties. Future population, employment and transportation facilities are put into the model to yield future performance measures and trip volumes. Among the many measures that the model produces are travel times, roadway volumes, and trips by mode. TRM version 5.0 was used to help produce the year 2040 roadway volumes for the CTP.

Refer to Appendix G, Socio-Economic Data Forecasting Method, for detailed information on growth expectations and the socio-economic data forecasting methodology.

- ❖ The projected 2040 volume is based on traffic counts. The study segment growth rate from the 2010 to 2040 traffic volume (from the Triangle Regional Model) is applied to the most recent traffic count, which is usually NCDOT's Annual Average Daily Traffic (AADT) for the year 2011. Traffic counts were used because some study segments had a large variance between the model's 2010 volume and the 2011 traffic count.
- ❖ Each study segment is comprised of several TRM roadway links that many times varied significantly in projected volume. The study segment volume was calculated by using a weighted average of the TRM roadway link volumes.
- ❖ The capacity uses Level of Service (LOS) D. The practical existing capacity for each roadway was developed based on the 2000 Highway Capacity Manual using the Transportation Planning Branch's *LOS D Standards for Systems Level Planning*. Recommended improvements and overall design of the transportation plan were based upon achieving a minimum LOS D. Appendix E provides Level of Service definitions and illustrations.

Refer to Appendix C, CTP Inventory and Recommendations, for a table of the highway segments that includes the current and forecasted capacities and volumes, and other performance and attribute information. In addition, the user can view the highway map on the "Adopted" tab of the following CTP Web link: <http://bit.ly/DCHCMPO--Adopted-CTP>. Click on the targeted highway link in order to display a pop-up table of the performance and attribute data. See the next page for screenshots of the Web site and example interactive online map.

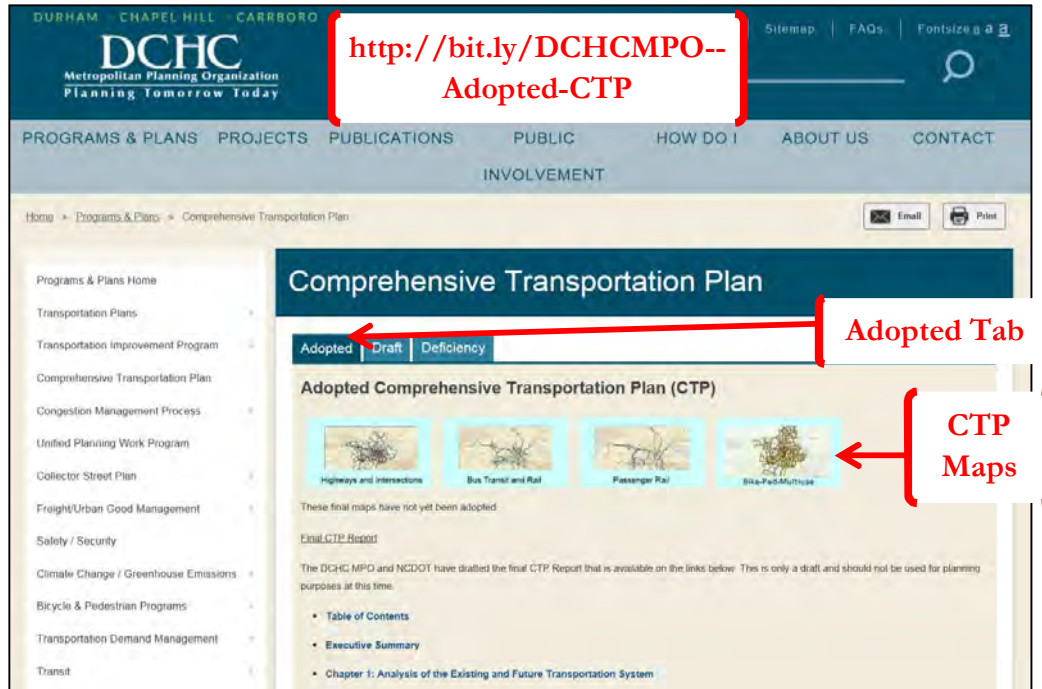


Figure 2: Website Adopted Tab and CTP Maps

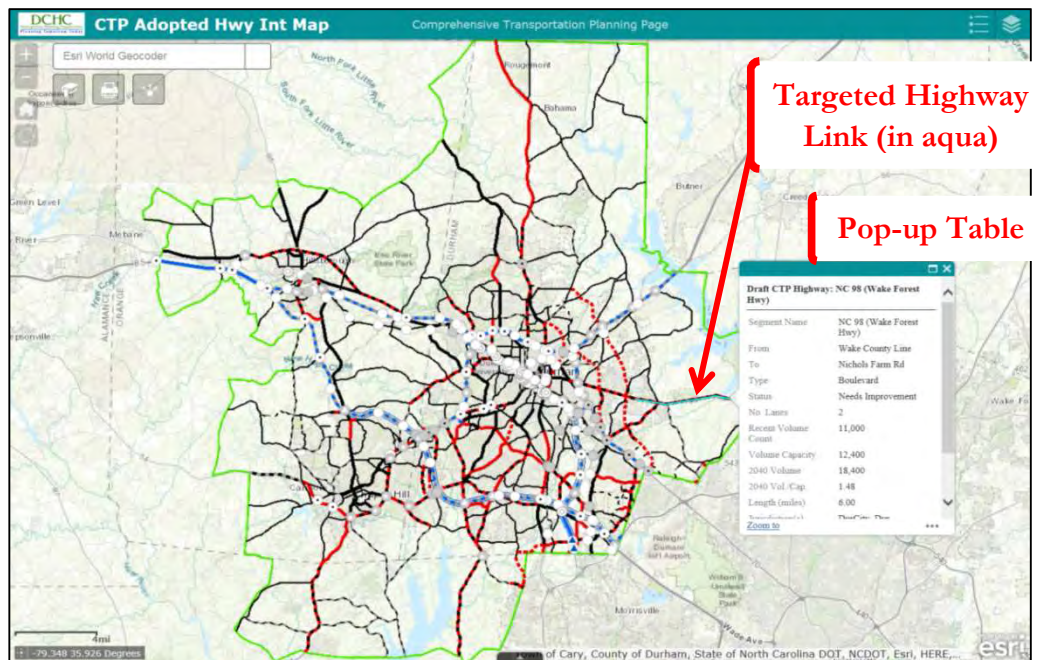


Figure 2a: Website Interactive CTP Map

## Content – V/C Maps

The V/C highway maps are presented on the following pages:

- ❖ Durham County maps are pages 1-5 through 1-9,
- ❖ Orange County maps are pages 1-10 through 1-12, and
- ❖ The Chatham County map is page 1-13.

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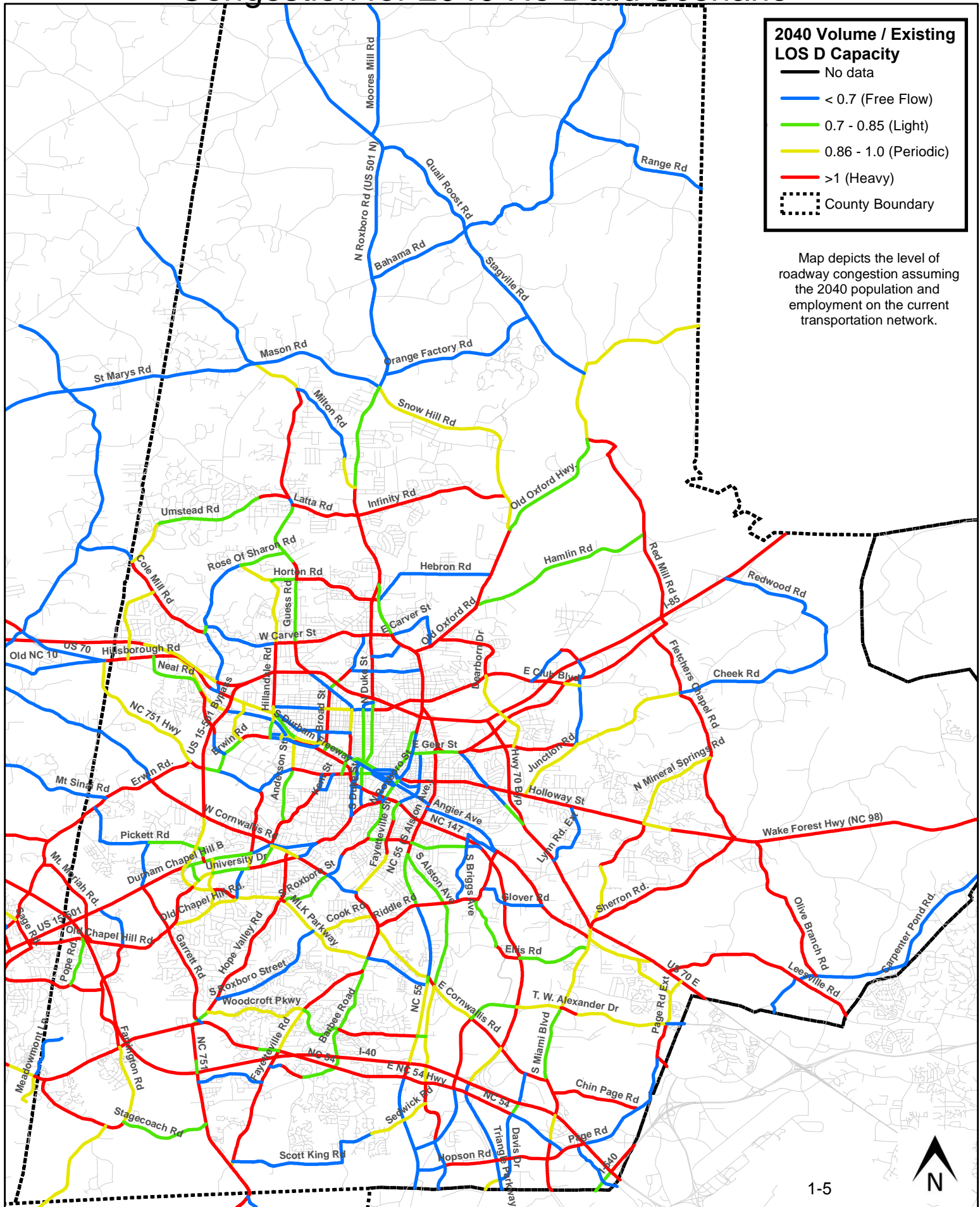


# CTP Highways -- Durham County

## Congestion for 2040 No Build Scenario

Figure 3

Date: 1/21/2015



# CTP Highways -- Central Durham County

## Congestion for 2040 No Build Scenario

Figure 3a

Date: 1/21/2015

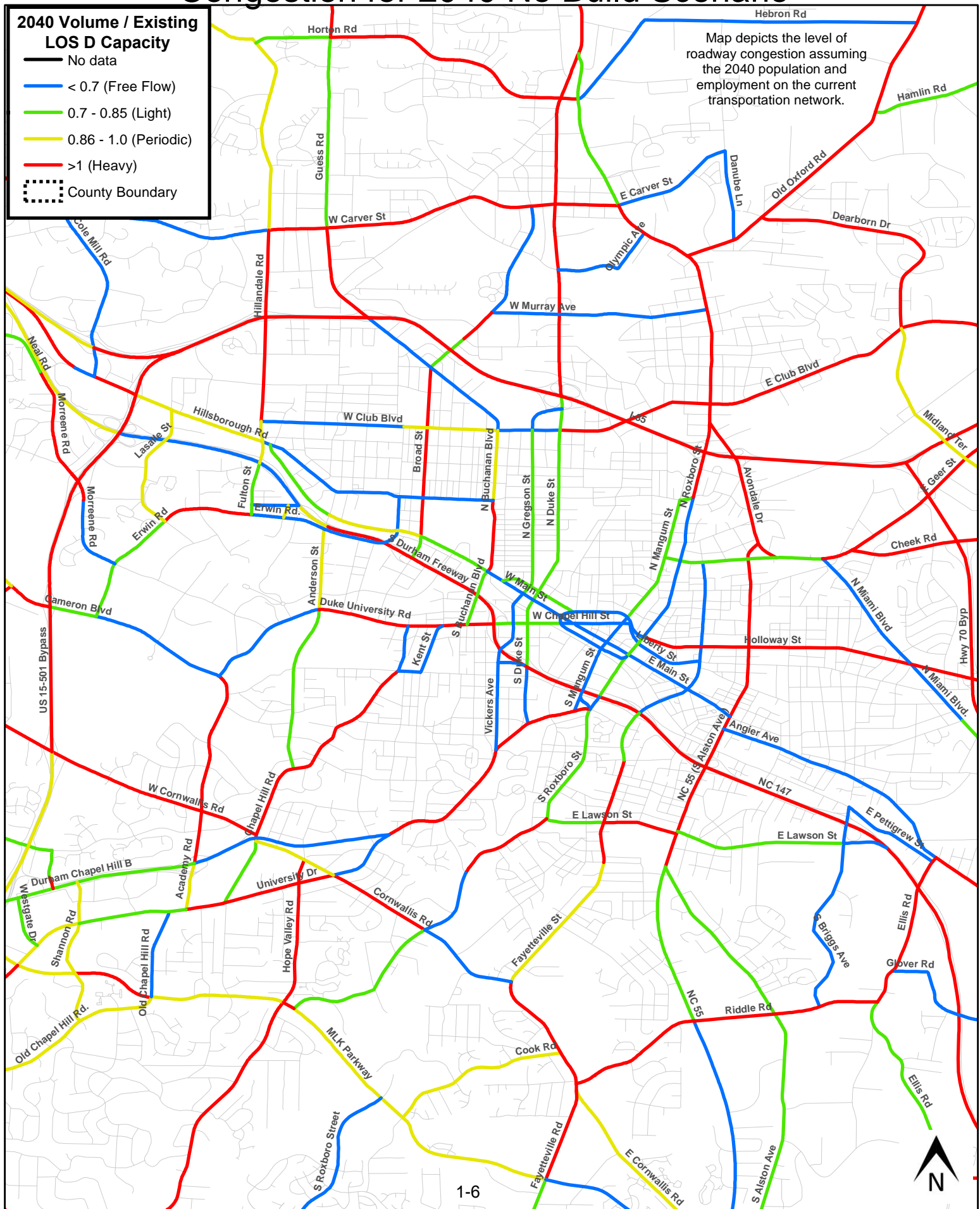
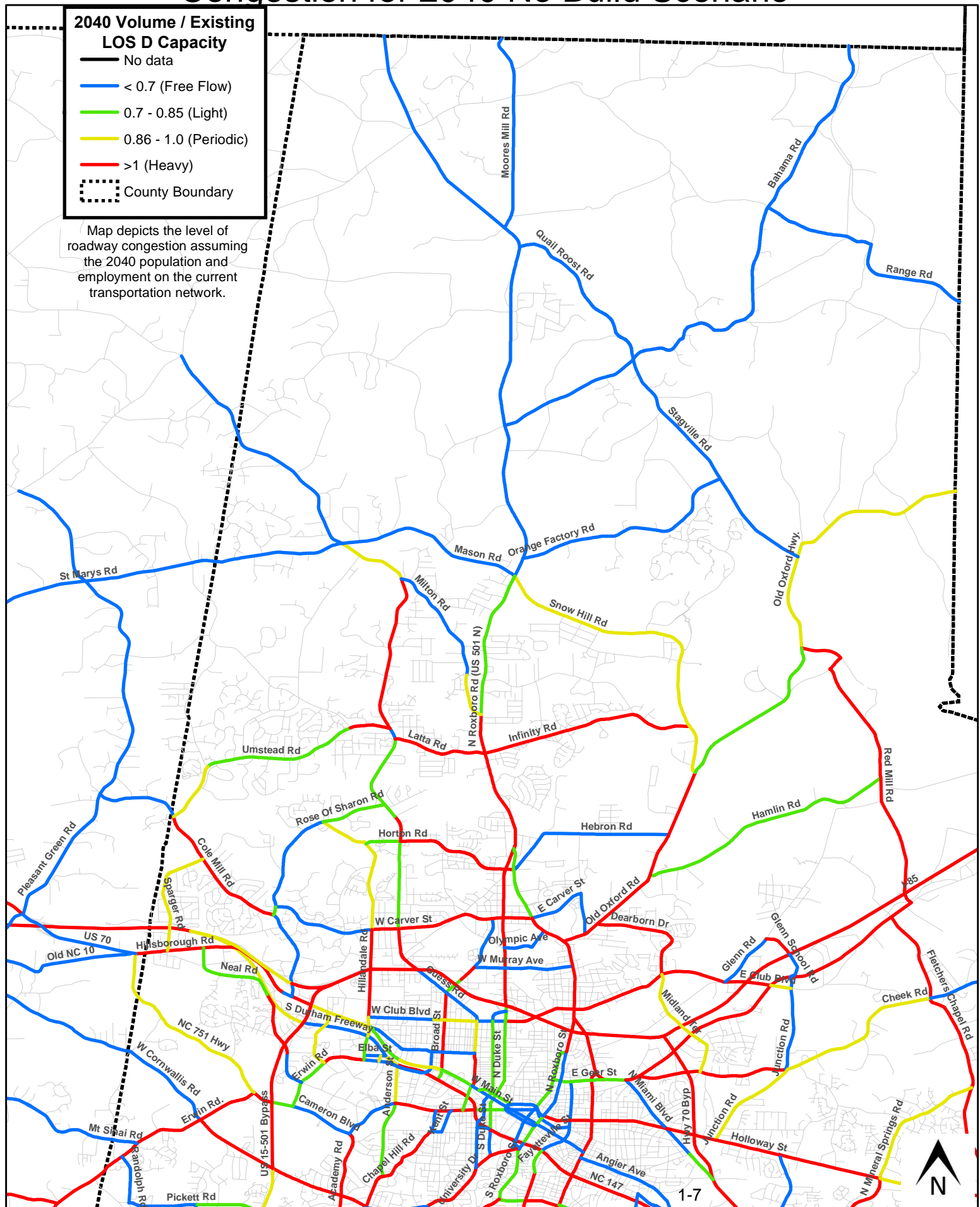


Figure 4

Date: 1/21/2015



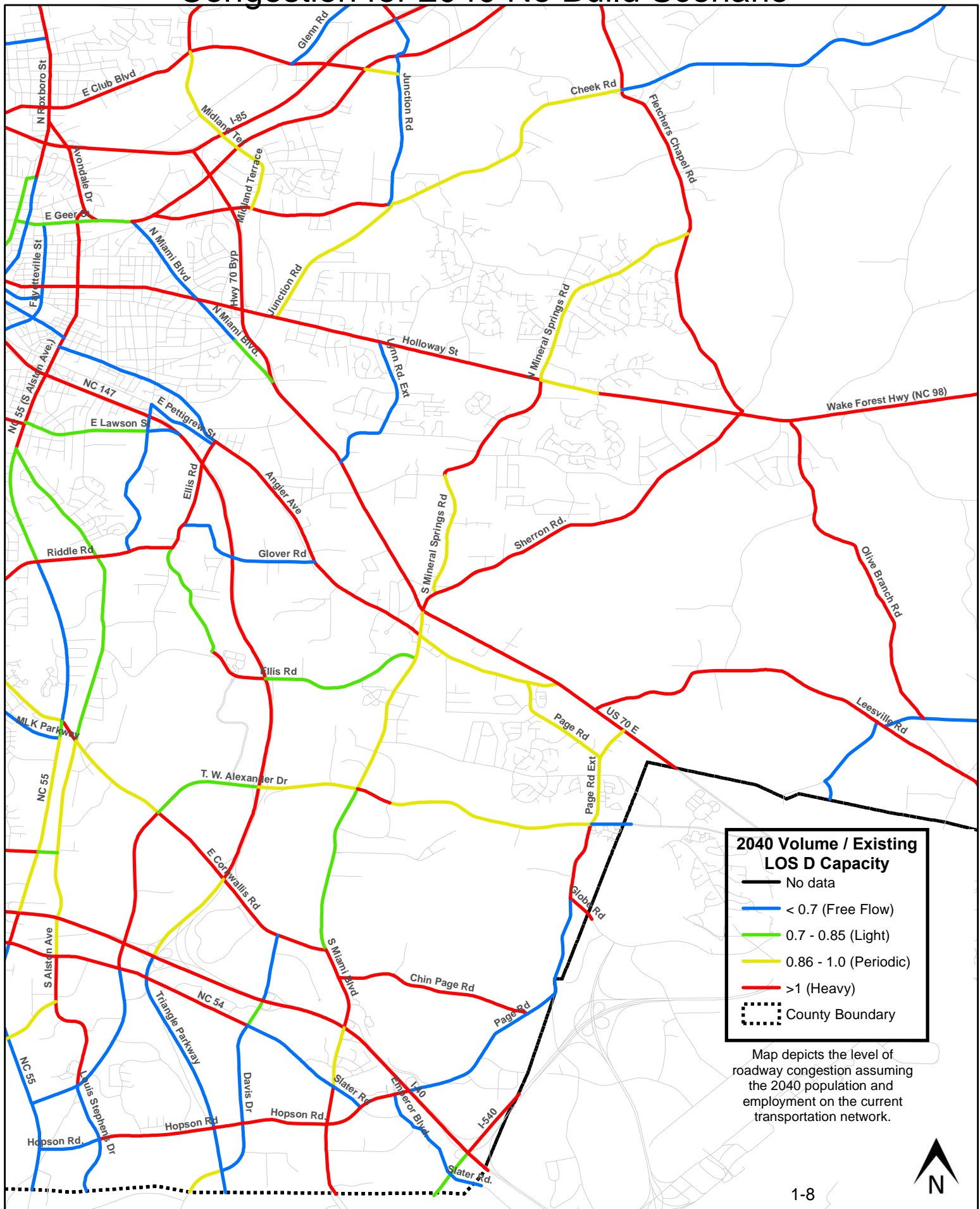


# CTP Highways -- Southeast Durham County

## Congestion for 2040 No Build Scenario

Figure 5

Date: 1/21/2015



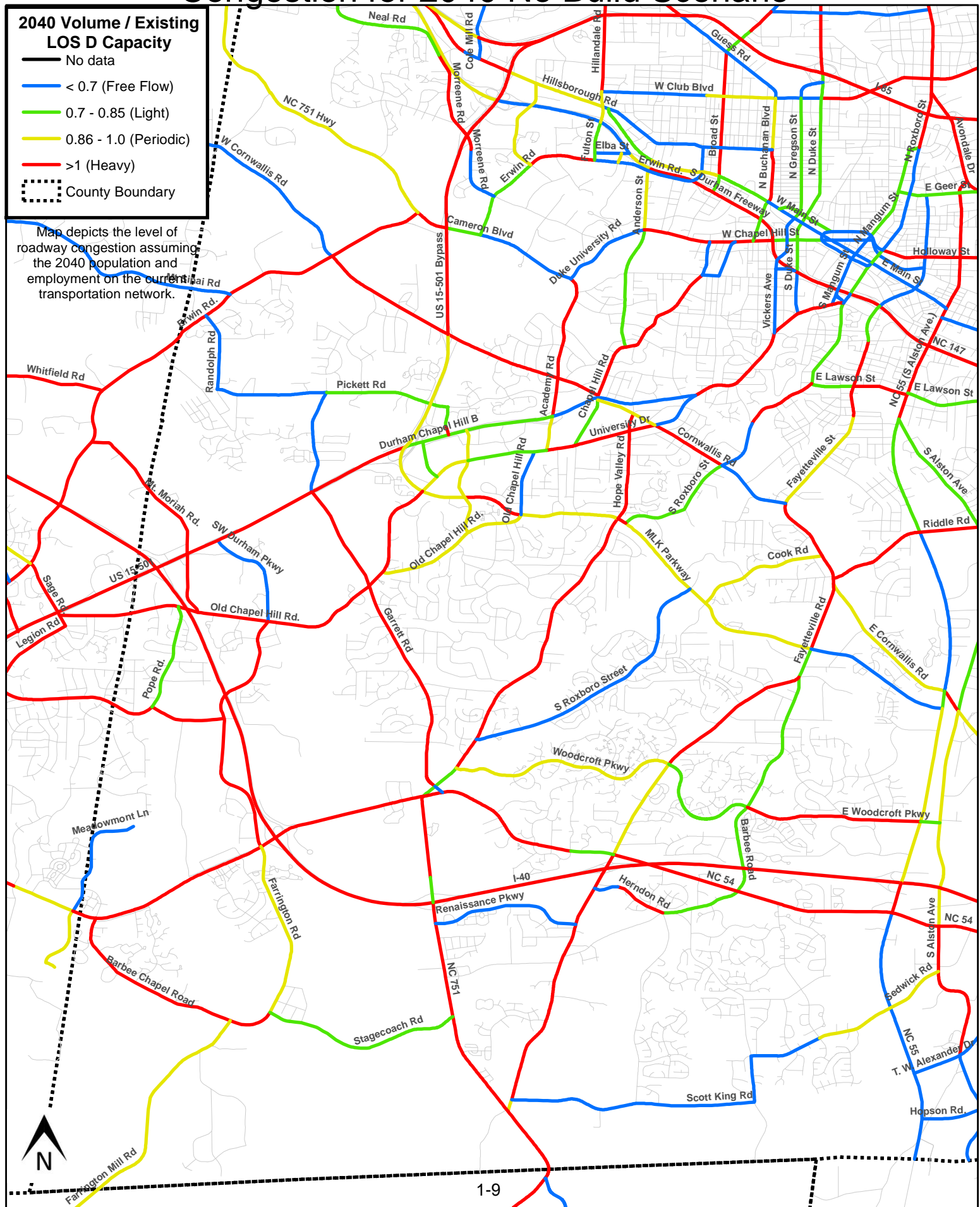


# CTP Highways -- Southwest Durham County

## Congestion for 2040 No Build Scenario

Figure 5a

Date: 1/21/2015

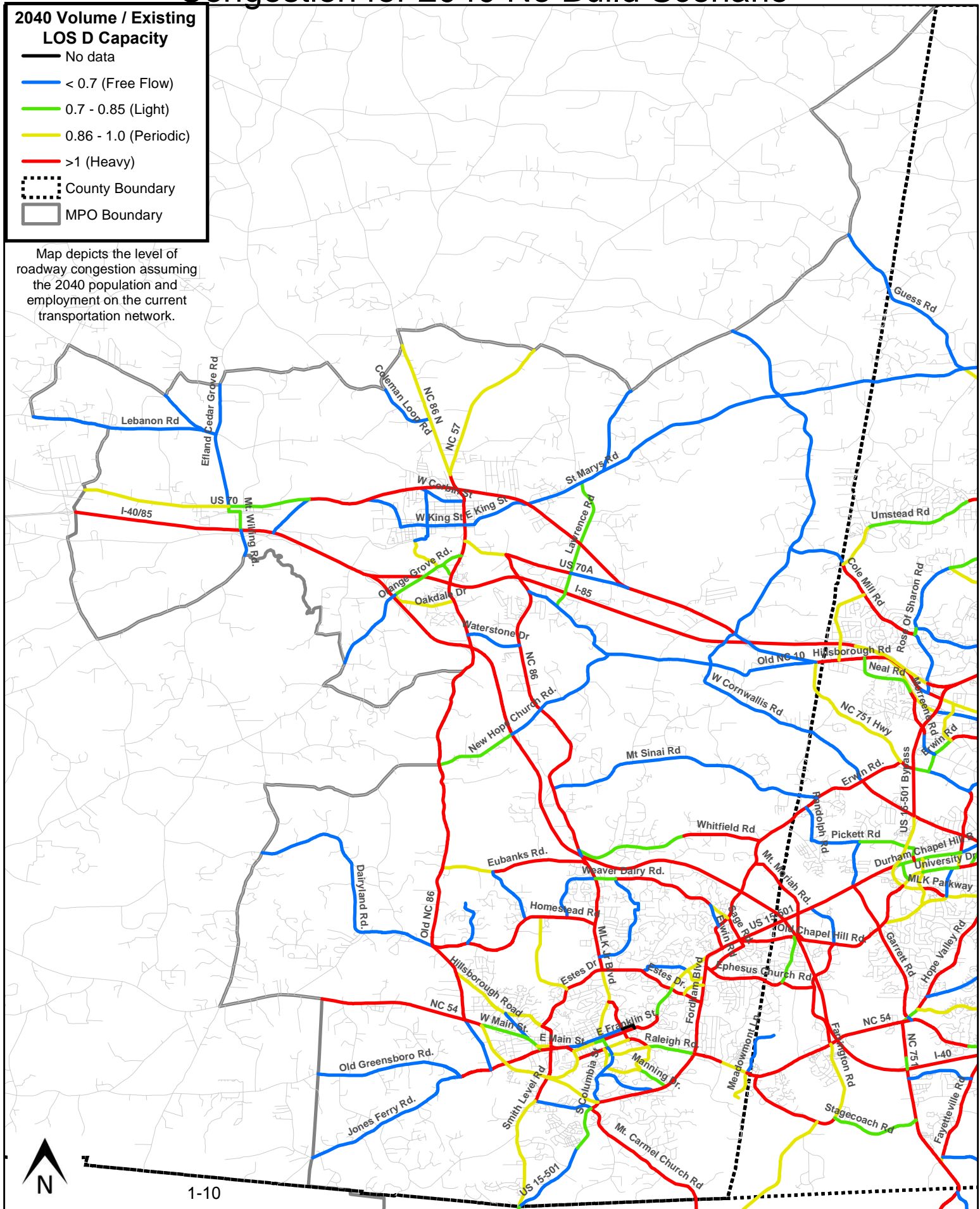


# CTP Highways -- Orange County

## Congestion for 2040 No Build Scenario

Figure 6

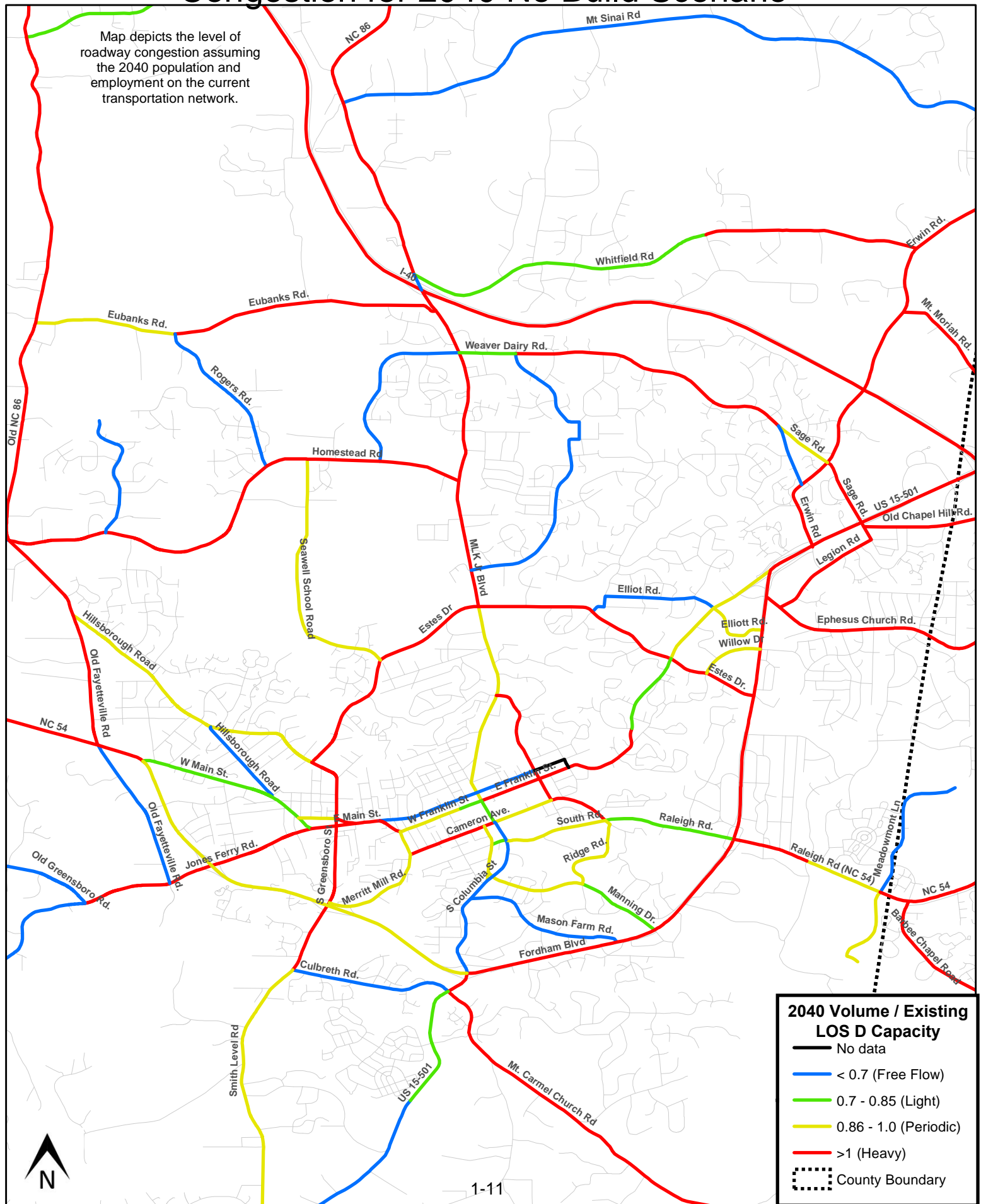
Date: 1/21/2015



# CTP Highways -- Chapel Hill/Carrboro Congestion for 2040 No Build Scenario

Figure 7

Date: 1/21/2015

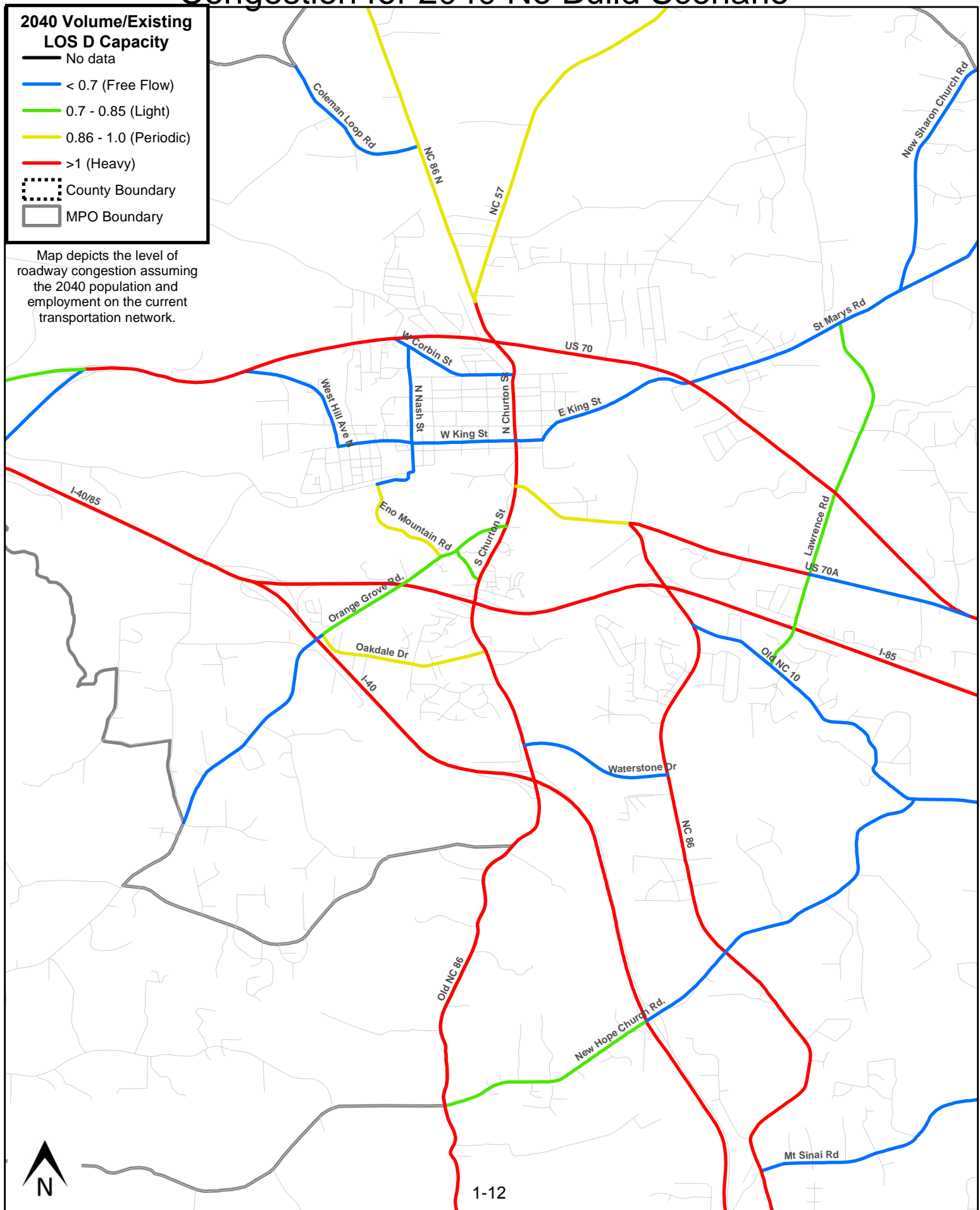


# CTP Highways -- Hillsborough

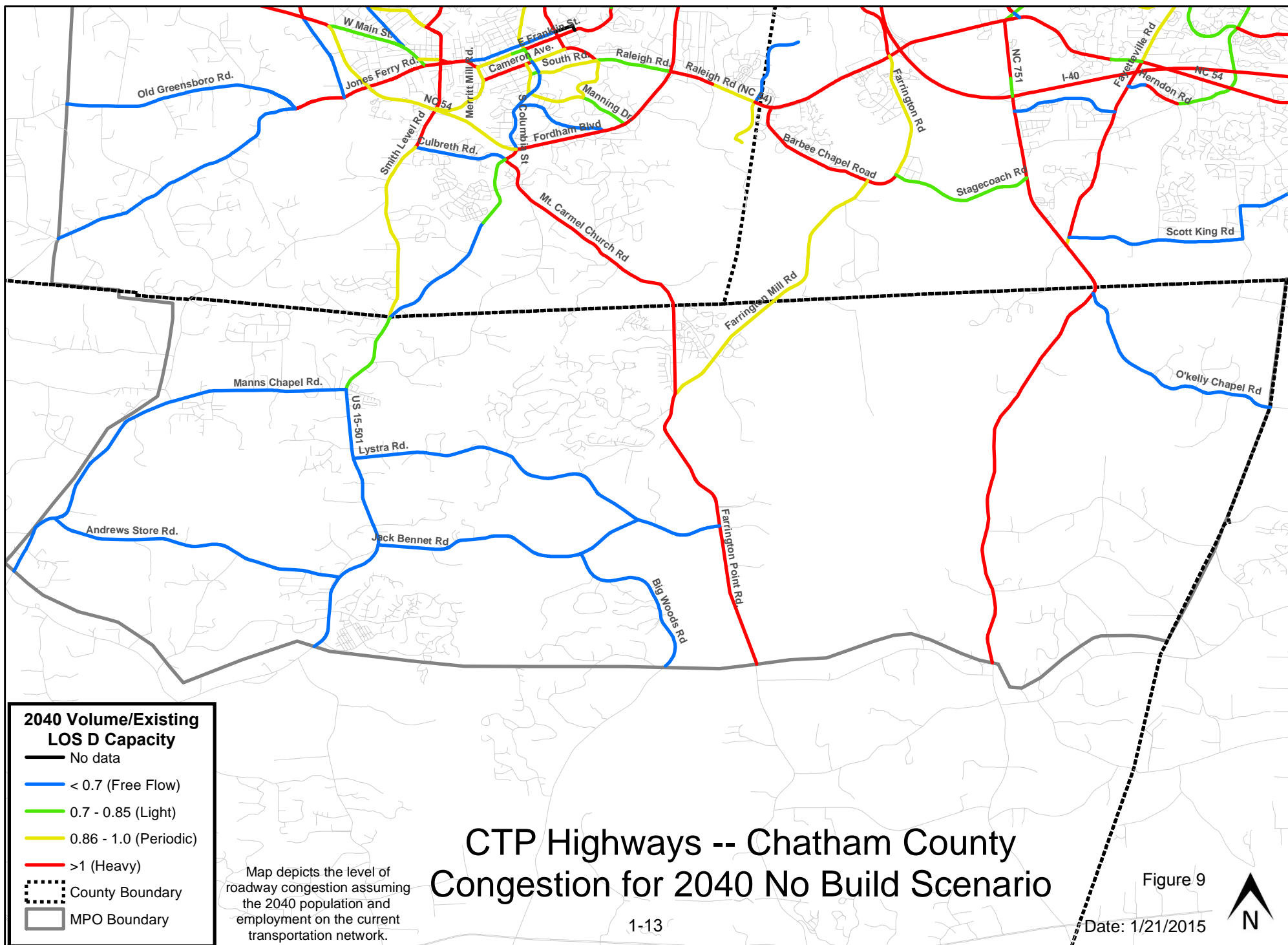
## Congestion for 2040 No Build Scenario

Figure 8

Date: 1/21/2015







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## **i. Roadway System Analysis – Traffic Crash Assessment**

### Purpose

Crash data from the North Carolina Highway Safety Improvement Program (HSIP) safety data identifies intersections and roadway sections that are possibly deficient in terms of safety as well as congestion. These identified intersections and roadway sections were considered in developing CTP recommendations and are identified in the CTP problem statements. Also, the MPO and NCDOT are actively involved with investigating and improving many of these locations. To request a more detailed analysis for any of these locations, or other intersections of concern, contact the Division Traffic Engineer (see Appendix A).

### Background

Using HSIP data from 2009 through 2013, the CTP Crash Locations map shows intersections and roadway sections that meet at least one of several warrants to be classified as potentially hazardous (PH).

It is helpful to understand the purpose of HSIP while considering how the CTP might use this safety information. The purpose of the HSIP is to provide a systematic process that identifies, reviews, and addresses specific traffic safety concerns on NCDOT roadways. The basic program steps include:

- ❖ A system of safety warrants is developed to identify locations that are possibly deficient.
- ❖ Locations that meet warrant criteria are categorized as potentially hazardous (PH) locations.
- ❖ Detailed crash analyses are performed on the PH locations with the more severe and correctable crash patterns.
- ❖ The Regional Traffic Engineering staff completes engineering field investigations, cost studies and other reviews to develop safety recommendations.
- ❖ Depending on the cost and nature of the countermeasures, the investigations may result in requesting adjustments or repairs, developing Spot Safety or Hazard Elimination projects, making adjustments to current TIP project plans or using other funding sources to initiate countermeasures.
- ❖ Selected projects are evaluated to determine the effectiveness of countermeasures.

Additional HSIP information can be found at the Web page for the 2014 NC Highway Safety Improvement Program (HSIP) report -- <http://tinyurl.com/2014safetyreport>. (In the HSIP report, see chapter five, pages 5-7, for Safety Warrant descriptions.)

## Content

- ❖ The Crash Locations map is on page 1-17,
- ❖ The table of intersections is on page 1-19 through 1-21,
- ❖ The table of roadway sections is on page 1-22 through 1-23, and
- ❖ The following link provides an interactive online map of HSIP crash locations sponsored by NCDOT -- <https://tinyurl.com/HSIPmap>.



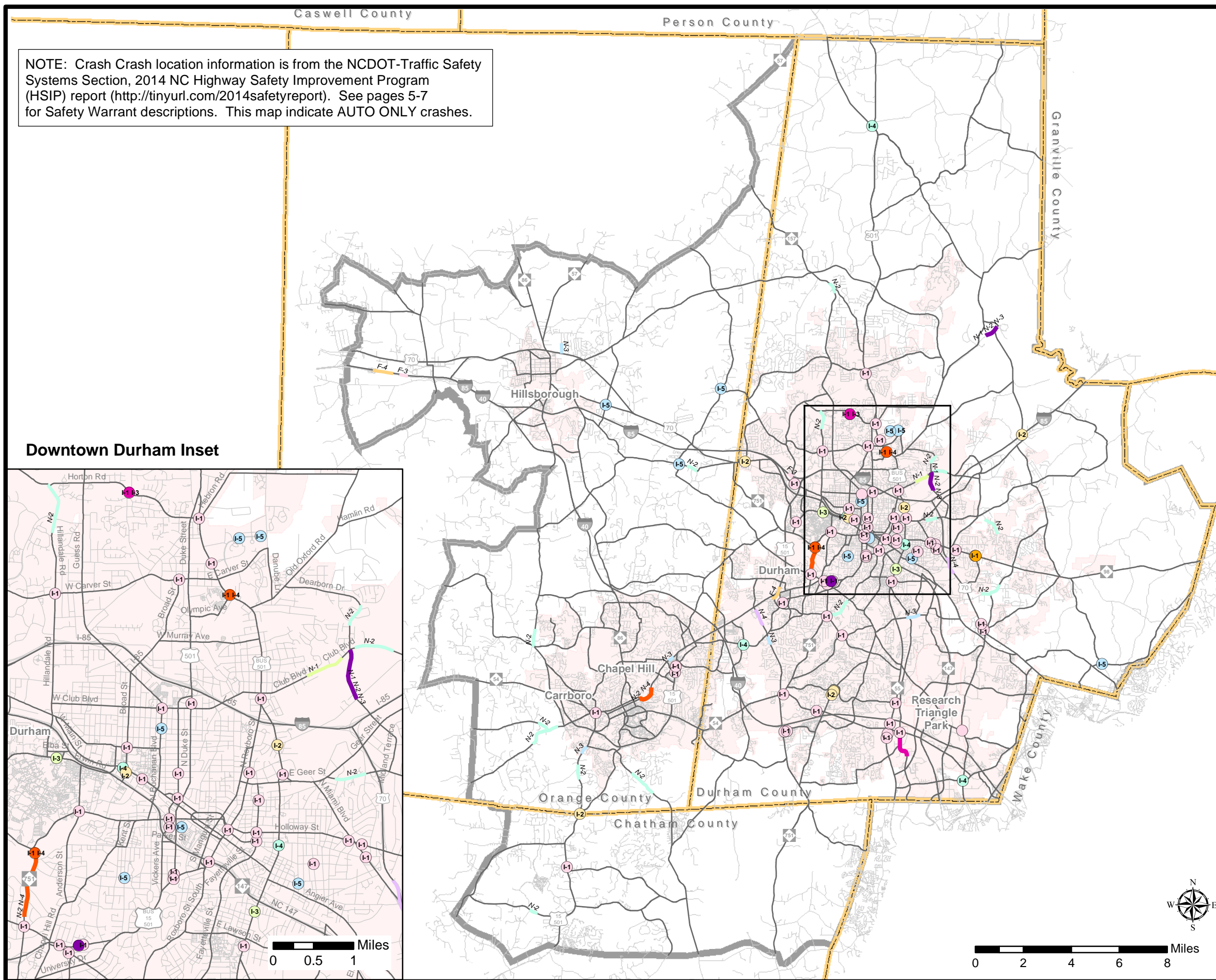


Figure 10

# **Crash Locations that Exceed One Safety Warrant 2009-2013**

## **Durham-Chapel Hill- Carrboro MPO**

Map date: December 5, 2014

### **Legend**

#### **Intersection Safety Warrants**

- I-1: Frontal Impact; I-2: Last Year Increase
- I-1: Frontal Impact; I-3: Frequency with a Severity Index Minimum
- I-1: Frontal Impact; I-4: Night Location
- I-2: Last Year Increase; I-4: Night Location
- I-1: Frontal Impact
- I-2: Last Year Increase
- I-3: Frequency with a Severity Index Minimum
- I-4: Night Location
- I-5: Chronic Crossing Pattern

#### **Section Safety Warrants**

- N-1: Run Off Road during Wet Road Conditions; N-2: Run Off Road; N-3: Wet Road Condition (Non-Freeway)
- N-2: Run Off Road; N-3: Wet Road Condition (Non-Freeway)
- N-2: Run Off Road; N-4: Non-Intersection Night Location (Non-Freeway)
- F-3: Wet Road Condition (Freeway)
- F-4: Night Location (Freeway)
- N-1: Run Off Road during Wet Road Conditions (Non-Freeway)
- N-2: Run Off Road (Non-Freeway)
- N-3: Wet Road Condition (Non-Freeway)
- N-4: Non-Intersection Night Location (Non-Freeway)

- DCHC MPO Planning Boundary
- County Boundary
- Municipal Boundary

Base map date: September 18, 2009

Back of Figure

## 2014 HSIP - Potentially Hazardous Intersection Locations

Crash Locations that Potentially Exceed at Least One Safety Warrant (2009-2013)

Table 2

### INTERSECTION LOCATIONS

No.	Road A	Road B	No. Crashes	Severity Index	Warrant				
					I-1	I-2	I-3	I-4	I-5
					Frontal Impact	Last Year Increase	Frequency with a Severity Index Minimum	Night Location	Chronic Crossing Pattern
<b>CHATHAM COUNTY</b>									
1	US 15	LYSTRA RD (SR 1721)	25	4.55	Y				
<b>DURHAM COUNTY</b>									
2	ANDERSON ST	DUKE UNIVERSITY RD	30	2.97	Y				
3	ARCHDALE DR (SR 2295)	MARTIN LUTHER KING JR PKWY	39	2.9	Y				
4	BROAD ST (SR 1322)	W MARKHAM AVE	33	2.35	Y				
5	CARPENTER POND RD (SR 1901)	OLIVE BRANCH RD (SR 1905)	26	7.33					Y
6	DOWD ST	N ELIZABETH ST	31	5.35	Y				
7	E CORNWALLIS RD (SR 1121)	S MIAMI BLVD (SR 1959)	40	3.59	Y				
8	ERWIN RD (SR 1320)	TRENT DR	37	6.3			Y		
9	FAYETTEVILLE RD (SR 1118)	GENEVA DR	29	3.55		Y			
10	HILLANDALE RD (SR 1321)	W CARVER ST (SR 1407)	32	2.39	Y				
11	HORTON RD (SR 1443)	STADIUM DR	50	6.4	Y		Y		
12	HYDE PARK AVE	E MAIN ST	32	4.24					Y
13	I 85	RED MILL RD (SR 1632)	35	4.17		Y			
14	JACKSON ST	WILLARD ST	30	2.73					Y
15	KENT ST	W LAKEWOOD AVE	41	4.25					Y
16	MARTIN LUTHER KING JR PKWY	ROXBORO ST	59	4.54	Y				
17	MEDICAL PARK DR	BEN FRANKLIN BLVD	20	3.59					Y
18	MORRENE RD (SR 1317)	ERWIN RD (SR 1320)	53	3.23	Y				
19	N BUCHANAN BLVD	W KNOX ST	48	4.4					Y
20	N DRIVER ST	TAYLOR ST	26	2.99	Y				
21	N DUKE ST (SR 1445)	W CLUB BLVD	56	3.25	Y				
22	N ELIZABETH ST	LIBERTY ST	28	3.38	Y				
23	N GREGSON ST (SR 1327)	W TRINITY AVE	28	3.38	Y				
24	NC 54	HOPSON RD (SR 1978)	34	4.05				Y	
25	NC 54	SOUTHPOINT CROSSING DR	26	2.99	Y				
26	NC 54	S ALSTON AVE (SR 1945)	30	1.99	Y				
27	NC 54	GARRETT RD	55	2.88	Y				
28	NC 55	CAMDEN AVE (SR 1671)	26	1.28		Y			
29	NC 55	SR 2205	29	5.14	Y				
30	NC 55	MEREDITH DR	61	2.21	Y				
31	NC 55	PARK FORTY PLAZA	38	2.75	Y				

\*Any ranking of locations are for analysis and investigation purposes ONLY.

This list is not an effective "Top Ten Most Dangerous Locations in the State" type of list.

## 2014 HSIP - Potentially Hazardous Intersection Locations

Crash Locations that Potentially Exceed at Least One Safety Warrant (2009-2013)

### INTERSECTION LOCATIONS

No.	Road A	Road B	No. Crashes	Severity Index	Warrant				
					I-1	I-2	I-3	I-4	I-5
					Frontal Impact	Last Year Increase	Frequency with a Severity Index Minimum	Night Location	Chronic Crossing Pattern
32	NC 55	SR 1182	36	3.26	Y				
33	NC 55	DAYTON ST	42	6.02	Y				
34	NC 55	LINWOOD AVE	59	6.86			Y		
35	NC 55	LIBERTY ST	52	4.45				Y	
36	NC 55	AVONDALE DR (SR 1357)	46	3.41	Y				
37	NC 751	DUKE UNIVERSITY RD	27	1.82	Y			Y	
38	NC 751	W CORNWALLIS RD (SR 1308)	27	4.01	Y				
39	NC 98	HARDEE ST	45	3.8	Y				
40	NC 98	ADAMS ST	28	4.7	Y				
41	NC 98	LYNN RD EXT (SR 1919)	61	5.03	Y				
42	NC 98	SR 1844	28	3.38		Y		Y	
43	RENAISSANCE PKWY	LEONARDO DR	27	2.64	Y				
44	S DUKE ST (SR 1445)	W LAKEWOOD AVE	30	1.99	Y				
45	S GREGSON ST (SR 1361)	JACKSON ST	33	2.35	Y				
46	SW DURHAM PKWY (SR 1110)	OLD CHAPEL HILL RD (SR 2220)	35	4.22				Y	
47	SWIFT AVE (SR 1322)	W PETTIGREW ST	43	2.03		Y			
48	UNIVERSITY DR	WESTGATE DR	38	3.14	Y				
49	US 15BUS	W CORNWALLIS RD (SR 1308)	51	4.95	Y				
50	US 15BUS	S DUKE ST (SR 1445)	36	3.06	Y				
51	US 15BUS	S ROXBORO ST (SR 1365)	55	3.96	Y				
52	US 15BUS	NC 98	28	5.49	Y				
53	US 15BUS	E TRINITY AVE	33	3.69	Y				
54	US 15BUS SB COUPLET	S ROXBORO ST (SR 1365)	103	3.87	Y				
55	US 15BUS SB COUPLET	SR 1364	26	4.13	Y	Y			
56	US 501	OMEGA RD	37	2.8	Y				
57	US 501	QUAIL ROOST FARM RD (SR 1468)	23	2.61				Y	
58	US 501BUS	DAVIDSON AVE	53	2.4	Y				
59	US 501BUS	OLYMPIC AVE	27	5.73	Y			Y	
60	US 501BUS	FRASIER ST	28	2.59	Y				
61	US 501BUS	HORTON RD (SR 1443)	93	3.17	Y				
62	US 70	MARLY DR (SR 1957)	45	4.99	Y				
63	US 70	PEYTON AVE (SR 1957)	55	3.99	Y				
64	US 70BUS	SPARGER RD (SR 1400)	31	3.86		Y			

\*Any ranking of locations are for analysis and investigation purposes ONLY.

This list is not an effective "Top Ten Most Dangerous Locations in the State" type of list.

## 2014 HSIP - Potentially Hazardous Intersection Locations

Crash Locations that Potentially Exceed at Least One Safety Warrant (2009-2013)

### INTERSECTION LOCATIONS

No.	Road A	Road B	No. Crashes	Severity Index	Warrant				
					I-1	I-2	I-3	I-4	I-5
					Frontal Impact	Last Year Increase	Frequency with a Severity Index Minimum	Night Location	Chronic Crossing Pattern
65	US 70BUS	CHRISTIAN AVE	59	1.88	Y				
66	US 70BUS	BUCHANAN BLVD	35	2.48				Y	
67	US 70BUS	N GREGSON ST (SR 1327)	54	2.64	Y				
68	US 70BUS	N ELIZABETH ST	26	2.71	Y				
69	US 70BUS	RAYNOR ST	40	3.04	Y				
70	US 70BUS	LIBERTY ST	30	3.47	Y				
71	US 70BUS WB COUPLET	N GREGSON ST (SR 1327)	56	2.59	Y				
72	W CARVER ST (SR 1407)	BROAD ST	28	3.38	Y				
73	W CHAPEL HILL ST (SR 1127)	S GREGSON ST (SR 1327)	35	3.33	Y				
74	W CLUB BLVD	GUESS RD	34	2.74	Y				
75	W CORNWALLIS RD (SR 1158)	HOPE VALLEY RD	36	3.26	Y				
<b>ORANGE COUNTY</b>									
76	MAIN ST (SR 1010)	HILLSBOROUGH RD (SR 1772)	26	2.99	Y				
77	OLD NC 10 (SR 1710)	MT HERMON CHURCH RD (SR 1713)	20	8.86					Y
78	PLEASANT GREEN RD (SR 1567)	COLE MILL RD (SR 1569)	20	7.38					Y
79	US 15	SMITH LEVEL RD (SR 1919)	36	2.44		Y			
80	US 15	WILLOW DR	67	4.89	Y				
81	US 15	ELLIOT RD	52	3.13	Y				
82	US 70BUS	LAWRENCE RD (SR 1709)	36	4.08					Y

NOTE: Crash location information is from the NCDOT-Traffic Safety Systems Section, 2014 NC Highway Safety Improvement Program (HSIP) report (<http://tinyurl.com/2014safetyreport>). See pages 5-7 for Safety Warrant descriptions.

\*Any ranking of locations are for analysis and investigation purposes ONLY.

This list is not an effective "Top Ten Most Dangerous Locations in the State" type of list.



Table 3

**2014 HSIP - Potentially Hazardous Section Locations**

Crash Locations that Potentially Exceed at Least One Safety Warrant (2009-2013)

**SECTION LOCATIONS**

					Warrant							
					F-1	F-2	F-3	F-4	N-1	N-2	N-3	N-4
					Freeway				Non-Freeway			
No.	Road A	Road B	No. Crashes	Severity Index	Run Off Road during Wet Road Conditions	Run Off Road	Wet Road Condition	Night Location	Run Off Road during Wet Road Conditions2	Run Off Road2	Wet Road Condition2	Non-Intersection Night Location
<b>CHATHAM COUNTY</b>												
1	ANDREWS STORE RD (SR 1528)	PARKER HERNDON RD (SR 1526)	16	3.78						Y		
<b>DURHAM COUNTY</b>												
2	COOK RD	DUNN AVE	80	3.22						Y		
3	GLENBROOK DR	DUBONNETT PL	20	2.11						Y		
4	I 85	COLE MILL RD (SR 1401)	30	1.99			Y					
5	NC 147	E CORNWALLIS RD (SR 1121)	30	2.23			Y					
6	NC 157 (GUESS RD)	MILTON RD (SR 1456)	15	14.6						Y		
7	NC 751 (ACADEMY RD)	PINECREST RD	34	4.97						Y		Y
8	GARRETT RD (SR 1116)	CAVALIER AVE	24	2.54							Y	
9	GARRETT RD (SR 1116)	MILLENNIUM DR	19	1.78								Y
10	RIDDLE RD (SR 1171)	S BRIGGS AVE	28	2.59							Y	
11	HILLANDALE RD (SR 1321)	PEPPERTREE ST	36	3.06						Y		
12	DEARBORN DR (SR 1666)	DEER RUN	19	4.51						Y		
13	E CLUB BLVD (SR 1669)	JONES PARK DR	15	2.97						Y		
14	E CLUB BLVD (SR 1669)	KISS DR	30	3.71					Y			
15	MIDLAND TERRACE (SR 1709)	CUSTOM DR	26	3.85					Y	Y	Y	
16	TEKNIKA PKWY (SR 1794)	RED MILL RD (SR 1632)	15	3.96					Y	Y	Y	
17	CHEEK RD (SR 1800)	ANDOVER DR	18	3.47						Y		
18	S MINERAL SPRINGS RD / PLEASANT DR (SR 1815)	S MINERAL SPRINGS RD (SR 1917)	27	4.01						Y		
19	CLAYTON RD (SR 1825)	GLENROSE DR	21	7.43						Y		
20	S ALSTON AVE (SR 1945)	SEDWICK RD (SR 1977)	37	3.2						Y	Y	
21	S ROXBORO ST / ARCHDALE DR (SR 2295)	OAK RIDGE BLVD	25	3.07						Y		
22	US 15	US 15BUS SB COUPLET	33	1.9				Y				
23	US 70	US 70BUS WB COUPLET	25	1.89								Y
24	W WOODCROFT PKWY	SANDSTONE RIDGE DR	22	3.69							Y	
<b>ORANGE COUNTY</b>												
25	FRANKLIN ST (SR 1010)	CAROLINA AVE	61	3.18						Y		Y
26	FRANKLIN ST (SR 1010)	MILTON AVE	41	2.62							Y	
27	I 40	BUCKHORN RD (SR 1114)	43	4.31				Y				

\* Any ranking of locations are for analysis and investigation purposes ONLY.

This list is not an effective "Top Ten Most Dangerous Locations in the State" type of list.

**BOLD** = Section locations that are not included in the CTP Study Roads.**Yellow fill** = Not shown on map.

## 2014 HSIP - Potentially Hazardous Section Locations

Crash Locations that Potentially Exceed at Least One Safety Warrant (2009-2013)

### SECTION LOCATIONS

					Warrant							
					F-1	F-2	F-3	F-4	N-1	N-2	N-3	N-4
					Freeway				Non-Freeway			
No.	Road A	Road B	No. Crashes	Severity Index	Run Off Road during Wet Road Conditions	Run Off Road	Wet Road Condition	Night Location	Run Off Road during Wet Road Conditions2	Run Off Road2	Wet Road Condition2	Non-Intersection Night Location
28	I 40	MT WILLING RD (SR 1120)	30	2.97			Y					
29	JONES FERRY RD (SR 1942)	CRYSTAL SPRINGS CT	29	2.79						Y		
30	JONES FERRY RD / OLD GREENSBORO RD (SR 1005)	OLD SCHOOL RD (SR 1941)	26	15.5						Y		
31	MT CARMEL CHURCH RD (SR 1008)	PARKER RD (SR 1916)	31	5.12						Y		
32	OLD NC 10	MURPHY SCHOOL RD (SR 1714)	17	2.74						Y		
33	OLD NC 86	STONEY HILL RD	18	3.06						Y		
34	ORANGE HIGH SCHOOL RD (SR 1588)	US 70	17	6.76							Y	
35	SMITH LEVEL RD (SR 1919)	ROCK HAVEN RD	15	3.47							Y	
36	SMITH LEVEL RD (SR 1919)	NORTHSIDE DR (SR 1964)	15	2.97						Y		

**BOLD =** Section locations that are not included in the CTP Study Roads.

**Yellow fill =** Not shown on map.

NOTE: Crash location information is from the NCDOT-Traffic Safety Systems Section, 2014 NC Highway Safety Improvement Program (HSIP) report (<http://tinyurl.com/2014safetyreport>).

See pages 5-7 for safety warrant details.

## **ii. Roadway System Analysis – Bridge Deficiency Assessment**

### **Purpose**

The deficient bridge data identifies bridges that are structurally deficient or functionally obsolete. Bridges are a vital element of a highway system. They represent the highest unit investment of all elements of the system, and their failure presents the greatest system risk for community disruption and loss of life. For these reasons, it is imperative that bridges be constructed and maintained at a high standard.

The NCDOT Structures Management Unit inspects all bridges in North Carolina at least once every two years. Bridges having the highest priority are replaced as Federal and State funds become available. Ninety (90) deficient bridges were identified within the MPO planning area and are illustrated in Appendix F where more detailed information is available.

The fact that a bridge is designated as deficient does not mean that it is unsafe. The designation attracts continued monitoring and makes the bridge eligible for federal and/or state repair or replacement funding if its sufficiency rating meets a certain threshold. The CTP identifies these bridges in the problem statements of the roadways that are selected for improvements.

### **Content**

Appendix F -- Bridge Deficiency Assessment -- contains:

- ❖ Details on bridge definitions and process,
- ❖ Maps of deficient bridges, and
- ❖ A table of deficient bridges in the MPO planning area.

## **b) Public Transportation, Rail and Truck**

### **i. Public Transportation**

The methodology of analyzing the public transportation systems used a comparison of transit supply and demand to help assist planners, citizens and MPO board members in identifying new or improved transit services in the MPO planning area. This data and any subsequent analysis is not intended to supplant the detailed studies and recommendations of the various transit operators for new and modified bus routes, stops and amenities, or the ongoing environmental analysis and engineering design for the Durham-Orange Light Rail Transit system. Rather, the purpose of this CTP deficiency analysis is to define more general and long-range transit themes.

The transit supply and demand information is provided in a series of introductions, tables and maps, as follows:

- ❖ The transit supply information, maps and tables are on pages 1-25, and 1-27 through 1-37;
- ❖ The transit demand information and maps (based on population and employment densities) are on pages 1-38 through 1-40; and
- ❖ The transit demand information and map (based on mean income) are on pages 1-41 and 1-43.

#### Public Transportation - Supply

The section shows the routes and frequency of current bus transit service in the MPO planning area. This includes service provided by:

- ❖ GoDurham (formerly Durham Area Transit Authority, or DATA);
- ❖ Chapel Hill Transit (CHT);
- ❖ GoTriangle (formerly Triangle Transit Authority, TT, or TTA);
- ❖ Orange Public Transit (OPT); and
- ❖ Duke University Transit.

There are MPO, and Durham and Chapel Hill inset maps for both peak and off-peak service. The frequency of service shows how many minutes transpire between the arrival of any transit bus along that particular roadway segment. Thus, if four buses that each cover a different route travel up that corridor at the same time every sixty minutes, the frequency is sixty minutes. The frequency is not 15 minutes, i.e., sixty minutes divided by four buses.

Table 4, which follows the maps, lists the routes for each transit provider and has detailed information on the type of service and frequency. Table 5 shows Peak-Hour Periods per Agency, Table 5a lists Suggested Headways from a Rhode Island Public Transit Authority (RIPTA) Study, and Table 5b provides Frequency Conversion values. The use of the RIPTA study table is described in more detail in the Public Transportation – Demand (Density) section.

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Figure 11

**Public  
Transportation Map:  
Existing Bus Routes and  
Peak Frequency**

**Durham-Chapel Hill-  
Carrboro MPO**

Chatham, Durham and Orange Counties  
North Carolina

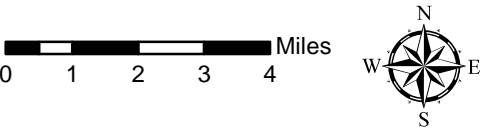
Map date: December 19, 2014

**Legend**

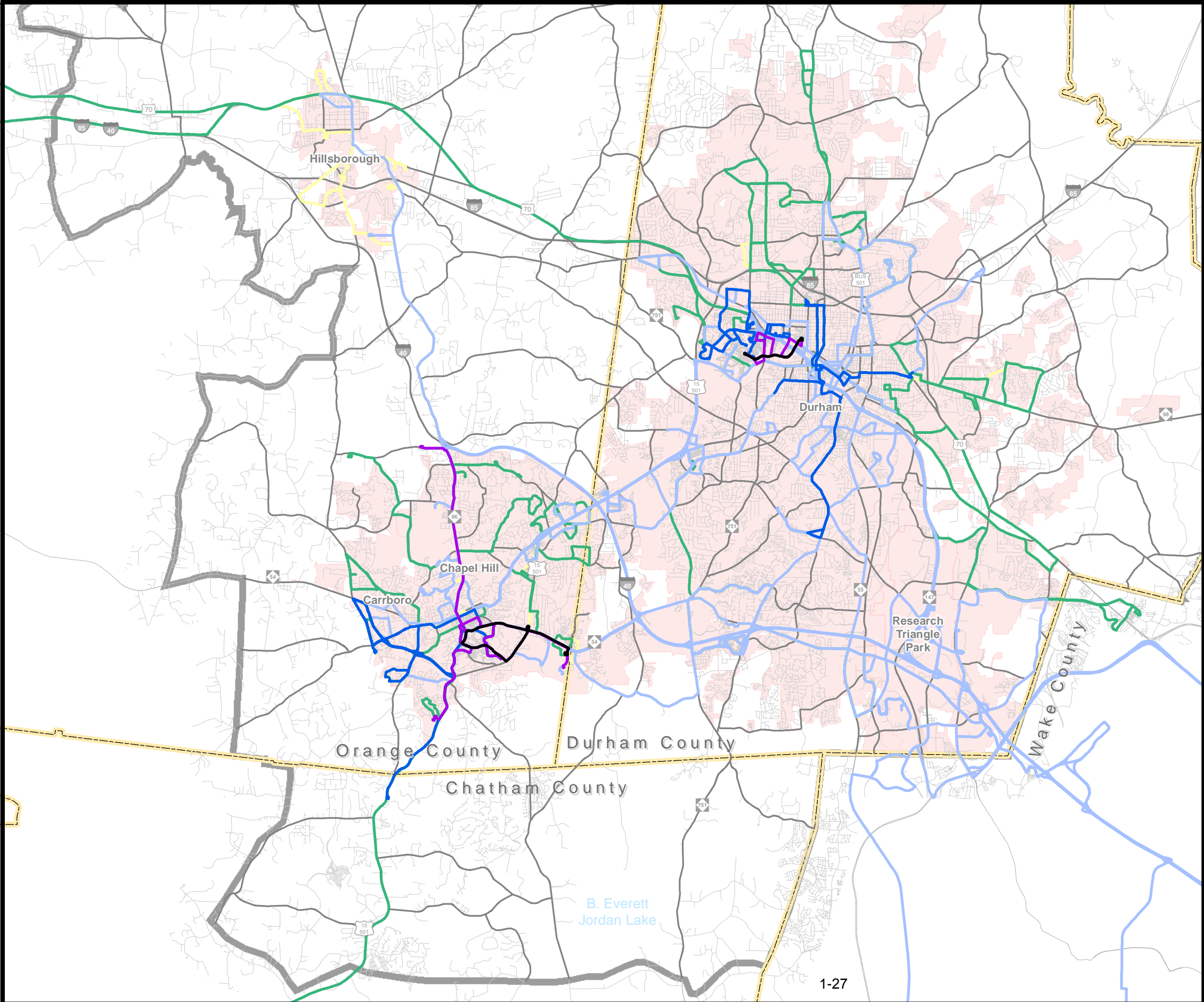
**Peak Frequency, Buses  
per hr. (Headway, min.)**

- 12.0 (5 min.)
- 6.0 - 11.9 (6 - 10 min.)
- 4.0 - 5.9 (11 - 15 min.)
- 2.0 - 3.9 (16 - 30 min.)
- 1.0 - 1.9 (31 - 60 min.)
- 0.1 - 0.9 (> 60 min.)
- 0.0 (Non-Peak Service)

- Study Roads
- Roads
- Municipal Boundaries
- County Boundary
- MPO Planning Boundary



Base map date: September 18, 2009



Back of Figure



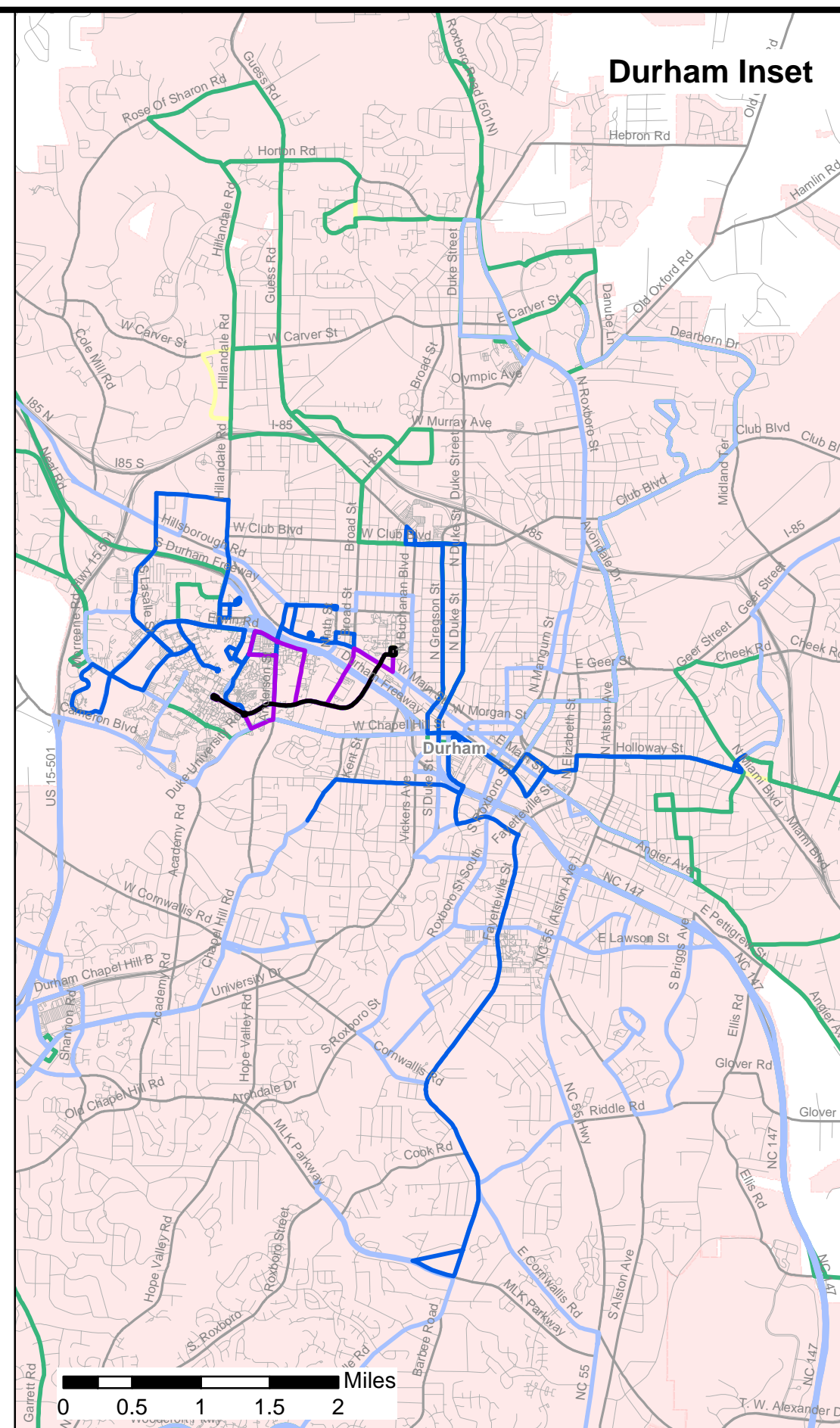
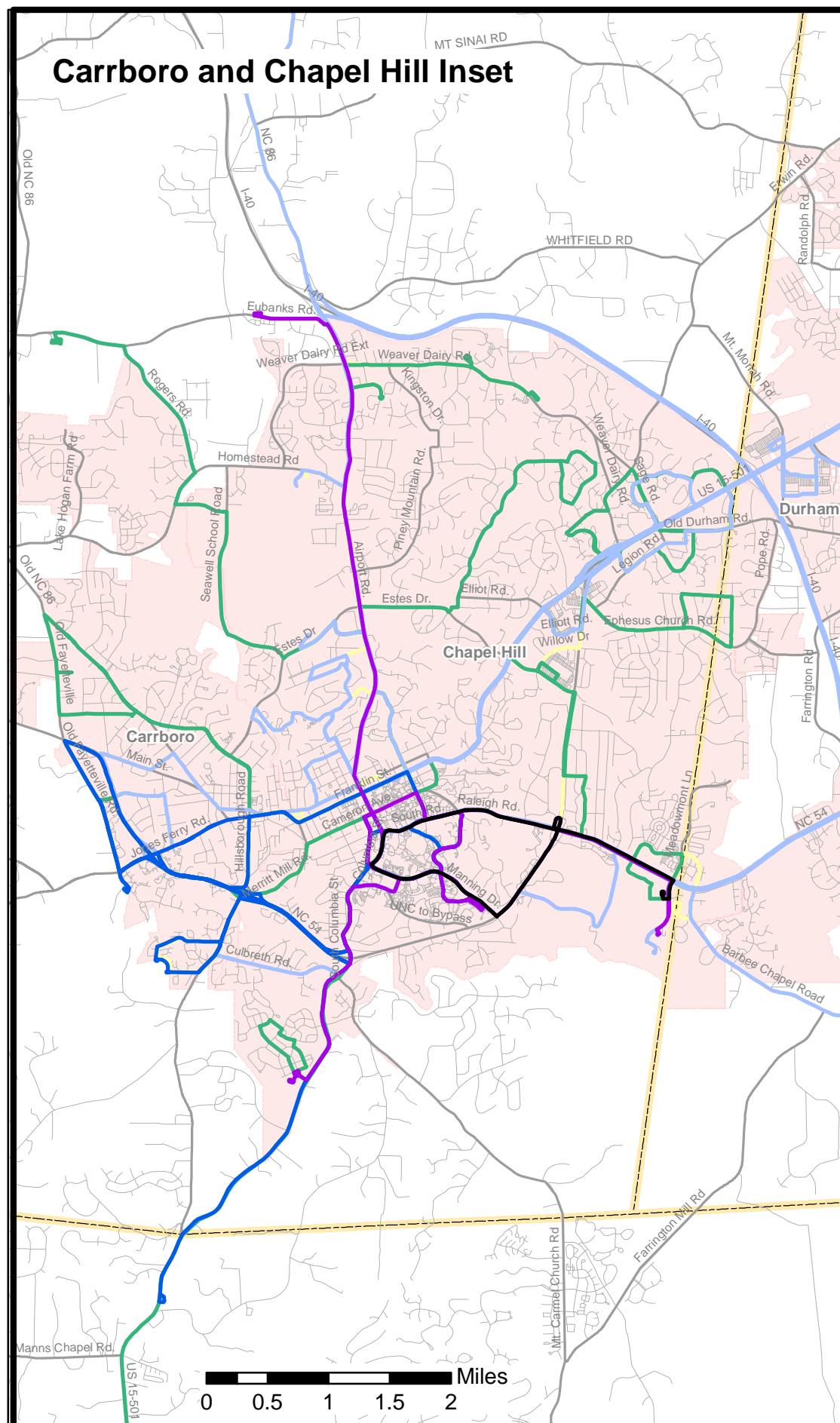


Figure 12

**Public  
Transportation Map:  
Existing Bus Routes and  
Peak Frequency  
(Insets)**

# Durham-Chapel Hill-Carrboro MPO

Chatham, Durham and Orange Counties  
North Carolina

Map date: December 19, 2014

### Legend

**Peak Frequency, Buses  
per hr. (Headway, min.)**

12.0	(5 min.)
6.0 - 11.9	(6 - 10 min.)
4.0 - 5.9	(11 - 15 min.)
2.0 - 3.9	(16 - 30 min.)
1.0 - 1.9	(31 - 60 min.)
0.1 - 0.9	(> 60 min.)
0.0	(Non-Peak Service)

— Study Roads

## Roads

 Municipal Boundaries

 County Boundary

 MPO Planning Boundary



Base map date: September 18, 2009

Back of Figure



Figure 13

# Public Transportation Map: Existing Bus Routes and Off-Peak Frequency

## Durham-Chapel Hill- Carrboro MPO

Chatham, Durham and Orange Counties  
North Carolina

Map date: December 19, 2014

### Legend

#### Off-Peak Frequency, Buses per hr. (Headway, min.)

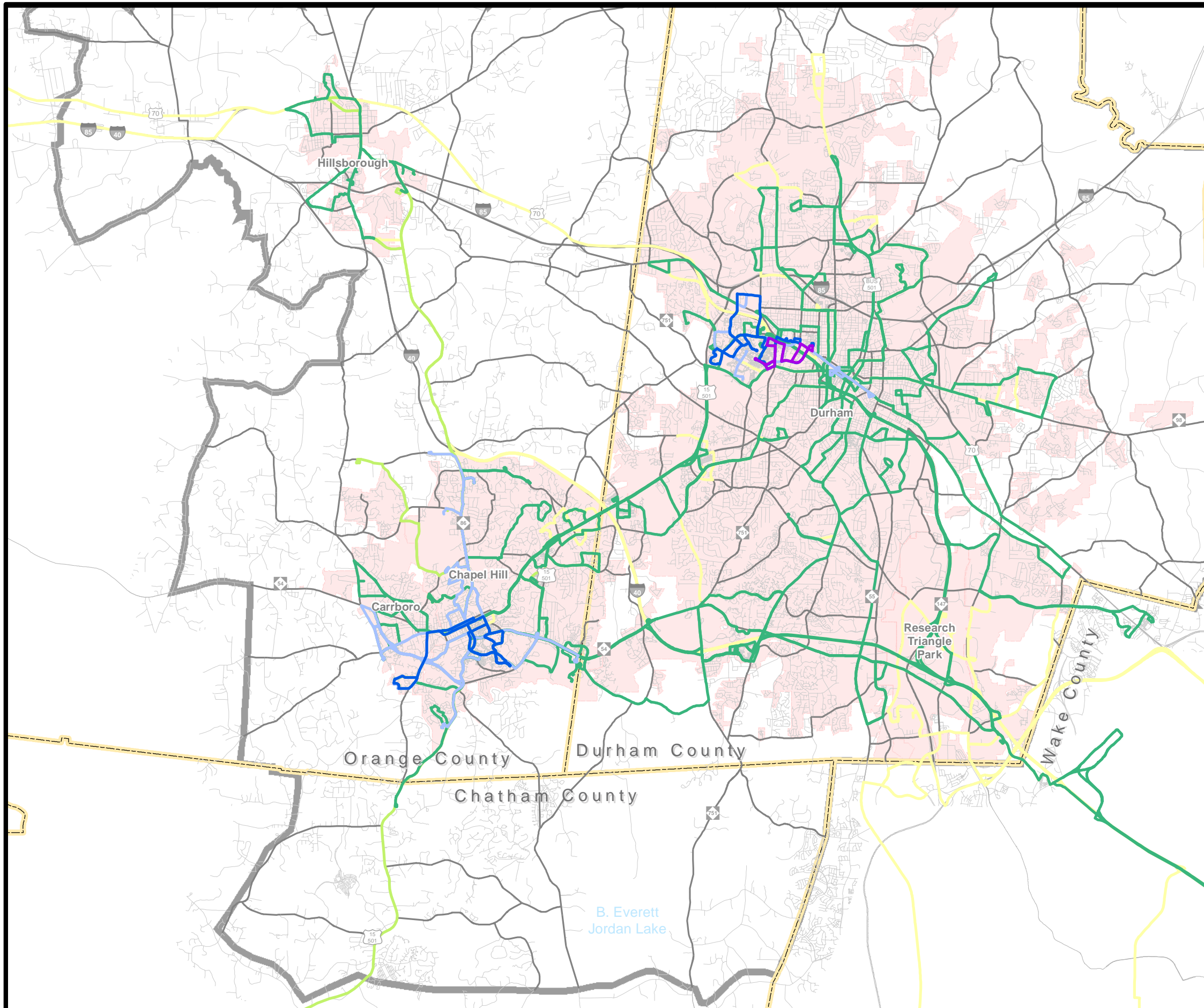
12.0	(5 min.)
6.0 - 11.9	(6 - 10 min.)
4.0 - 5.9	(11 - 15 min.)
2.0 - 3.9	(16 - 30 min.)
1.0 - 1.9	(31 - 60 min.)
0.1 - 0.9	(> 60 min.)
0.0	(Peak-Only Service)

Study Roads
Roads
Municipal Boundaries
County Boundary
MPO Planning Boundary

0 1 2 3 4 Miles

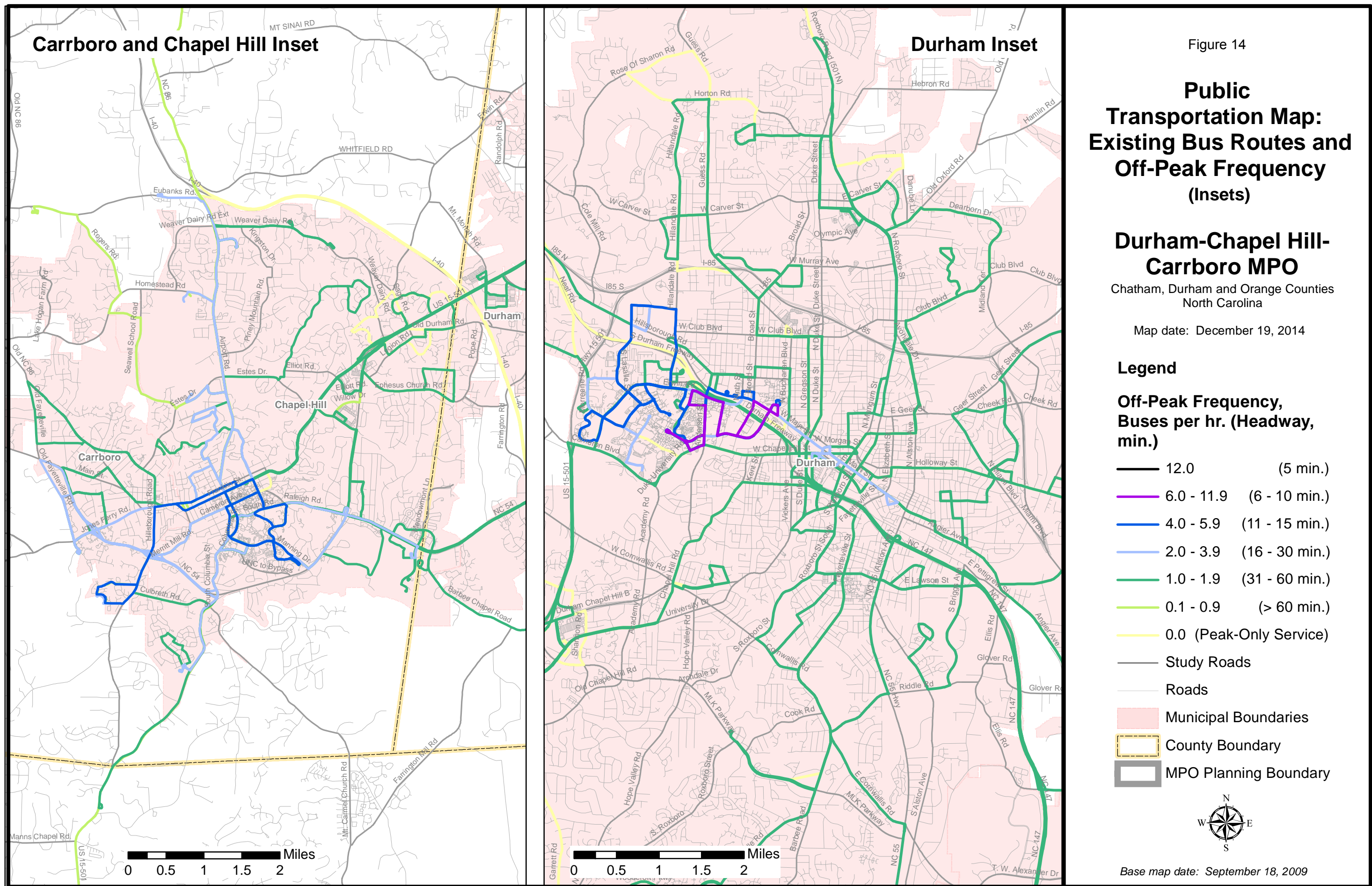


Base map date: September 18, 2009



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Back of Figure



Existing Bus Route Frequency within DCHC MPO

Table 4

Agency	Route	Route Segment	Service Type	Peak Period	Frequency (Buses/Hr.)		Frequency (Min./Bus)	
					Peak2	Off-Peak	Peak3	Off-Peak4
OPT	H Circ	--	Weekday, Circulator	Off-Peak	0	1	0	60
OPT	420	--	Weekday, Midday	Off-Peak	0	0.333	0	180
Duke	C-1	--	Weekday, Saturday	Peak and Off-Peak	12	3	5	20
Duke	C-1X	--	Weekday, Express	Peak	6	0	10	0
Duke	C-1/Smith (CSW)	--	Weekday	Peak	3	0	20	0
Duke	C-2	--	Weekday, Weekend	Peak and Off-Peak	6	6	10	10
Duke	C-3	--	Weekday	Peak	1.500	0	40	0
Duke	CCX	--	Weekday, Weekend, Express	Off-Peak	0	4	0	15
Duke	H-2	--	Weekday	Peak and Off-Peak	5	1.667	12	36
Duke	H-5	--	Weekday	Peak and Off-Peak	4	4	15	15
Duke	H-6	--	Weekday	Peak and Off-Peak	5	5	12	12
Duke	LL	--	Weekday	Peak and Off-Peak	2	2	30	30
Duke	PR-1	--	Weekday	Peak and Off-Peak	2.069	2.500	29	24
CHT	A	--	Weekday	Peak and Off-Peak	2	2	30	30
CHT	CCX	--	Weekday, Express	Peak and Off-Peak	4	1.500	15	40
CHT	CL	--	Weekday	Peak	1	0	60	0
CHT	CM	--	Weekday	Peak and Off-Peak	1.200	1.200	50	50
CHT	CPX	--	Weekday, Express	Peak	4	0	15	0
CHT	CW	--	Weekday	Peak and Off-Peak	2	1	30	60
CHT	D	--	Weekday	Peak and Off-Peak	3	1.333	20	45
CHT	DX	--	Weekday, Express	Peak	1.333	0	45	0
CHT	F	--	Weekday	Peak and Off-Peak	1.429	1	42	60
CHT	FCX	--	Weekday, Express	Peak and Off-Peak	12	2	5	30
CHT	G	--	Weekday	Peak and Off-Peak	1.200	1.200	50	50
CHT	HS	--	Weekday	Peak and Off-Peak	1.200	0.500	50	120
CHT	HU (Express)	--	Weekday, Express	Peak and Off-Peak	3.333	1.500	18	40
CHT	J	--	Weekday	Peak and Off-Peak	4	3	15	20
CHT	JFX	--	Weekday, Express	Peak and Off-Peak	4	2	15	30
CHT	N	--	Weekday	Peak and Off-Peak	2	1	30	60
CHT	NS	--	Weekday	Peak and Off-Peak	6	3	10	20
CHT	NU	--	Weekday	Peak and Off-Peak	3	2.400	20	25
CHT	PX (part by Chatham Transit)	--	Weekday, Express	Peak	1.395	0.286	43	210
CHT	S	--	Weekday	Peak and Off-Peak	6	1.714	10	35
CHT	T	--	Weekday	Peak and Off-Peak	1.714	1.714	35	35
CHT	U	--	Weekday, Campus Shuttle	Peak and Off-Peak	4	4	15	15
CHT	RU	--	Weekday, Campus Shuttle	Peak and Off-Peak	6	4	10	15
CHT	V	--	Weekday	Peak and Off-Peak	1.538	1.333	39	45
CHT	CM (Saturday)	--	Saturday	Off-Peak	0	2	0	30
CHT	CW (Saturday)	--	Saturday	Off-Peak	0	1	0	60
CHT	D (Saturday) (DM)	--	Saturday	Off-Peak	0	0.923	0	65
CHT	FG (Saturday)	--	Saturday	Off-Peak	0	0.750	0	80
CHT	JN (Saturday)	--	Saturday	Off-Peak	0	0.800	0	75
CHT	NU (Weekend)	--	Weekend	Off-Peak	0	1.333	0	45
CHT	U (Weekend)	--	Weekend	Off-Peak	0	2.400	0	25
CHT	T (Saturday)	--	Saturday	Off-Peak	0	1	0	60
CHT	J (Safe Ride)	--	Thu-Sat, Safe Ride	Off-Peak	0	4	0	15
CHT	G (Safe Ride)	--	Thu-Sat, Safe Ride	Off-Peak	0	1	0	60
CHT	T (Safe Ride)	--	Thu-Sat, Safe Ride	Off-Peak	0	2	0	30
TT	CRX	--	Weekday, Express	Peak	2.400	0	25	0
TT	DRX	--	Weekday, Express	Peak	2	0	30	0
TT	ODX	--	Weekday, Express	Peak	1	0	60	0
TT	ODX (ext2015)	--	Weekday, Express	Peak	1	0	60	0
TT	100	--	Weekday, Weekend, Regional	Peak and Off-Peak	2	1	30	60
TT	105	--	Weekday, Regional	Peak	2	0	30	0
TT	201	--	Weekday, Regional	Peak	2	0	30	0
TT	301	--	Weekday, Regional	Peak	2	0	30	0
TT	311	--	Weekday, Regional	Peak	2	0	30	0

For further information and updates on existing public transportation routes, refer to the local transit agencies.

## Existing Bus Route Frequency within DCHC MPO

Agency	Route	Route Segment	Service Type	Peak Period	Frequency (Buses/Hr.)		Frequency (Min./Bus)	
					Peak2	Off-Peak	Peak3	Off-Peak4
TT	400	--	Weekday, Weekend, Regional	Peak and Off-Peak	2	1	30	60
TT	405	--	Weekday, Regional	Peak	2	0	30	0
TT	420	--	Weekday, Regional	Peak	2	0	30	0
TT	700	--	Weekday, Weekend, Regional	Peak and Off-Peak	2	1	30	60
TT	800	--	Weekday, Weekend, Regional	Peak and Off-Peak	2	1	30	60
TT	805	--	Weekday, Regional	Peak and Off-Peak	2	1	30	60
TT	42	--	Weekday, Shuttle	Peak	2	0	30	0
TT	46	--	Weekday, Shuttle	Peak	2	0	30	0
TT	47	--	Weekday, Shuttle	Peak	2	0	30	0
TT	49	--	Weekday, Shuttle	Peak	2	0	30	0
DATA	1-1A-1B-1N	1A	Mon-Sat	Peak	1	0	60	0
DATA	1-1A-1B-1N	1B	Mon-Sat	Peak	1	0	60	0
DATA	1-1A-1B-1N	1N	Mon-Sat	Peak	2	0	30	0
DATA	1-1A-1B-1N	1A & 1B & 1N*	Mon-Sat	Peak	4*	0	15*	0
DATA	1-1A-1B-1N	1	Mon-Sat, Sunday	Off-Peak	0	1	0	60
DATA	2-2A-2B	2A	Mon-Sat	Peak	1	0	60	0
DATA	2-2A-2B	2B	Mon-Sat, Sunday	Peak and Off-Peak	1	1	60	60
DATA	2-2A-2B	2A & 2B*	Mon-Sat	Peak	2*	0	30*	0
DATA	2-2A-2B	2	Mon-Sat, Sunday	Off-Peak	0	1	0	60
DATA	4	--	Mon-Sat, Sunday	Peak and Off-Peak	2	1	30	60
DATA	5-5K-14	5	Mon-Sat	Peak and Off-Peak	2	1	30	60
DATA	5-5K-14	5K	Mon-Sat	Peak	2	0	30	0
DATA	5-5K-14	5 & 5K*	Mon-Sat	Peak	4*	0	15*	0
DATA	5-5K-14	14	Mon-Sat, Sunday	Off-Peak	0	1	0	60
DATA	6-6B	6	Mon-Sat, Sunday	Peak and Off-Peak	1	1	60	60
DATA	6-6B	6B	Mon-Sat	Peak	1	0	60	0
DATA	6-6B	6 & 6B*	Mon-Sat	Peak	2*	0	30*	0
DATA	7	--	Mon-Sat, Sunday	Peak and Off-Peak	2	1	30	60
DATA	8	--	Mon-Sat, Sunday	Peak and Off-Peak	2	1	30	60
DATA	9-9A-9B	9A	Mon-Sat	Peak	1	0	60	0
DATA	9-9A-9B	9B	Mon-Sat	Peak	1	0	60	0
DATA	9-9A-9B	9A & 9B*	Mon-Sat	Peak	2*	0	30*	0
DATA	9-9A-9B	9	Mon-Sat, Sunday	Off-Peak	0	1	0	60
DATA	10-10A-10B-10L	10A	Mon-Sat	Peak	2	0	30	0
DATA	10-10A-10B-10L	10B	Mon-Sat	Peak	2	0	30	0
DATA	10-10A-10B-10L	10A & 10B*	Mon-Sat	Peak	4*	0	15*	0
DATA	10-10A-10B-10L	10	Mon-Sat, Sunday	Off-Peak	0	1	0	60
DATA	10-10A-10B-10L	10L	Weekday (school days only)	Peak	1.622	0	37	0
DATA	11	--	Mon-Sat, Sunday	Peak and Off-Peak	2	1	30	60
DATA	12-14	12	Mon-Sat, Sunday	Peak and Off-Peak	2	1	30	60
DATA	12-14	14	Mon-Sat	Peak	1	0	60	0
DATA	15	--	Mon-Sat, Sunday	Peak and Off-Peak	1	1	60	60
DATA	16-16A-16B-3	16A	Mon-Sat	Peak	1	0	60	0
DATA	16-16A-16B-3	3	Mon-Sat, Sunday	Peak and Off-Peak	2	1	30	60
DATA	16-16A-16B-3	16B	Mon-Sat	Peak	1	0	60	0
DATA	16-16A-16B-3	16A & 16B & 3*	Mon-Sat	Peak	4*	0	15*	0
DATA	16-16A-16B-3	16	Mon-Sat, Sunday	Off-Peak	0	1	0	60
DATA	BCC	--	Mon-Sat	Peak and Off-Peak	3	2.400	20	25
DATA	RSX	--	Weekday, Weekend, Express	Peak and Off-Peak	2	1	30	60

\* Some Route Segments align to increase frequency for a few stops along that Route during the Peak hours.

### NOTES:

When the route frequency is entirely irregular, the average within the peak period is used.

When the route frequency is inconsistent, the most prevalent or consistent frequency within the peak period is used.

If the service is primarily in the Peak periods with only an hour in the Off-Peak, the route is considered "Peak ONLY."

If the service is primarily in the Off-Peak periods with only an hour in the Peak periods, the route is considered "Off-Peak ONLY."

## Peak-Hour Periods per Agency

Agency	Route	AM Peak Hours	Off-Peak Hours	PM Peak Hours	Days
OPT	H Circ	n/a	Off Peak ONLY	n/a	Mon-Fri
OPT	420 Midday	n/a	Off Peak ONLY	n/a	Mon-Fri
Duke	C Routes	8am-6pm	n/a	8am-6pm	Mon-Fri
Duke	C Routes	n/a	Off Peak ONLY	n/a	Sat-Sun
Duke	H Routes	6am-9am	9am-3pm	3pm-6pm	Mon-Fri
Duke	LL Route	8:30am-10:30am	10:30am-4pm	4pm-6pm	Mon-Fri
Duke	PR1 Route	7:30am-10:30am	10:30am-3:30pm	3:30pm-6:30pm	Mon-Fri
CHT	all	7am-10am	10am-3pm	3pm-7pm	Mon-Fri
CHT	all	n/a	Off Peak ONLY	n/a	Sat-Sun
DATA	all	5am-6:30pm	6:31pm-midnight	5am-6:30pm	Mon-Sat
DATA	all	n/a	Off Peak ONLY	n/a	Sun
TT	all	5am-9am	9:01am-3:29pm	3:30pm-6:29pm	Mon-Fri
TT	all	n/a	Off Peak ONLY	n/a	Sat-Sun

Table 5

## Frequency Conversion

Table 5b

hrs/bus	minutes/ bus	buses/hr
0.083	5	12.000
0.167	10	6.000
0.200	12	5.000
0.250	15	4.000
0.300	18	3.333
0.333	20	3.000
0.400	24	2.500
0.417	25	2.400
0.483	29	2.069
0.500	30	2.000
0.583	35	1.714
0.600	36	1.667
0.617	37	1.622
0.650	39	1.538
0.667	40	1.500
0.700	42	1.429
0.717	43	1.395
0.750	45	1.333
0.833	50	1.200
0.917	55	1.091
1.000	60	1.000
1.083	65	0.923
1.250	75	0.800
1.333	80	0.750
1.500	90	0.667
2.000	120	0.500
2.500	150	0.400
3.000	180	0.333
3.500	210	0.286

Table 5a

### Suggested Headways from a Rhode Island Public Transit Authority Study:

#### POPULATION AND EMPLOYMENT DATA RELATED TO TRANSIT DEMAND

Transit Mode/ Service Frequencies	Population/ Acre	Jobs/ Acre
Flex Bus	0.5	
Community Circulator	2	
Local Bus		
60 minutes	8-16	4-8
30 minutes	16-31	8-16
15 minutes	31-47	16-24
10 minutes	47-92	24-48
<=5 minutes	>92	>48
Bus Rapid Transit	26-52	>13
Light Rail Transit	31-78	>15

Source: Rhode Island Public Transit Authority, *Comprehensive Operational Analysis*,  
*Rhode Island Transit Market Review* (Draft Version 6, July 2012)

For further information and updates on existing public transportation routes, refer to the local transit agencies.

## Public Transportation – Demand (Density)

Transit demand depicts where there is a need for public transportation services. The CTP used two demand methods; one based on population and employment density and the other based on resident income.

The first set of transit demand maps show the total population and jobs per acre thresholds by Traffic Analysis Zone (TAZ) in the year 2040. In the first map, CTP (Bus Transit Demand) the different thresholds suggest the level of fixed-route bus service for a TAZ's density, which is calculated by adding the total population and the doubling of the employment. Thus, a density from one to eight commonly uses some type of circulator or demand-responsive transit, while a fixed-route service with 30-minute headways is suggested for areas with a density from 31 to 47.

In the second map, CTP (Fixed-Guideway Transit Demand), the different thresholds suggests bus rapid transit or light rail transit service based on the TAZ's density, using the same methodology as described above to calculate the density.

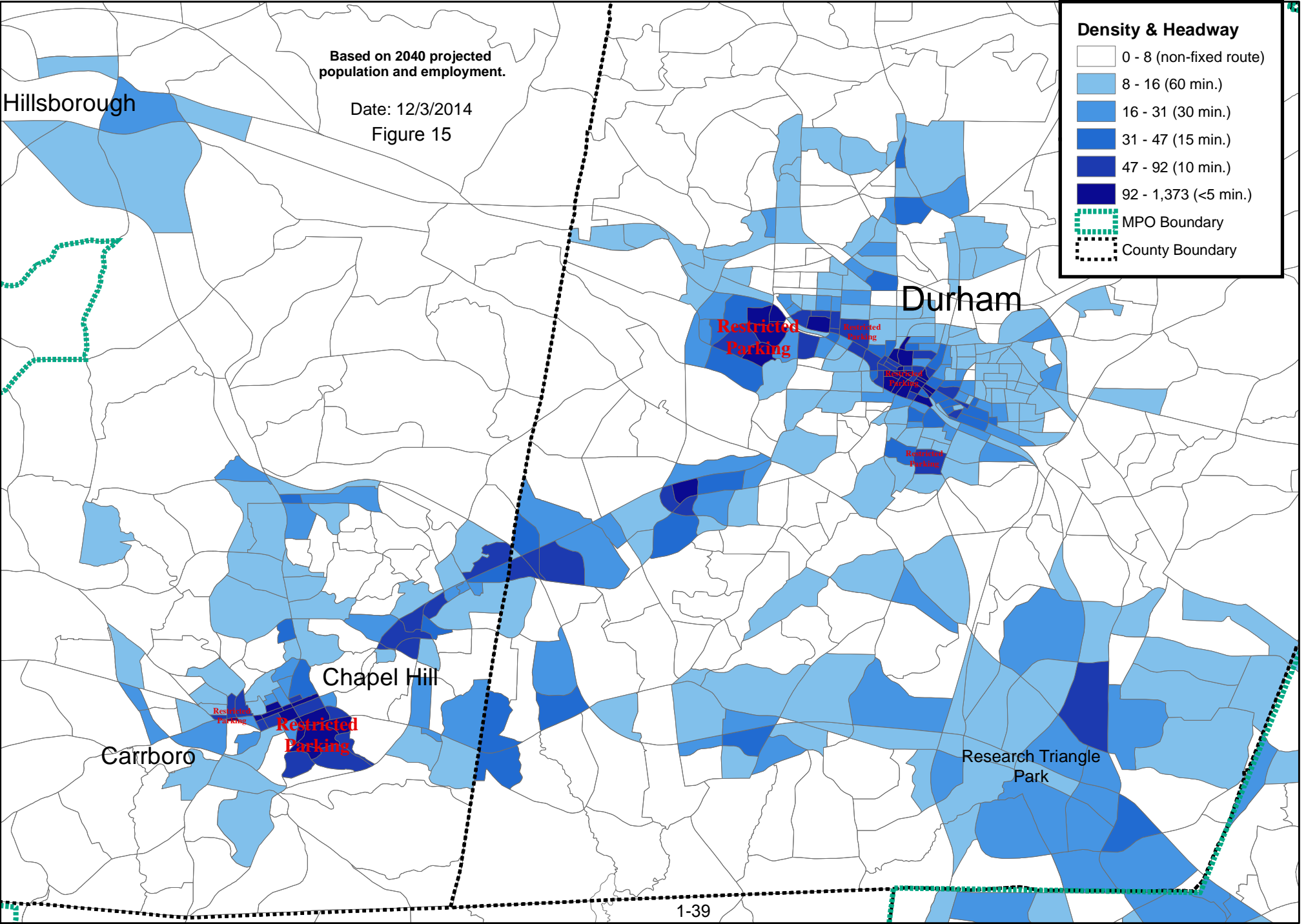
The population and employment data provide a rough guide in estimating trip generation (residential location) and trip attraction (job location). However, the reviewer must keep in mind that it does not show high volume travel corridors such as NC 54 and US 15-501 between Durham and Chapel Hill, and I-40, NC 147 and US 70 between Durham, the Research Triangle Park (RTP) and Raleigh.

The maps also show areas of restricted parking in which automobile travelers have to either pay for parking or parking supply is limited in relationship to parking demand. You can assume that transit demand is likely to be higher at these areas given that driving an automobile has increased costs (i.e., parking) or is simply not feasible.

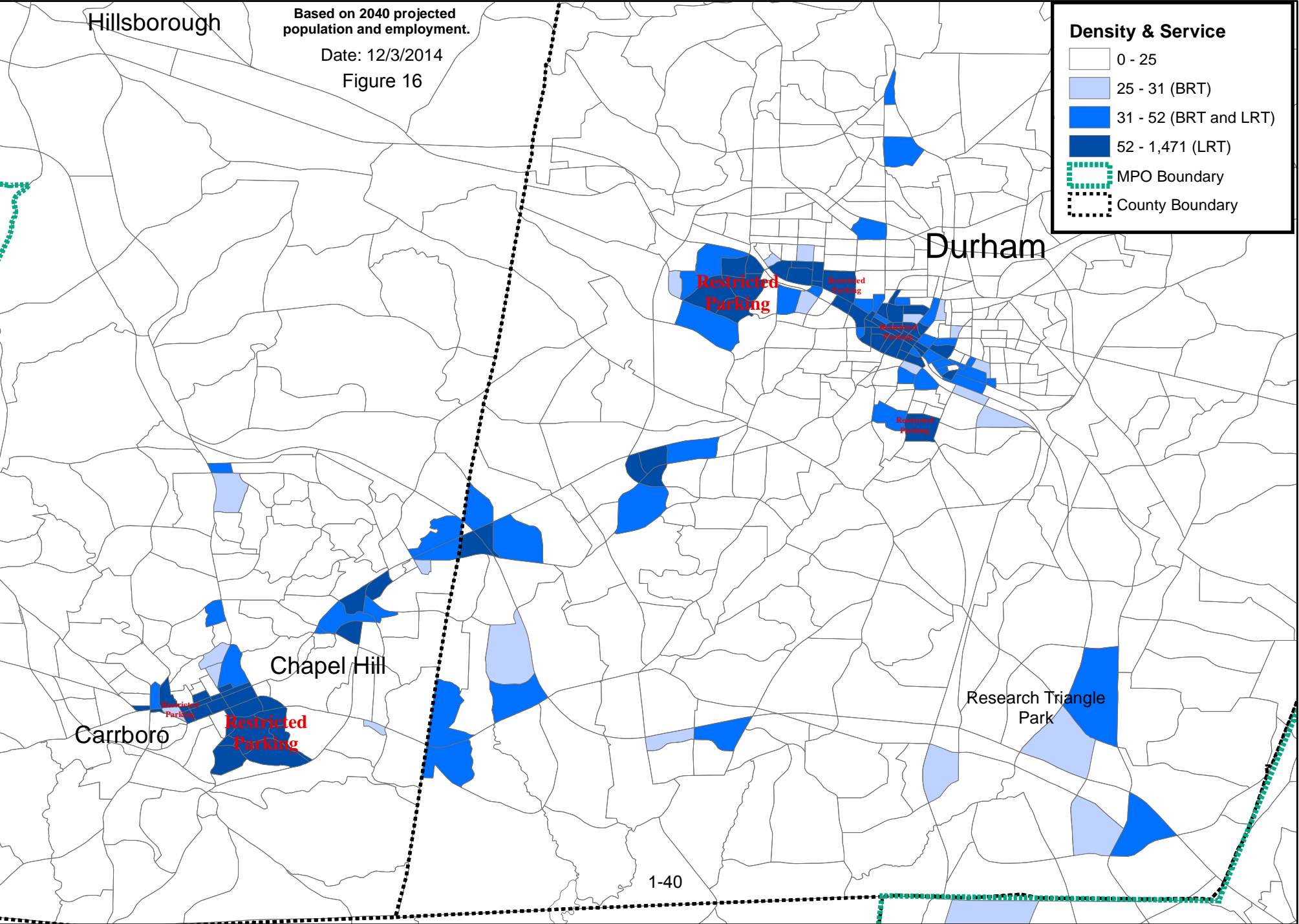
This methodology and the suggested headways are from a Rhode Island Public Transit Authority (RIPTA) study. Table 5a on the previous page is from the RIPTA study. The CTP team used the Rhode Island study because of the simplicity of the methodology and not because these thresholds are some type of commonly accepted transit metrics. The study assumed a density because it is a common factor driving transit demand. As an example, a recent transit study connected with Wake County, NC showed that density was the most important single factor in transit demand, at 37%, followed by zero vehicle housing units at 22%. The study, by HDR Engineering, was called "Using Census Data to Identify Areas of High-Transit Propensity."



CTP (Bus Transit Demand): Population and Employment Density per Acre -- and -- Suggested Transit Service



CTP (Fixed-Guideway Transit Demand): Pop. and Emp. Density per Acre - and - Suggested Fixed-Guideway Service

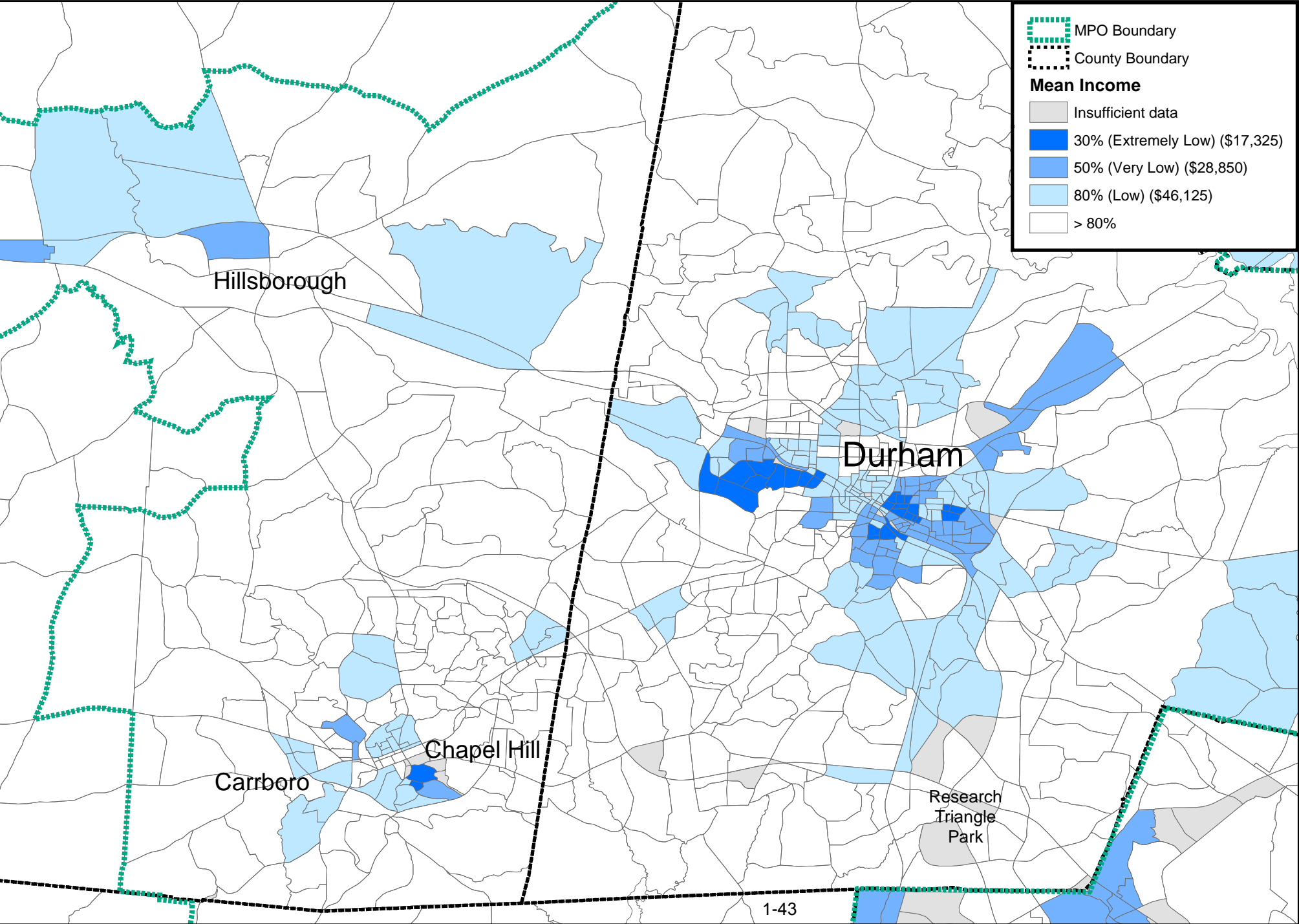


### Public Transportation – Demand (Income)

The final transit demand map uses income by showing the low-income TAZs. It compares the TAZ's mean income (based on the Census Bureau's American Community Survey – ACS) and different thresholds for the median income (based on Housing and Urban Development income limits for a four-person household in the Durham-Chapel Hill Metropolitan Area). As the percentage of the mean income declines, it is assumed that transit demand increases given the assumed lower levels of vehicle ownership.

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## **ii. Rail and Truck**

The tables and maps in this section show the level and type of activity on the rail lines:

- ❖ The level and type of rail line activity is on page 1-46, and
- ❖ A data table for active and inactive rail lines is on page 1-47.

The following NCDOT Web page has detailed information on the current designation of highway truck routes and the various truck route restrictions: <https://tinyurl.com/NCDOTtrucking>.

The following ArcGIS site has an interactive map of the North Carolina truck route designations and state maintained roads: <https://tinyurl.com/NCDOTtruckmap>.

Freight and urban goods management is identified as an area of key planning consideration for Metropolitan Planning Organizations (MPOs) by federal transportation legislation. The DCHC MPO, the Capital Area MPO, and the NCDOT are jointly developing a Regional Freight Plan for the Triangle region that is to include a priority investment network. The Freight Plan can provide input for this CTP either by a CTP amendment or during the next CTP update. Meanwhile, the DCHC MPO web site can direct users to the completed Freight Plan.

# Comprehensive Transportation Plan Rail Data

---

CTP Name: Durham-Chapel Hill-Carrboro MPO

Date: 8/20/2014

County: Durham, Orange, Chatham

NCDOT Division #: 5, 7 & 8

NCDOT Rail Division, 919-707-4714

Name of Railroad(s) operator located within study area, e.g.: (CSX, NS, NCRR, Shortlines): See Table 6

Current number of freight trains operation within study area: 5-6 per day

Current number of passenger trains operation within study area: 6 per day

Is area part of the Federally-designated Southeastern High Speed Rail Corridor?

Yes ☒

No ☐

Is area part of a future intra-state passenger rail corridor, e.g.: (Salisbury-Asheville, Charlotte-Wilmington, Raleigh/Fayetteville/Wilmington or Raleigh/Goldsboro/Wilmington)?

Yes ☐

No ☒

Is area part of a future commuter rail corridor, e.g.: (TT, Charlotte, Winston-Salem/Greensboro)?

Triangle Transit

Yes ☒

No ☐

Are there any abandoned/out-of-service rail corridors? Duke Beltline

Yes ☒

No ☐

Existing or proposed Rails-to-Trails projects: American Tobacco Trail

Existing Trail ☒

Proposed Trail ☐

Railroad Right-of-Way (ROW) width in feet: approx. 200' on NCRR corridor, others Unk

NC GIS Rail maps on GO!NC portal ==> <http://ncdot.maps.arcgis.com/home/index.html>

# Active/Inactive Rail Corridor Data

Table 6

Railroad Line/Corridor Durham/Chapel Hill MPO	Active/Inactive	Freight/Passenger	Total Length	From-To	R/W Width	Railroad Class	Timetable Speed	Service Frequency through Study Area	Additional Notes
NS-operator (NCRR H-line)	Active	Freight & Passenger	33.5	Wake/Durham line to Orange/Alamance line MP H65.5-H32	approx 200'	Class 1	40-55 mph	5-6 trains per day	STRACNET corridor
NS	Active	Freight	2.5	Oxford-East Durham MP D53.15-D86.4	Unknown	Class 1	25-35 mph		Branch line
NS-operator State University Railroad (SUR)	Active	Freight	10.2	Glenn to Carrboro MP H46-J10	Unknown	short line	10 mph		Branch line
NS (Duke Beltline)	Inactive		2	Blackwell St to Avondale Dr in downtown Durham	Unknown		N/A	none	Inactive
NS (Timberlake corridor)	Inactive		23	downtown Durham paralleling NC 501 to Durham/Person line	Unknown		N/A	none	Inactive
CSX (Joyland Lead)	Active	Freight	4	W Chapel Hill St to Joyland MP SB151.0-SB154.9	Unknown	Class 1	10 mph		
CSX (D&S Spur)	Active	Freight	8	Genlee to East Durham NS Crossing MP SDS10.7-SDS2.3	Unknown	Class 1	10 mph		



## **c) Bicycles, Pedestrians and Complete Streets**

### Bicycle and Pedestrian Demand

Early in the CTP planning process, a deficiency analysis was completed that included the demand for bicycle and pedestrian transportation. Figure 18 – Daily Trip Generation by TAZ -- is a map that shows the bicycle and pedestrian trips generated per square mile base on the projected 2040 SE Data (i.e., population and employment) and the Triangle Regional Model (TRM). It is assumed that the great majority of those trips will originate and end in the same TAZ or an adjacent TAZ. Thus, the greatest demand for bicycle and pedestrian facilities will be in the darkest shaded TAZs, i.e. those TAZs with the highest non-motorized trip generation.

### Bicycle and Pedestrian Crashes

The deficiency analysis also identified eight intersections in the MPO area that potentially meet the safety warrant for bicycle and pedestrian travel. See Figure 19, Potentially Hazardous Intersections, and Table 7, Potentially Hazardous Crash Intersections. The warrant requires a minimum of five bicycle or pedestrian crashes reported in the last ten years and a minimum of 50% of all those crashes must have occurred in the last five years. The crash data is from the NCDOT Highway Safety Improvement Program (HSIP). The HSIP Web page on the following link provides more detailed information and maps, and descriptions of warrants and methodology: <https://tinyurl.com/NCDOTsafety> .

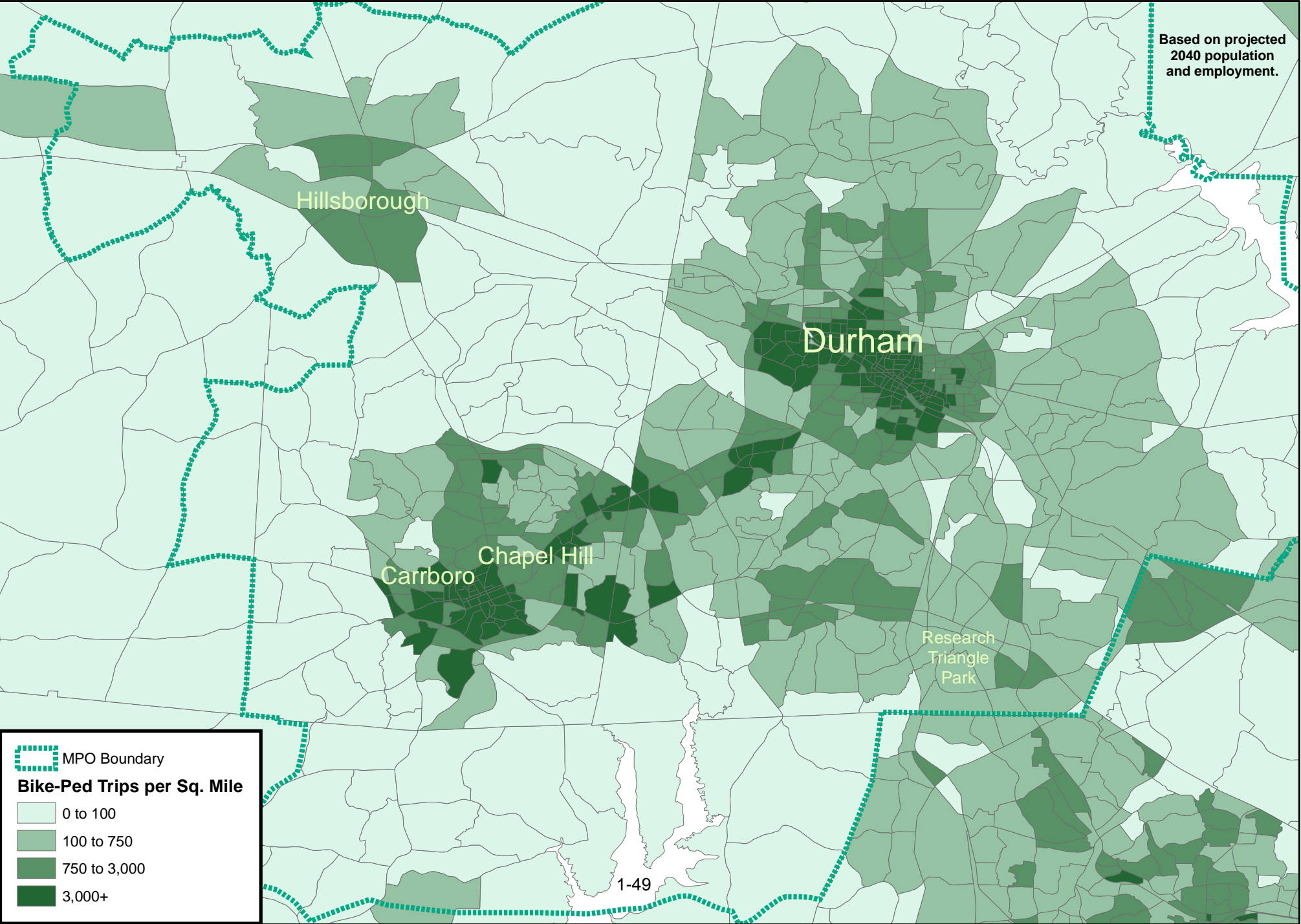
It must be noted that the local governments in the MPO area have already carried out in-depth planning processes and produced detailed plans for bicycle and pedestrian facilities. The high level maps in the CTP deficiency cannot replace those plans. The CTP deficiency analysis, however, can provide a general check on the coverage of those plans.

### CTP and Local Plans

The CTP Bicycle and Pedestrian map, Sheets 4 and 5 of Figure 1, shows the bicycle, multi-use paths and off-road pedestrian paths. The local governments have developed detailed sidewalk plans. Sidewalks, or on-road pedestrian facilities, are not shown on the CTP maps and the reader is directed to the local plans to view these facilities. See Appendix I – Existing Transportation Plans and Policies – for a list of local bicycle, pedestrian and multi-use path plans that have been incorporated into the CTP, and links for those plans.

All recommendations for bicycle and pedestrian facilities were coordinated with the local governments. Refer to Appendix A for contact information for the Division of Bicycle and Pedestrian Transportation.

# CTP Bicycle and Pedestrian: Daily Trip Generation by TAZ



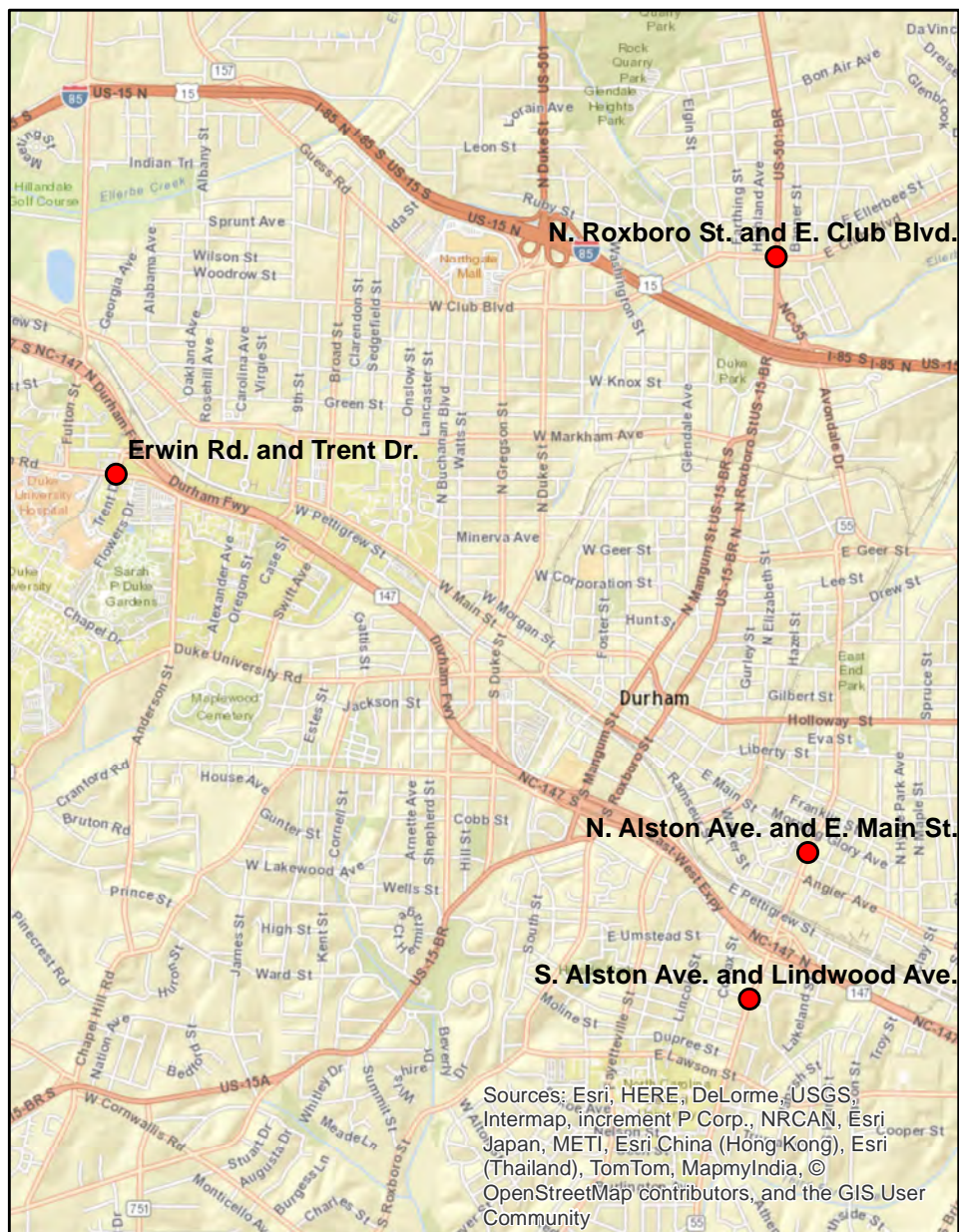


Date: 12/3/2014

## Durham

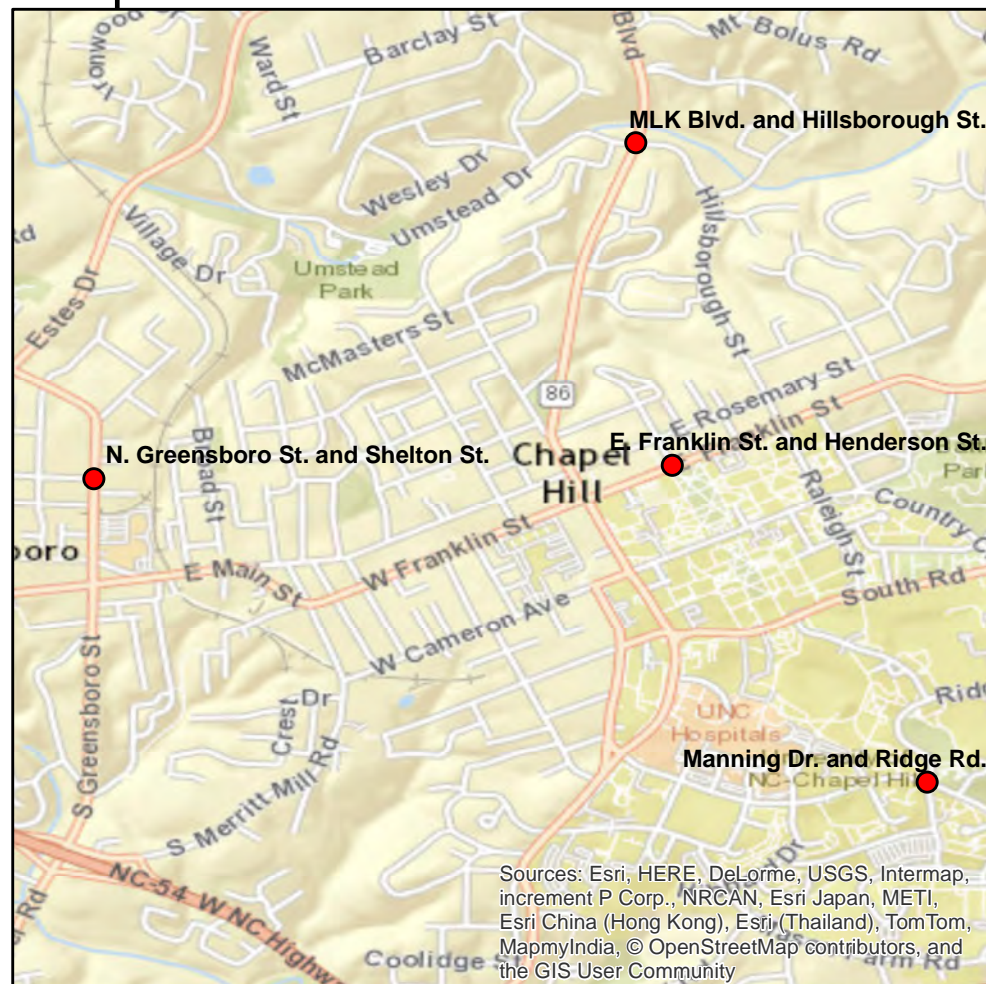
# CTP -- Bicycle and Pedestrian Potentially Hazardous Intersections

Figure 19



These are crash intersections that potentially exceed one safety warrant.

## Chapel Hill - Carrboro



Data is for five a five-year period, 7/1/09 -6/30/14.

# Bicycle and Pedestrian Safety

12/8/2014

Potentially Hazardous Crash Intersections

Table 7

City Name	On Road	From Road	Toward Road	(1) Severity	Date/Time
1--					
DURHAM	NC 55	LINWOOD	MASSEY	A	9-Sep-12
DURHAM	ALSTON	LINWOOD	MINT	B	10-Jan-12
DURHAM	ALSTON	LINWOOD	MINT	C	8-Nov-10
DURHAM	ALSTON	LINWOOD	NC 147	A	30-Mar-13
DURHAM	ALSTON	LINWOOD	*	B	28-Apr-14
2--					
DURHAM	ERWIN RD	TRENT DR	*	C	12-Aug-11
DURHAM	TRENT	IRWIN	FLOWER	C	30-Jul-10
DURHAM	TRENT	IRWIN	FLOWER	B	18-Nov-11
DURHAM	TRENT	IRWIN	EMERGENCY	C	20-Feb-12
DURHAM	TRENT	IRWIN	FULTON	A	22-Mar-12
3--					
DURHAM	ALSTON AVE	MAIN	*	B	13-Aug-09
DURHAM	ALSTON AVE	MAIN	STOKES	C	11-Aug-10
DURHAM	ALSTON AVE	MAIN	MORNING GLORY	C	13-Apr-11
DURHAM	ALSTON AVE	MAIN	*	B	3-Oct-12
DURHAM	ALSTON AVE	MAIN	LIBERTY	C	1-Mar-13
DURHAM	MAIN	ALSTON	*	B	11-Dec-09
4--					
DURHAM	CLUB	ROXBORO	BANNER	C	23-Sep-11
DURHAM	CLUB	ROXBORO	FARTHING	B	8-Nov-11
DURHAM	ROXBORO	ELLERBE	CLUB	B	11-Apr-11
5--					
CHAPEL HILL	MARTIN LUTHER KING	HILLSBORO	*	C	18-May-12
CHAPEL HILL	MARTIN LUTHER KING	HILLSBORO	*	B	5-Nov-12
CHAPEL HILL	MARTIN LUTHER KING	HILLSBORO	LONGVIEW	C	12-Nov-13
6--					
CHAPEL HILL	FRANKLIN	HENDERSON	PICARD	C	15-Nov-12
CHAPEL HILL	FRANKLIN	HENDERSON	RALEIGH	C	18-Oct-10
CHAPEL HILL	FRANKLIN	PICARD	HENDERSON	B	17-Oct-10
7--					
CARRBORO	GREENSBORO	SHELTON	PLEASANT	C	20-May-11
CARRBORO	SHELTON	GREENSBORO	OAK	B	28-Feb-12
8--					
CHAPEL HILL	MANNING	PAUL HARDIN	*	B	29-Jan-12
CHAPEL HILL	MANNING	PAUL HARDIN	RIDGE	B	7-Sep-11
CHAPEL HILL	MANNING	PAUL HARDIN	RIDGE	B	11-Apr-12

\* Data not available.

(1) For injury severity level (or injury status) definitions, see the following website:

<https://tinyurl.com/injury-definitions>

Note: Any ranking of locations that might occur would be for analysis purposes ONLY.

It would not be a "Top Ten Most Dangerous..." list.

Note: Franklin Street is missing two crash entries; Greensboro Rd is missing one crash entry.

## Complete Streets and Related Initiatives

It is important to understand that the DCHC MPO strongly supports bicycle and pedestrian facilities. This support is evident in the MPO funding and plans. The MPO dedicates its Surface Transportation Block Grant (STBG) and other related funding entirely to the design and construction of non-motorized transportation projects. The CTP designates the expected urban cross-sections for improved and recommended roadways. Also, the Comprehensive Transportation Plan maps, including the Bicycle and Pedestrian Maps on Sheets 4 and 5 of Figure 1, contain the following note, which requires multimodal consideration in the design of cross-sections:

The Strategic Transportation Investments (STI) law (House Bill 817) establishes design elements that emphasize safety, mobility, complete streets, and accessibility for multiple modes of travel. The “typical” highway cross sections used in this CTP were updated on May 5, 2014 in response to STI law.

NCDOT’s Complete Streets Policy “requires that NCDOT’s planners and designers will consider and incorporate multimodal alternatives in the design and improvement of all appropriate transportation projects within a growth area of a town or city unless exceptional circumstances exist.” (For more information on Complete Streets, go to <http://www.completestreetsnc.org/>.)

NCDOT has relevant policies that go back even further than Complete Streets. NCDOT’s Bicycle Policy, updated in 1991, clarifies responsibilities regarding the provision of bicycle facilities along the 77,000-mile state-maintained highway system. The policy details guidelines for planning, design, construction, maintenance, and operations pertaining to bicycle facilities and accommodations. All bicycle improvements undertaken by NCDOT are based upon this policy.

The 2000 NCDOT Pedestrian Policy Guidelines specifies that NCDOT will participate with localities in the construction of sidewalks as incidental features of highway improvement projects. At the request of a locality, state funds for a sidewalk are made available if matched by the requesting locality, using a sliding scale based on population.

NCDOT’s administrative guidelines, adopted in 1994, ensure that greenways and greenway crossings are considered during the highway planning process. This policy was incorporated so that critical corridors which have been adopted by localities for future greenways are not severed by highway construction.

Beyond NCDOT, AASHTO “Guide for Development of New Bicycle Facilities” provide planning and design guidelines for use when building new projects or making changes to existing infrastructure.



#### **d) Land Use**

This CTP uses the same land use model and socioeconomic data as the 2040 MTP. The county-level population and employment forecasts are based on those from the North Carolina State Demographer and Woods-n-Poole, respectively. Woods-n-Poole is a respected private source of population and employment forecasts that are based on economic activity. These county-level forecasts are spatially distributed based on the local long-range land use plans and zoning. The MPO uses a software tool called Community Visualization to manage and carry out this forecasting effort. In turn, the socioeconomic data is a key input into the Triangle Regional Model (TRM) that helped to produce the traffic forecasts for the CTP.

Appendix G – Socio Economic Data Forecasting Methodology -- provides details of the socioeconomic data forecasting methodology, including population and employment growth maps.

### **1.2 Consideration of Natural and Human Environment**

Environmental features are a key consideration in the transportation planning process. Section 102 of the National Environmental Policy Act (NEPA) requires consideration of impacts on wetlands, wildlife, water quality, historic properties, and public lands. While a full NEPA evaluation was not conducted as part of the CTP, an effort was made to minimize potential impacts to the most salient features utilizing the best available data. Prior to implementing transportation recommendations of the CTP, a more detailed environmental study needs to be completed in cooperation with the appropriate environmental resource agencies. For more information on NEPA, see: <https://ceq.doe.gov/>.

Any potential impacts to these resources were identified as a part of the project recommendations in Chapter 2 of this report. The Unaddressed Deficiencies section identifies congested highway segments that are currently not planned to be improved so as to avoid negative impacts on the natural environment and community. The CTP utilized the 2040 MTP Critical Environmental Resources maps that are online (<http://www.dhcmpo.org/programs/transport/2040mtp/>) to evaluate the CTP projects. These maps have the features shown in Table 8 which assisted in the natural and human environment evaluation.

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**Table 8 – Environmental and Community Features**

---

- |                            |                                     |
|----------------------------|-------------------------------------|
| • Hydrology                | • Schools                           |
| • River and stream buffers | • Airports                          |
| • Water bodies             | • Hospitals                         |
| • Water supply facilities  | • Railroads                         |
| • Wetlands                 | • Bicycle and pedestrian facilities |
| • Watersheds               | • Churches and cemeteries           |
| • Wildlife resources       | • Colleges and universities         |
| • Parks and game lands     | • Buildings and structures          |
| • Future urbanized areas   | • Water and sewer service           |
| • Fish Nursery Areas       | • Water Supply Watersheds           |

### **1.3 Public Involvement**

The CTP was released for a public comment period of 2 ½ months (72 days). The MPO Board released the draft CTP for comment on December 14, 2016, through February 24, 2017. Notification of the draft CTP was extensive. Staff presented the CTP to the many transportation related boards and commissions within the MPO's jurisdictions and counties to get their input, and also conducted four public workshops. The draft CTP was advertised in the Herald Sun and Triangle Tribune newspapers and by the public relations offices of some of the MPO member jurisdictions and counties. Additionally, staff used an email notification system to inform several hundred citizens who have shown an interest in planning and transportation issues during past planning efforts.

Appendix H – Public Involvement – provides a summary of the public meetings conducted to gather feedback on the CTP.

The MPO formed a CTP subcommittee to guide the development of the plan. Appendix H – Public Involvement – contains a list of subcommittee members.

The email notices, public workshops, and local board and commissions meetings produced many comments. A compilation of the comments received through email and the comment forms at the public workshops totals 29 pages and is available in the Public Comments section of the CTP Web page: <http://bit.ly/DCHCMPO-Adopted-CTP>.

The boards, commissions, councils and staff of the various local governments and one statewide agency provided formal feedback. A compilation of this feedback, which totals 18 pages, can be found at the same Web page above.

At the close of the public comment period, the public comments and board input, and other feedback were organized into a single document. Responses were added to the

compiled comments and this Comments & Responses document describes how the comments received were addressed in the final CTP. The Comments & Responses document was presented to the MPO Board and the MPO Technical Committee before adopting the CTP. A copy of this document can be found at the same CTP Web page that is identified above.

A public hearing was held on February 8, 2017 during the DCHC MPO Board meeting. The purpose of this meeting was to discuss the plan recommendations and to solicit further input from the public. The CTP was adopted at the DCHC MPO Board meeting on May 10, 2017. The North Carolina Department of Transportation mutually adopted the DCHC MPO CTP on August 3, 2017.

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# Chapter 2:

## Recommendations

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This chapter presents recommendations for each mode of transportation in the *2017 Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) CTP* as shown in Figure 1. More detailed information on each recommendation is tabulated in Appendix C. For information on recommendations from existing transportation plans in rural Orange and Chatham Counties that were not incorporated as parts of this CTP, refer to Appendix I.

NCDOT adopted a *Complete Streets* policy in July 2009. The policy directs the Department to consider and incorporate several modes of transportation when building new projects or making improvements to existing infrastructure. Under this policy, the Department will collaborate with cities, towns and communities during the planning and design phases of projects. Together, they will decide how to provide the transportation options needed to serve the community and complement the context of the area. There are several benefits to this approach:

- making it easier for travelers to get where they need to go;
- encouraging the use of alternative forms of transportation;
- building more sustainable communities;
- increasing connectivity between neighborhoods, streets, and transit systems; and
- improving safety for pedestrians, cyclists, and motorists.

Complete streets are streets designed to be safe and comfortable for all users, including pedestrians, bicyclists, transit riders, motorists and individuals of all ages and capabilities. These streets generally include sidewalks, appropriate bicycle facilities, transit stops, right-sized street widths, context-based traffic speeds, and are well-integrated with surrounding land uses.

The DCHC MPO relies on NCDOT's *2012 Complete Streets Planning and Design Guidelines* and other guidelines to identify appropriate facility types that consider and safely accommodate transportation modes for all users.

The complete street policy and concepts were utilized in the development of the CTP. The CTP proposes projects that include multimodal project recommendations as documented in the problem statements within this chapter. Refer to Appendix C for recommended cross sections for all project proposals and Appendix D for more detailed information on the typical cross sections.

For more information on Complete Streets, go to: <http://www.completestreetsnc.org/>.



## 2.1 Unaddressed Deficiencies

### Background

In some cases, the projected 2040 volume of a roadway study segment will exceed the existing roadway capacity but no improvements are recommended for that study segment. These study segments are said to have an unaddressed deficiency. This document identifies all the study segments with an unaddressed deficiency in the draft highway CTP and the reason that no capacity improvements are recommended. The reasons are described in the following text and indicated in the appropriate column in Table 9, which follows this section.

#### Limited Need (Need)

Some roadways have a 2040 volume projected to exceed the current capacity by a small amount. The addition of relatively low-cost improvements, such as turn lanes and medians, can add storage capacity for vehicle turn movements to reduce congestion delay and improve mobility. Another option is that no improvements are recommended at this time and traffic volumes are monitored for congestion. Low-cost or no improvements could be better roadway investments than adding through lanes which costs more and will result in excess projected capacity. To avoid excess future capacity for roadways that are projected to barely exceed existing capacity, no improvements are recommended for the roadway segments that have “**Need**” in the appropriate column of the table below.

#### Community Impacts (Comm)

With most widenings, additional rights-of-way (ROW) need to be acquired. In some cases, the acquisition of ROW would require an excessive number of properties, which may include physical structures such as houses and commercial buildings, and infrastructure to be negatively impacted. To avoid significant negative impacts to the community or historic district properties, improvements are not recommended.

In addition, some communities wish to preserve and maintain the character of roadways or corridors within certain areas, such as downtowns and historic districts. To avoid changing the character of certain roadways and corridors for all modal users in a community, improvements are not recommended.

To avoid the overly negative community impacts, no improvements are recommended for the roadway segments that have “**Comm**” in the appropriate column of the table below.

#### Parallel Roadways (Par)

Some study segments will not be improved because there are parallel roadways in the same area that have excess capacity or that are expected to have excess capacity due to recommended improvements. These parallel roads will likely attract and shift trips from the study segment road and subsequently reduce

projected travel delays on those segments. In many cases, these parallel roadways are identified because there are additional reasons for not adding capacity to the study segments such as avoiding significant negative property impacts or to preserve the character of a community, and the parallel route offers a solution. The parallel route is identified with “**Par**” in the table column.

#### Notes

The Notes section adds details related to “Need,” “Comm,” and “Par” designations. For example, if the designation is “Par,” the Notes will read “Parallel: South Roxboro Street Extension,” to indicate that South Roxboro Street Extension will attract traffic away from the study segment. In addition, the Notes section will also identify miscellaneous reasons for not adding capacity, such as environmental concerns.

#### Table

The Unaddressed Deficiencies in Table 9 presents interstates, US highways and NC routes, and then secondary and local roads. Within these sections, the roadways are sorted alphabetically and then presented by geography, i.e., west to east and north to south.

# Unaddressed Deficiencies

Table 9

Roadway Name	Location			Reasons for No Recommended Improvements				Existing			2040	
	From	To	Jurisdiction	Need	Comm	Parallel	Notes	Current Count	No. of Lanes	Capacity (Cap.)	Volume (Vol.)	Vol./Cap. (V/C)
<b>Interstates</b>												
I-40 /I-85	I-85/US 70 Connector	Mt. Willing Rd	OR	--	--	--	Other: Monitor congestion.	94,000	8	125,800	183,600	1.5
I-40 /I-85	I-40	I-85/US 70 Connector	OR	--	--	--	Other: Monitor congestion.	92,000	8	125,800	184,000	1.5
<b>US Highways</b>												
US 15-501	Culbreth Rd.	Fordham Blvd	CH	--	--	--	Other: Interchange requires improvements, not the roadway.	32,000	4	26,000	41,700	1.6
US 15-501 BUS (Lakewood Ave)	S Roxboro St	Vickers Ave	DurCity	--	Comm	--	Additional lanes would impact many buildings.	13,000	3	13,800	17,200	1.2
US 15-501 BUS (Roxboro St - North)	Markham Ave	I-85	DurCity	--	Comm	Par	Parallel: East End Connector/Avondale/Alston Av Ext. Other: Grading challenges	15,000	2	12,900	19,600	1.5
US 15-501 BUS (University Dr)	Durham Chapel Hill Blvd	Vickers Ave	DurCity	--	Comm	Par	Parallel: S Roxboro St Ext	16,000	2	12,900	19,000	1.5
US 501 BUS (Roxboro St - North)	I-85	E Club Blvd	DurCity	--	Comm	Par	Parallel: N Duke St. Other: Complexity of adding lanes would result in very high cost.	31,000	5	23,500	42,500	1.8
US 501 BUS (Roxboro St - North)	Old Oxford Rd	E Carver St	DurCity	Need	--	Par	Parallel: N Duke St. Other: Complexity of adding lanes would result in very high cost.	23,000	5	28,100	30,700	1.1
US 70 BUS (Hillsborough Rd)	Neal Rd	Operations Dr	DurCity	Need	--	--	V/C ~1; continue monitoring roadway congestion	9,600	2	14,000	16,300	1.2
US 70 BUS (Hillsborough Rd)	Cole Mill Rd	US 15-501	DurCity	Need	Comm	--	V/C ~1; continue monitoring roadway congestion	24,000	4	28,100	31,600	1.1
US 70 BUS (W Main St)	Broad St	N Buchanan Blvd	DurCity	--	Comm	--	Other: Monitor congestion. Intersection or other improvements if warranted.	11,000	2	11,600	19,000	1.6
US 70 BUS (W Main St)	N Buchanan Blvd	Great Jones St	DurCity	--	Comm	--	Other: Monitor congestion. Intersection or other improvements if warranted.	8,000	3	12,500	17,800	1.4
US 70 BUS/NC 98 (Holloway St)	N. Miami Blvd	N Roxboro St	DurCity	--	Comm	--	Additional lanes would impact many buildings.	12,000	2	11,600	15,000	1.3
US 70/NC86 (Churton St - North)	Cornelius St	W King St	Hboro	--	Comm	--	Additional lanes impact historic structures.	13,000	2	11,000	16,200	1.5
US 70/NC86 (Churton St - North)	Cornelius St	W Corbin	Hboro	--	Comm	--	Additional lanes impact historic structures.	13,000	2	12,700	16,200	1.3
US 70/NC86 (Churton St - South)	W King St	US 70A	Hboro	--	Comm	--	Additional lanes impact historic structures.	20,000	2	11,600	24,500	2.1
US 70A	Lawrence Rd	Elizabeth Brady Rd	OR, Hboro	Need	--	--	Other: Continue monitoring road for congestion.	6,700	2	12,400	13,800	1.1
<b>NC Routes</b>												
NC 157 (Guess Rd)	Horton Rd	Prison Camp	DurCity	Need	--	--	V/C ~1; continue monitoring roadway congestion	20,000	5	28,100	28,600	1.0
NC 157 (Guess Rd)	Milton Rd	Umstead Rd	DurCity, Dur	--	--	--	Monitor congestion.	11,000	2	14,600	15,100	1.0
NC 54	S Alston Ave	NC 55	DurCity	--	Comm	Par	Parallel: I-40	21,000	4	31,600	44,300	1.4
NC 54	Davis Dr	S Alston Ave	DurCity, Dur	Need	--	Par	Parallel: I-40. Other: Continue monitoring for congestion.	16,000	5	36,600	39,800	1.1

## Unaddressed Deficiencies

Roadway Name	Location			Reasons for No Recommended Improvements				Existing			2040	
	From	To	Jurisdiction	Need	Comm	Parallel	Notes	Current Count	No. of Lanes	Capacity (Cap.)	Volume (Vol.)	Vol./Cap. (V/C)
NC 54 (Miami Blvd - South)	Hopson Rd.	Slater Rd	DurCity	--	--	Par	Parallel: NC 55 and Triangle Expressway.	21,000	4	45,200	52,700	1.2
NC 54 (Miami Blvd - South)	Wake County Line	Page Rd	DurCity	--	--	Par	Parallel: NC 55 and Triangle Expressway.	21,000	4	45,200	55,600	1.2
NC 55	I-40	E NC 54 Hwy	DurCity	Need	--	--	Other: Continue monitoring for congestion.	35,000	4	43,600	49,800	1.1
NC 55	I-40	MLK Pkwy	DurCity	Need	--	Par	V/C ~1; continue monitoring roadway congestion	25,000	4	36,600	40,700	1.1
NC 55 (S Alston Ave.)	E Lawson St	Cecil St	DurCity	--	Comm	Par	Parallel: Durham Freeway (NC 147)	26,000	4	23,500	36,000	1.5
NC 55 (S Alston Ave.)	E Lawson St	NC 147	DurCity	--	Comm	Par	Parallel: Durham Freeway (NC 147)	27,000	4	23,500	35,800	1.5
NC 55 (N Alston Ave)	Avondale Dr	Holloway St	DurCity	--	Comm	Par	Parallel: East End Connector/Alston Av Ext	14,000	2	12,900	16,000	1.2
NC 751 (Hope Valley Rd)	MLK Parkway	S Roxboro St	DurCity	--	Comm	Par	Parallel: 4-lane S Roxboro has plenty of excess capacity.	9,300	2	11,600	15,400	1.3
NC 751 (Hope Valley Rd)	University Dr	MLK Parkway	DurCity	Need	Comm	Par	Parallel: 4-lane S Roxboro has plenty of excess capacity.	9,500	2	11,600	12,100	1.0
NC 751 (University Dr)	Hope Valley Rd	Academy Rd	DurCity	--	Comm	Par	Parallel: S Roxboro Ext. US 15-501 has excess capacity.	13,000	3	11,600	16,000	1.4
NC 751 (Academy Rd)	Duke University Rd	Durham Chapel Hill B	DurCity	--	--	--	Monitor congestion. Add turn lanes, when needed.	9,900	2	11,600	16,400	1.4
NC 86 (S Columbia St)	Manning Dr	US 15-501	CH	--	Comm	Par	Parallel: BRT. Other: Bicycle, pedestrian and transit high priority given students and centers.	13,000	2	14,000	17,500	1.3
NC 86 (W Cameron Av)	NC 86 (S Columbia St)	Nc 86 (Pittsboro St)	CH	--	Comm	--	Too many structures close to road; existing bike lanes are preferred.	16,000	2	11,600	17,000	1.5
NC 86 (MLK Jr Blvd)	Estes Dr	Homestead Rd	CH	--	Comm	--	Other: Transit facilities are preferred; Bus Rapid Transit will increase corridor capacity.	28,000	4	31,600	40,200	1.3
NC 86 (MLK Jr Blvd)	Homestead Rd	Weaver Dairy Rd Ext	CH	Need	Comm	--	Other: Transit facilities are preferred; Bus Rapid Transit will increase corridor capacity.	24,000	4	31,600	33,300	1.1
NC 86 (MLK Jr Blvd)	Weaver Dairy Rd Ext	I-40	CH	--	Comm	--	Other: Transit facilities are preferred; Bus Rapid Transit will increase corridor capacity.	28,000	4	31,600	41,200	1.3
NC 86.	Whitfield Rd	New Hope Church Rd.	OR	--	--	Par	Parallel: S Churton/I-40	6,400	2	14,600	17,700	1.2
NC 86.	New Hope Church Rd	OLD NC 10	OR	--	--	Par	Parallel: S Churton/I-40	10,000	3	12,400	29,700	2.4
<b>Secondary and Local Roads</b>												
Angier Ave	Ellis Rd	S Miami Blvd	DurCity	Need	--	Par	Parallel: New collector roads	7,700	2	12,400	13,400	1.1
Broad St	W Main St (US 70 Bus)	W Markham Ave	DurCity	--	Comm	--	Other:2040 volume = no significant delay	13,000	2	11,000	14,200	1.3
Broad St	W Club Blvd	W Markham Ave	DurCity	--	Comm	--	Other: Current parking lane can be travel lane if future congestion	13,000	2	11,000	15,500	1.4
Broad St	Guess Rd	W Club Blvd	DurCity	--	Comm	--	Other: Current parking lane can be travel lane if future congestion	12,000	2	11,000	13,700	1.3
Broad St	Leon St	W Murray Ave	DurCity	Need	--	--	V/C ~1; continue monitoring roadway congestion	12,000	2	12,900	13,500	1.0
Buchanan Blvd (North)	W Main St	W Markham Ave	DurCity	Need	Comm	--	V/C ~1; continue monitoring roadway congestion; most structures very close to roadway	9,400	2	11,600	13,200	1.1
Carpenter Fletcher Rd	E Woodcroft Pkwy	NC 55	DurCity	--	--	--	Monitor congestion. Bike/Ped improvements preferred.	-	2	11,600	13,700	1.2

## Unaddressed Deficiencies

Roadway Name	Location			Reasons for No Recommended Improvements			Notes	Existing			2040	
	From	To	Jurisdiction	Need	Comm	Parallel		Current Count	No. of Lanes	Capacity (Cap.)	Volume (Vol.)	Vol./Cap. (V/C)
Chapel Hill Rd	W Cornwallis Rd	W Chapel Hill St	DurCity	Need	Comm	--	V/C ~1; continue monitoring roadway congestion	9,300	2	12,900	13,800	1.1
Chapel Hill St (West)	Kent St	S Durham Freeway	DurCity	--	--	--	Monitor congestion. Restripe additional lanes if needed.	12,000	3	12,900	16,000	1.2
Chapel Hill St (West)	S Durham Freeway	W Ramseur St	DurCity	--	--	--	Monitor congestion. Restripe additional lanes if needed.	14,000	2	11,600	19,300	1.7
Cheek Rd	E Geer St	US 70 E	DurCity	--	Comm	Par	Parallel: Northern Durham Parkway/Alston Av Ext	8,600	2	11,600	15,200	1.3
Club Blvd (West)	N Duke St	N Roxboro St	DurCity	--	Comm	--	Other: Continue to monitor for congestion.	8,600	2	11,600	13,900	1.2
Club Blvd. (East)	Midland Ter	N Roxboro St	DurCity	Need	Comm	--	Other: Delays are expected to be isolated to the N Roxboro intersection. Continue to monitor for congestion.	9,100	2	11,600	12,400	1.1
Club Blvd. (East)	I-85	Midland Ter	DurCity	--	--	Par	Parallel: Northern Durham Pkwy attracts trips.	8,700	2	11,600	15,800	1.4
Club Blvd. (East)	I-85	E Geer St	Dur	--	Comm	--	Additional lanes would impact many residences.	-	2	11,600	15,800	1.4
Cole Mill Rd	Sparger Rd	Umstead Rd	DurCity	Need	--	--	V/C ~1; continue monitoring roadway congestion. Environment: river crossing.	8,900	2	12,400	13,500	1.1
Cornwallis Rd (West)	Erwin Rd	US 15-501	DurCity	--	--	--	Monitor congestion.	3,300	2	15,000	18,600	1.2
Cornwallis Rd (West)	Chapel Hill Rd	US 15-501	DurCity	--	--	--	Monitor congestion. Add turn lanes if needed.	8,800	2	11,600	14,800	1.3
Cornwallis Rd.	University Dr	S Roxboro St	DurCity	--	Comm	--	Additional lanes would impact many residences.	8,600	2	11,600	15,800	1.4
Cornwallis Rd. (East)	NC 55	Future MLK Pkwy	DurCity	Need	--	Par	Parallel: MLK Pkwy Ext	11,000	2	12,700	14,400	1.1
Country Club Rd.	Raleigh St	South Rd	CH	--	Comm	--	Additional lanes would impact many residences.	12,000	2	11,000	17,000	1.6
Dearborn Dr	E Club Blvd	Old Oxford Rd	DurCity	--	Comm	Par	Parallel: Old Oxford Connector/Northern Durham Pkwy	9,400	2	11,600	17,500	1.5
Duke University Rd	Anderson St	Kent St	DurCity	--	--	--	Monitor congestion. Restripe additional lanes if needed.	-	2	11,600	15,300	1.3
Ellis Rd	Moore Dr	NC 147 (Durham Freeway)	Dur	Need	--	--	V/C ~1; continue monitoring roadway congestion	9,000	5	27,800	27,600	1.0
Ellis Rd	Glover Rd	Riddle Rd	DurCity	Need	--	--	V/C ~1; continue monitoring roadway congestion	7,100	2	14,600	16,200	1.1
Ephesus Church Rd	Fordham Blvd	Pope Rd	Dur, CH	--	Comm	Par	Parallel: US 15-501 (Fordham Blvd)	9,200	2	11,600	20,600	1.8
Ephesus Church Rd	Farrington Rd	Pope Rd	DurCity	Need	--	Par	Parallel: US 15-501 (Fordham Blvd)	5,900	3	14,000	15,600	1.1
Estes Dr.	MLK Jr Blvd	E Franklin St	CH	--	Comm	--	Lane additions negatively impact residential community. Other: Sidewalks and bike lanes are preferred	15,000	2	11,600	22,600	2.0
Eubanks Rd	Rogers Rd	Mill House Rd	Carr	Need	--	--	Monitor congestion.	6,200	2	12,400	12,700	1.0
Farrington Rd	Farrington Mill Rd	Stagecoach Rd	Dur	--	--	--	Other (Environment): Wetlands and ACOE property.	12,000	2	11,600	18,500	1.6
Farrington Rd	NC 54	Falconbridge Ext	DurCity, Dur	--	--	Par	Parallel: Falconbridge Ext/Southwest Durham Dr	11,000	2	12,700	23,200	1.8
Fayetteville St	E Cornwallis Rd	Riddle Rd	DurCity	--	--	Par	Parallel: S Roxboro Extension	19,000	4	25,500	29,000	1.1
Fayetteville St	Nelson St	E Lawson St	DurCity	--	Comm	Par	Parallel: S Roxboro St Ext	13,000	2	11,600	18,500	1.6
Fayetteville St	Umstead St	E Lawson St	DurCity	--	Comm	Par	Parallel: S Roxboro Extension	17,000	2	11,600	24,500	2.1



## Unaddressed Deficiencies

Roadway Name	Location			Reasons for No Recommended Improvements				Existing			2040	
	From	To	Jurisdiction	Need	Comm	Parallel	Notes	Current Count	No. of Lanes	Capacity (Cap.)	Volume (Vol.)	Vol./Cap. (V/C)
Fletchers Ch Rd/Burton Rd	Patterson Rd	E Geer St	DurCity, Dur	Need	--	Par	Parallel: Northern Durham Parkway	6,200	2	12,400	13,900	1.1
Franklin St (East)	N Columbia St	Raleigh St	CH	Need	Comm	--	V/C ~1; continue monitoring roadway congestion	14,000	4	22,100	22,500	1.0
Franklin St (East)	Deming	Raleigh St	CH	Need	Comm	--	V/C ~1; continue monitoring roadway congestion	16,000	4	22,200	23,700	1.1
Globe Rd	Wake County Line	Page Rd	Dur	Need	--	Par	Parallel: Aviation Parkway	8,900	2	14,000	15,400	1.1
Herndon Rd	Barbee Road	Rossford Ln	DurCity	Need	Comm	--	V/C ~1; continue monitoring roadway congestion	6,300	2	11,600	11,700	1.0
Hillandale Rd	W Carver St	I-85	DurCity	--	Comm	--	Additional lanes would impact many buildings.	23,000	4	31,600	42,900	1.4
Hillsborough St	MLK Jr Blvd	E Franklin St	CH	Need	Comm	Par	Parallel: Transit investments on MLK Blvd	6,800	2	10,000	11,100	1.1
Horton Rd	Guess Rd	N Roxboro St	DurCity	--	--	--	Monitor congestion. Flows well w/o signals.	13,000	2	14,000	18,800	1.3
Infinity Rd	N Roxboro Road (US 501 N)	Snow Hill Rd	DurCity, Dur	--	--	--	Monitor congestion.	7,800	2	11,600	13,400	1.2
Jones Ferry Rd.	NC 54	Old Greensboro Rd	OR, Carr	--	--	--	Other: Continue to monitor for congestion; Environment: watershed area.	11,000	2	12,400	15,300	1.2
Jones Ferry Rd.	W Main St	NC 54	Carr	Need	Comm	--	Other: Biking and walking have high priority given apartments and students.	8,600	2	11,600	12,100	1.0
Lawson St (East)	Fayetteville St	S Alston Ave (NC 55)	DurCity	--	--	--	Monitor congestion. Prefer bike and ped improvements.	7,908	2	11,000	16,100	1.5
Leesville Rd	US 70	Shady Grove Rd	DurCity, Dur	--	--	Par	Parallel: NDP/Brier Cr Ext/T.W. Alexander Ext	4,100	2	12,400	15,900	1.3
Legion Rd	Ephesus Church Rd	US 15-501	CH	Need	--	Par	Parallel: US 15-501 (Fordham Blvd.)	5,200	CH	11,600	11,800	1.0
Main St (West)	S Greensboro St	Jones Ferry Rd	Carr	--	Comm	--	Additional lanes would impact old commercial buildings.	14,000	2	11,300	18,900	1.7
Main St (East)	S Greensboro St	Weaver St	Carr	Need	Comm	--	V/C ~1; continue monitoring roadway congestion	8,600	2	11,300	11,700	1.0
Main St (East)	Weaver St	W Rosemary St	Carr	0	0	0		17,000	4	22,100	23,200	1.1
Main St (East)	W Rosemary St	Merritt Mill Rd.	CH, Carr	Need	Comm	--	V/C ~1; continue monitoring roadway congestion	10,500	2	11,300	13,300	1.2
Miami Blvd (South)	E Cornwallis Rd	I-40	DurCity	--	--	Par	Parallel: NC 147 improvements.	27,000	4	43,600	51,000	1.2
Mineral Springs Rd (South)	Northern Durham Pkwy	Pleasant Dr	DurCity, Dur	--	--	Par	Parallel: Northern Durham Parkway	10,000	2	11,600	14,000	1.2
MLK Parkway	Archdale	Hope Valley Rd	DurCity	--	--	Par	Parallel: S Roxboro St Ext	-	4	36,600	52,600	1.4
Morreene Rd	US 15-501	Neal Rd	DurCity	Need	--	--	Other: Continue to monitor for congestion.	9,400	2	11,600	12,700	1.1
Morreene Rd	Campus Walk	US 15-501	DurCity	Need	--	--	Other: Development at interchange might need to provided improvements.	10,200	2	12,900	14,000	1.1
Mt. Moriah Rd	Old Chapel Hill Rd	US 15-501	DurCity	--	--	Par	Parallel: Southwest Durham Drive	5,400	2	11,600	14,100	1.2
Mt. Moriah Rd	Erwin Rd	US 15-501	OR	Need	--	Par	Parallel: Southwest Durham Drive	5,100	2	11,600	13,400	1.2
Old Chapel Hill Rd.	Garrett Rd	SW Durham Pkwy	DurCity	--	--	Par	Parallel: US 15-501 attract trips.	16,000	2	11,600	31,600	2.7
Old Fayetteville Rd	Hillsborough Road	NC 54	Carr	--	Comm	--	Other: Biking and pedestrian is high priority given 2 schools and library.	8,700	2	12,900	18,000	1.4
Old Oxford Rd	Hamlin Rd	Snow Hill Rd	DurCity, Dur	--	--	--	Monitor congestion.	7,800	2	12,400	16,400	1.3
Page Rd	S Miami Blvd	Emperor Blvd	DurCity	--	--	Par	Parallel: Triangle Pkwy	16,000	4	36,600	42,400	1.2

## Unaddressed Deficiencies

Roadway Name	Location			Reasons for No Recommended Improvements				Existing			2040	
	From	To	Jurisdiction	Need	Comm	Parallel	Notes	Current Count	No. of Lanes	Capacity (Cap.)	Volume (Vol.)	Vol./Cap. (V/C)
Page Rd	Emperor Blvd	I-40	DurCity	--	--	--	Monitor congestion.	-	4	29,300	42,600	1.5
Raleigh St.	Cameron Ave	Franklin St	CH	--	Comm	Par	Parallel: Transit investments on MLK Blvd/Columbia St	-	2	10,000	17,200	1.7
Red Mill Rd	Old Oxford Hwy	Red Mill Rd realignment	Dur	--	--	Par	Parallel: Northern Durham Parkway	8,900	2	12,400	16,900	1.4
Red Mill Rd	Teknika Pkwy	I-85	Dur	--	--	Par	Parallel: Northern Durham Parkway	8,900	2	12,400	16,900	1.4
Rosemary St (West)	N Columbia St	E Main St	CH, Carr	--	--	--	Additional lanes would take to many structures.	8,700	2	10,000	17,400	1.7
Roxboro St. (South)	E Lawson St	Summit St	DurCity	--	--	--	Monitor congestion. Add turn lanes if needed.	8,300	2	11,600	14,400	1.3
Sherron Rd	S Mineral Springs Rd	US 70	Dur	--	--	--	Other: Continue to monitor for congestion.	18,000	5	31,600	35,000	1.1
Smith Level Rd	Rock Haven Rd	NC 54	Carr	--	--	--	Other: Continue to monitor for congestion.	16,000	3	15,600	22,900	1.5
T. W. Alexander Dr	Presidential Dr	S Miami Blvd	DurCity	Need	--	Par	Parallel: East End Connector/US 70	-	4	36,600	39,200	1.1
Umstead Rd	Bivins Rd	Guess Rd	DurCity	Need	--	--	Other: Continue to monitor for congestion.	8,200	2	12,400	13,100	1.1
University Dr	Garrett Rd	MLK Jr Pkwy	DurCity	--	--	Par	Parallel: US 15-501 freeway conversion.	19,000	2	26,000	29,300	1.1
University Dr	W Cornwallis Rd	Hope Valley Rd	DurCity	--	Comm	Par	Parallel: S Roxboro Ext. US 15-501 Business has excess capacity.	9,700	2	11,600	15,700	1.4
Weaver Dairy Rd.	Kingston Dr	Sunrise Rd	CH	--	Comm	--	Other: Continue to monitor for congestion.	12,000	3	15,600	26,300	1.7
Weaver Dairy Rd.	Sage Rd	Sunrise Rd	CH	--	Comm	--	Other: Continue to monitor for congestion.	11,000	3	15,600	28,700	1.8
Weaver St. (East)	N Greensboro St	E Main St	Carr	Need	Comm	--	V/C ~1; continue monitoring roadway congestion	9,300	2	11,600	12,100	1.1
Whitfield Rd	Erwin Rd	Sunrise Rd	OR	--	--	Par	Parallel: US 15-501.	4,700	2	12,400	16,000	1.3

## **2.2 2040 MTP Projects not Included in the CTP**

### **Background**

In April 2013, the DCHC MPO adopted the 2040 Metropolitan Transportation Plan (MTP) that listed the highway, public transportation, bicycle and pedestrian projects expected to become operational through the year 2040. This federally-mandated, 23 U.S. Code § 134, plan is fiscally-constrained, which means that only projects that can be funded using the expected transportation revenues during that time period can be included in the MTP. The NC General Statute §136-66.2 requires each MPO with the cooperation of the NCDOT to develop a Comprehensive Transportation plan in accordance with 23 U.S. Code § 134 and it may include non-fiscally constrained projects and projects needed beyond the horizon year of the MTP. Thus the MTP is understood as being a subset of the CTP.

The DCHC MPO and NCDOT will update the CTP as needed following the adoption of the next MTP, which will be the 2045 MTP. The CTP would be updated to ensure that the 2045 MTP is a true subset of the CTP.

### **Purpose**

Currently, there are several 2040 MTP projects that are not included in the CTP. Table 10 lists the 2040 MTP highway projects that are not included in the CTP and provides the reasons for not being included.

Table 10: 2040 MTP Highway Projects not included in the CTP

MTP ID	Roadway	From	To	Reasons for not being included in CTP
1	T W Alexander Drive	Cornwallis Road	NC 147	These lane additions were completed after the 2040 MTP was adopted. No further improvements are needed.
12	Cornwallis Road	NC 55	Alexander Drive	The 2040 MTP and CTP agree (i.e., lane additions) except the short segment from NC 55 to the new MLK Parkway extension is not in the CTP. That segment will not be congested when the MLK Parkway extension is operational.
40	Carolina North network	Internal to Carolina North Campus		The plans to develop the Carolina North campus became indefinite in the time period after the 2040 MTP was adopted.
59	Miami Boulevard	Methodist Drive	Angier Ave	These lane additions were completed after the 2040 MTP was adopted. No further improvements are needed.
85	Northern Durham Parkway	Old Oxford Hwy	Roxboro Road	This is a modernization improvement in the 2040 MTP (there are no lane additions) and was designated in the now defunct urban loop legislation. The CTP process did not reveal any future congestion.
77.1	NC 751	S Roxboro Street	NC 54	The 2040 MTP and CTP agree (i.e., lane additions) except the short segment from NC 54 to Woodcroft Parkway. That segment already has a five-lane cross-section and thus the CTP did not indicate there would be future congestion.
77.2	NC 751	NC 54	Renaissance Parkway	The 2040 MTP and CTP agree (i.e., lane additions) except the short segment from SouthPointe Autopark Blvd to Renaissance Pkwy, which crossed I-40. That segment already has four to seven lanes and thus the CTP did not indicate future congestion there.
97	Smith Level Road	Rock Haven Road	NC 54 bypass	The lane addition and improvements were completed after the 2040 MTP was adopted. No further improvements are desired by the Town of Carrboro.
119	Weaver Dairy Road	NC 86	Erwin Road	The lane addition and improvements were completed after the 2040 MTP was adopted. No further improvements are desired by the Town of Chapel Hill.

MTP ID	Roadway	From	To	Reasons for not being included in CTP
200	Eubanks Road	Old NC 86	Millhouse Road	The 2040 MTP and CTP agree (i.e., lane additions) except the segment from Old NC 86 to Rogers Rd. The CTP process did not project congestion on that segment.
231	N Mangum Street (grade separation)	N.C. Railroad tracks		Project does not have local support because of the incompatibility with the planned Durham-Orange Light Rail Transit system, negative impacts to the downtown community, and high projected costs.
232	Corcoran Street (grade separation)	N.C. Railroad tracks		Project does not have local support because of the incompatibility with the planned Durham-Orange Light Rail Transit system, negative impacts to the downtown community, and high projected costs.
241	Estes Drive	MLK Boulevard	E Franklin Street	The 2040 MTP has modernization improvements. These improvements are depicted in the bicycle and pedestrian part of the CTP. The Town of Chapel Hill does not support lane additions in this segment.
243	Old Lystra Road	Mt Carmel Ch Road	Sun Forest Way	This low-density residential street will not experience future development that would cause congestion. This roadway is not in the Triangle Regional Model (TRM) and therefore no traffic projections are available.



## 2.3 Implementation

The CTP is based on the projected growth for the planning area. It is possible that actual growth patterns will differ from those logically anticipated. As a result, it may be necessary to accelerate or delay the implementation of some recommendations found within this plan. Some portions of the plan may require revisions in order to accommodate unexpected changes in development. Therefore, any changes made to one element of the CTP should be consistent with the other elements.

Initiative for implementing the CTP rests predominately with the policy boards of the Durham-Chapel Hill-Carrboro Metropolitan Transportation Organization (DCHC MPO) and the counties and municipalities within the MPO's planning area, and the citizens within that area, as well. The transportation needs throughout the state exceed available funding, and thus it is imperative that the MPO and local governments aggressively pursue funding for priority projects. The local governments, the MPO and NCDOT should continue to collaborate on the prioritization processes of the MPO and NCDOT to identify funding in the Transportation Improvement Program (TIP) for the projects in this CTP. Refer to Appendix A – Resources and Contacts -- for contact information on NCDOT's Strategic Prioritization Office (SPOT) for prioritization assistance, and on NCDOT's Project Development and Environmental Analysis (PDEA) unit for assistance on funding sources.

Local governments may use the CTP to guide development and protect corridors for the recommended projects. It is critical that NCDOT and local governments coordinate on relevant land development reviews and all transportation projects to ensure proper implementation of the CTP. Local governments and NCDOT share the responsibility for access management and the planning, design and construction of the recommended projects.

Recommended improvements shown on the CTP map represents an agreement of identified transportation deficiencies and potential solutions to address the deficiencies. While the CTP does propose recommended solutions, it may not represent the final location or cross section associated with the improvement. All CTP recommendations are based on high level systems analyses that seek to minimize impacts to the natural and human environment. Prior to implementing projects from the CTP, additional analysis will be necessary to meet the National Environmental Policy Act (NEPA) or the North Carolina (or State) Environmental Policy Act (SEPA) (for more information, see <http://www.doa.nc.gov/clearing/faq.aspx>). During the NEPA/SEPA process, the specific project location and cross section will be determined based on environmental analysis and public input. This CTP may be used to support transportation decision making and provide transportation planning data in the NEPA/SEPA process.

The MPO updates their Metropolitan Transportation Plan (MTP) every four to five years. This long-range, multimodal plan is a federal requirement and it must be fiscally constrained, which means the expected transportation revenues must cover the

expected transportation expenses. As a result, the MTP is only a subset of the CTP projects. The CTP is not fiscally constrained and after projects progress from the CTP to the MTP, funding is sought for these projects with submittal of the projects to the STIP prioritization process.

## **2.4 Problem Statements**

The following pages contain problem statements for each recommendation, organized by CTP modal element. The information provided in the problem statement is intended to help support decisions made in the NEPA/SEPA process.

See the beginning of Chapter 2 Recommendations for more detail on the DCHC's support of NCDOT's *Complete Streets* policy and concepts, and the use of *Complete Streets* in developing the CTP.

A complete inventory of CTP studied facilities and recommendations for all modes are provided in Appendix C. Many facilities contain recommendations for multiple modes of transportation. These additional modes are referenced in the final column entitled "Other Modes" in the Public Transportation and Rail inventory tables in Appendix C.

The STIP ID numbers and segmentation for projects shown in the following problem statements and in the inventory in Appendix C come from the draft STIP FY 2017-2027, unless otherwise noted. The status of projects in the draft STIP FY 2017-2027 could have changed with State approval, and could still change before Federal approval. The current STIP FY 2016-2025 project status should be used until the STIP FY 2017-2027 is federally approved. Contact the STIP Unit for verification of current project status in the STIP.

### **a) HIGHWAY**

For highway recommendations, refer to Figure 1, Sheets 1 and 2 for the Highway CTP maps. Refer to Appendix C for cross-section recommendations for each project. Refer to Appendix D for typical details of each cross-section, including lane widths and shoulder widths.

A full, minimum or reference problem statement is presented for highway recommendations that are significant projects that are also near term, complex, or a new location project, with full problem statements occurring first. The CTP committee determined which significant projects in their respected areas needed full and minimum problem statements. Near term projects were projects in the first two horizon years for the DCHC MPO 2040 Metropolitan Transportation Plan (2040 MTP) or projects in the current State Transportation Improvement Program (STIP) FY 2016-2025. Complex projects contain managed lane recommendations, synchronized street

recommendations, or complex issues in the corridor requiring a corridor study for development of recommendations. A new location project is a recommended new facility on new alignment.

Full problem statements are denoted by a gray shaded box containing project information. Minimum problem statements are more concise and less detailed than full problem statements, but include all known or readily available information. Reference problem statements are developed for TIP projects where the purpose and need for the project has already been established. Within each problem statement section, the problem statements are ordered starting with the primary routes of Interstates, US routes, NC routes and then other secondary and local roads. Each section is in alphabetical order.

## i. HIGHWAY – Full Problem Statements

Note -- The order of listing is: Interstates, US highways, NC routes and then other roadways. Each section is in alphabetical order.

### I-40 – Proposed Improvements from I-85 to Wake County

Last updated: 09/20/17

Local ID: [Draft STIP FY 2017-2027]

- ❖ TIP# I-5702 A (US 15-501 to NC 147), managed lanes
- ❖ TIP# I-5702 B (NC 147 to Wade Avenue (SR 1728) (Wake County)), managed lanes
- ❖ TIP# I-3306 AA (I-85 to NC 86), widening
- ❖ TIP# I-3306 AB (NC 86 to Durham/Orange County line), widening
- ❖ TIP# I-3306 AC (NC 86 Interchange), improvement
- ❖ TIP# I-3306 B (Durham/Orange County line to NC 147), widening – COMPLETE

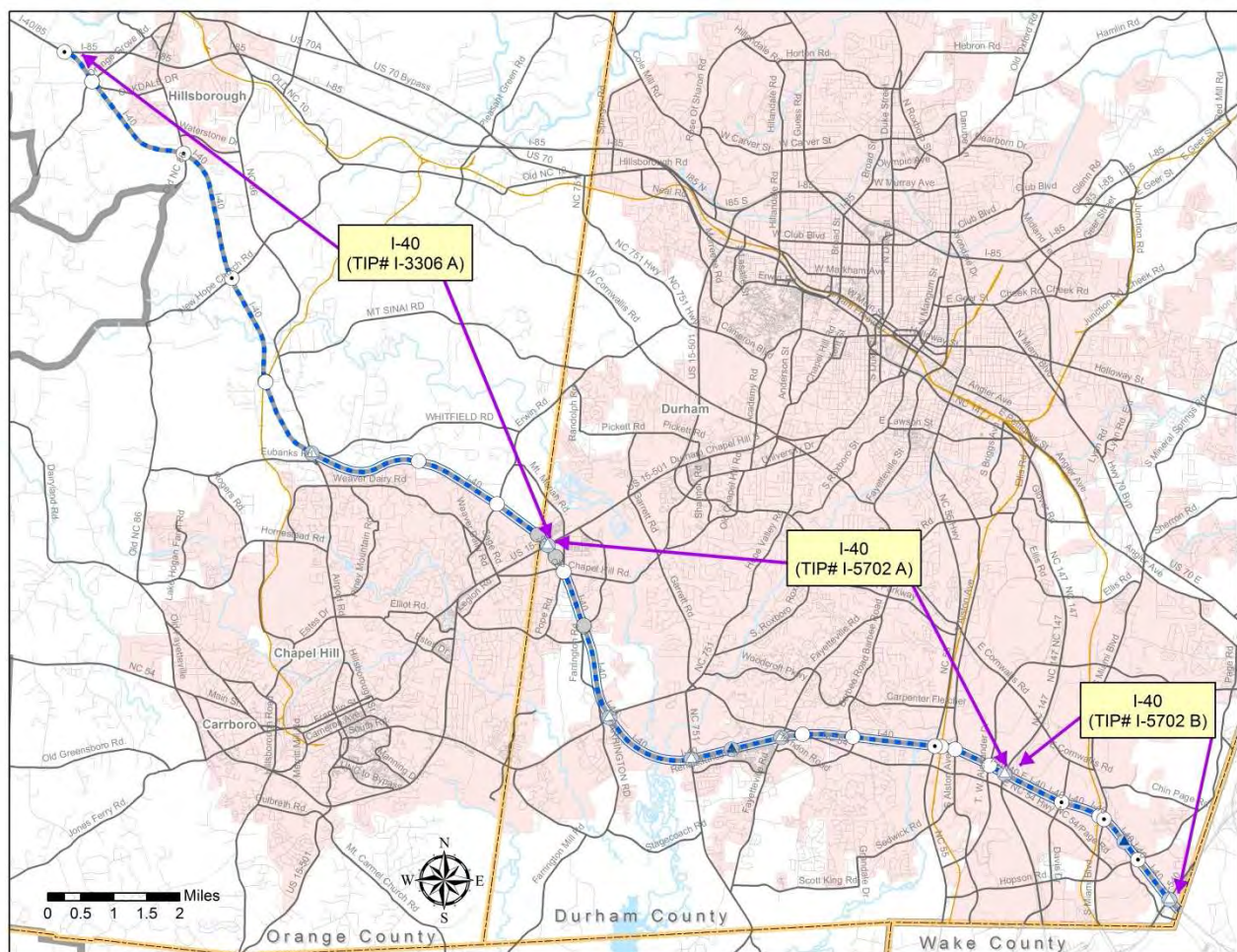


Figure 20

## Identified Problem

I-40 in the DCHC MPO area is expected to exceed LOS D capacity by 2040.

### Justification of Need

I-40 is the major interstate through the Triangle and is critical for regional mobility. It is utilized for a variety of traffic including national, statewide, regional, and local needs. It also has a great deal of influence on regional traffic patterns, connectivity, land use, economic development, and local streets. Commuters and freight operators depend on reliable travel times on I-40. As the State and the region continue to grow, I-40 is expected to have increased traffic demand and slower travel times.

The right-of-way width and current lane configurations vary along this segment. I-40 in Orange County is currently four lanes, while in the Research Triangle Park there are eight lanes with two auxiliary lanes. The spacing of interchanges also varies considerably along the segment. There are several tightly spaced interchanges in the Research Triangle Park. Transit buses utilize the entire corridor, primarily for express routes between cities. Currently transit buses are able to operate on the shoulder during congested periods when the speeds are below designated thresholds. The future Durham-Orange Light Rail Transit (D-O LRT) is proposed to run parallel to part of I-40 between US 15-501 and NC 54 with three D-O LRT stations located near I-40 at Leigh Village, Gateway Center, and Patterson Place.

In addition, there are bicycle, pedestrian and transit safety and access concerns in this area. There are many housing and employment centers nearby this corridor and I-40 should not be a barrier for bicycle and pedestrian access across the corridor, and for transit service.

The following table shows that I-40 is projected to exceed a LOS D capacity.

Table 11

<b>From</b>	<b>To</b>	<b>Lanes</b>	<b>2015 AADT</b>	<b>Existing Capacity</b>	<b>2040 Volume</b>	<b>2040 V/C</b>	<b>2040 Cross - Section</b>
I-85	Old NC 86 (SR 1009, Hillsborough exit)	4D	58,000	59,900	71,000	1.2	6B
Old NC 86 (SR 1009, Hillsborough exit)	New Hope Church Road (SR 1723)	4D	65,000	59,900	73,000	1.2	6B
New Hope Church Road (SR 1723)	NC 86 (Chapel Hill exit)	4D	68,000	59,900	82,000	1.4	6B
NC 86 (Chapel Hill exit)	US 15-501	4D	73,000	59,900	94,000	1.6	6D
US 15-501	NC 54	6D	90,000	90,700	118,000	1.3	8D
NC 54	NC 751	6D	116,000	90,700	135,000	1.5	10B
NC 751	Fayetteville Road (SR 1118)	6D	115,000	90,700	135,000	1.5	10B



From	To	Lanes	2015 AADT	Existing Capacity	2040 Volume	2040 V/C	2040 Cross - Section
Fayetteville Road (SR 1118)	NC 55	6D	124,000	90,700	141,000	1.6	10B
NC 55	NC 147	6D	128,000	90,700	146,000	1.6	10B
NC 147	Davis Drive (SR 1999)	8D	154,000	121,900	196,300	1.6	12A
Davis Drive (SR 1999)	Miami Boulevard (SR 1959)	8D	161,000	121,900	199,000	1.6	12A
Miami Boulevard (SR 1959)	Page Road (SR 1973)	8D	174,000	121,900	212,000	1.7	12A
Page Road (SR 1973)	I/NC 540 (Wake County)	8D	181,000	121,900	211,000	1.7	12A

Note: In the "Lanes" column, "D" means the facility is "divided" (has a median). In the "2040 Cross-Section" column, the number-letter pair indicates the recommended typical cross-section. See Appendix D for typical cross-section details.

I-40 is a major interstate through the Triangle area. Through traffic as well as inter-regional and inter-city traffic will continue to increase volumes on I-40. The overall increase in population and employment in Orange, Durham, and Wake counties will result in increased demand for travel on I-40. Furthermore, there are many I-40 interchanges that have significant development or redevelopment potential. Old NC 86 (Hillsborough exit), NC 86 (Chapel Hill exit), US 15-501, NC 54, and Fayetteville Road will have nearby population growth. Old NC 86 (Hillsborough exit), NC 86 (Chapel Hill exit), US 15-501, NC 54, Fayetteville Road, NC 55, and all interchanges in the Research Triangle Park are expected to have nearby employment growth.

There are functionally obsolete bridges at Sunrise Lane (SR 1732), Erwin Road (SR 1734), US 15-501, Barbee Road, and I-540.

### Community Vision and Problem History

I-40 is envisioned to continue to be the major interstate corridor through the Triangle area. It primarily serves national, statewide, and regional traffic demand. As the region grows, travel times on I-40 are anticipated to increase. In order to maintain economic growth and quality of life in the Triangle, capacity improvements are needed as well as a way to maintain travel times.

The recommendation is envisioned to include: two additional general purpose lanes in Orange County from I-85 to NC 86 (Chapel Hill exit), two to four additional managed lanes from NC 86 (Chapel Hill exit) to Wake County. It is recommended that the proposed managed lanes include direct access ramps at existing or new interchanges depending on conditions. These managed lanes should be constructed to accommodate and facilitate use by transit buses, especially to access the nearby D-O LRT stations and any transfer centers. Overall, the community vision for I-40 is to use a combination of general purpose widening as well as managed lanes and complementary transit improvements to ensure that commuters and freight operators have more reliable travel times as well as alternatives to driving through the I-40

corridor. The envisioned improvements should help address many transportation needs along I-40, even if LOS D is not achievable in the future for all users at all times.

The recommendation is envisioned to include safety improvements, especially at interchanges and merge locations. All interchanges, intersections and bridges should consider bicycle and pedestrian facilities consistent with adopted plans or current safety standards.

## **CTP Project Proposal**

### Project Description and Overview

The project recommendation is to widen I-40 from I-85 to NC 86 (Chapel Hill exit) to six general purpose lanes. From NC 86 (Chapel Hill exit) to US 15-501, the project recommends widening I-40 by adding two managed lanes. From US 15-501 to NC 54, I-40 is recommended to be widened to include two managed lanes in addition to the existing six general purpose lanes. From NC 54 to NC 147, I-40 is recommended to be widened to include two to four managed lanes and zero to two general purpose lanes in addition to the existing six general purpose lanes. From NC 147 into Wake County, the project is recommended to include four managed lanes and eight general purpose lanes. The project also recommends some interchange ramp reconfigurations to improve safety, capacity, and access. Interchange improvements identified in the CTP include: NC 86 (Chapel Hill exit); US 15-501; NC 54; Fayetteville Road; NC 147, and I/NC540. The segments with managed lanes should consider new access ramps for these facilities. Access ramps for managed lanes are most critical at the highest demand interchanges such as US 15-501, NC 54, Fayetteville Road, NC 147, Miami Boulevard, and I/NC 540. Bridges, overpasses, underpasses, and interchanges should consider bicycle and pedestrian facilities to safely cross I-40.

### Natural and Human Environment Context

I-40 is a major transportation corridor with a wide footprint that is proposed to get even larger with the proposed improvements. Run-off from the roadway is a major environmental concern. In addition, the required grading and hydrological structures with any widening improvements would be significant.

I-40 crosses numerous creeks and streams from I-85 to Wake County. The most significant watersheds that are affected are the Eno River, New Hope Creek, Northeast Creek, and Stirrup Iron Creek watersheds. I-40 is within the protected watershed for Jordan Lake. There is a major stream crossing of New Hope Creek between the NC 54 and NC 751 interchanges that includes land owned by the U.S. Army Corps of Engineers.

The development context of I-40 includes rural and suburban areas. Orange County has a rural buffer in between Hillsborough and Chapel Hill along I-40. From NC 86

(Chapel Hill exit) to the east, I-40 has mostly suburban type development with major commercial areas, residential, and the Research Triangle Park. Durham maintains a Major Transportation Corridor buffer which prohibits development around I-40. This should limit the amount of impacts to the human environment for the proposed improvements.

Schools directly adjacent to the I-40 corridor include Cedar Ridge High School, Grady Brown Elementary School, and Lowe's Grove Middle School. Recreational facilities adjacent to the I-40 corridor include Leigh Farm Park in Durham County (located north of NC 54 and east of I-40) and Orange County's Blackwood Farm Park (located north of New Hope Church Road between I-40 and NC 86). The Blackwood Farm Park is a historic farm purchased by Orange County for use as a low impact park. The park has an adopted master plan.

### Relationship to Land Use

This is a very long segment that has a variety of land uses along the length. This includes the suburban type development in the town of Hillsborough, the rural buffer in Orange County, more suburban development in Chapel Hill and Durham, and the Research Triangle Park.

Population growth is expected in Hillsborough, NC 86, from US 15-501 to NC 54, and in the areas west and east of the Research Triangle Park. Employment growth is focused near the Old NC 86 (Hillsborough exit) interchange near Hillsborough, NC 86 (Chapel Hill exit) interchange, US 15-501 interchange, NC 54 interchange, Fayetteville Road interchange, and all of the area in the Research Triangle Park from NC 55 into Wake County.

Regional population and employment growth will affect congestion on I-40. Both population and employment are forecasted to grow at about a 1.5% annual rate.

### Linkages to Other Plans and Proposed Project History

Development of this project should be coordinated with the following plans:

- The DCHC MPO, CAMPO and NCDOT began the Triangle Tolling Study in late 2016. The study is scheduled to be complete in 2018.
- Durham-Orange Light Rail Transit (D-O LRT) *Final Environmental Impact Statement/Record of Decision*, 2016
- *Durham Trails and Greenways Master Plan*, 2011
- *Durham Comprehensive Bicycle Transportation Plan*, 2006
- *DurhamWalks! Pedestrian Plan*, 2006
- DCHC MPO *2040 Metropolitan Transportation Plan*, 2013
- *DCHC MPO Mobility Report Card*, 2015

Managed lanes, other than the NC 147/540 (Triangle Expressway) toll facility, are not currently utilized in the Triangle area. NCDOT completed a feasibility study, TIP# FS-

1205 A, for the construction of managed lanes on I-40 in 2016. Future revenue and financing studies as well as more detailed design, construction, and the NEPA analyses are necessary to fully understand this type of project.

NCDOT conducted a NEPA study for the widening of I-40 from I-85 to US 15-501, TIP# I-3306 A, in Orange County. However, due to lack of funding in the TIP, further development of this project has stalled.

NCDOT is currently constructing a bicycle and pedestrian project, TIP# EB-4707, on Old Durham-Chapel Hill Road (SR 2220/SR 1838) across I-40.

### Multimodal Considerations

According to the *2013 American Community Survey*, Orange County has a Commute to Work share by public transportation rate of 7.5%, the highest in the State, and Durham County's share is 3.6%, the second highest in the State. Public Transportation is important for the two counties, and I-40 improvements, as the regional spine, should also consider public transit accommodations. Several bus routes use I-40 for regional service. I-40 in Durham County currently is part of the Bus on Shoulder System (BOSS). The I-40 project should to accommodate and improve bus transit service using the corridor. If transit buses were able to use the recommended managed lanes at no cost, the on-time reliability of these routes could improve.

The D-O LRT project is immediately adjacent to the I-40 corridor in between US 15-501 and NC 54. There are three nearby stations: Patterson Place, Gateway, and Leigh Village. All of these stations are anticipated to have park-and-ride lots and bus transfers. The I-40 project could accommodate a quick and convenient access to these transit stations. The managed lanes access points should be convenient to these stations.

Bicycle and pedestrian access across I-40 is imperative. I-40 is a major barrier for bicycle and pedestrian traffic. I-40 interchanges and intersections are often some of the busiest, high volume, and inhospitable roads for bicyclists and pedestrians. For example, NC 86 (Chapel Hill exit), US 15-501, NC 54, NC 751, Fayetteville Road, NC 55, Miami Boulevard, etc. are all multi-lane, high traffic streets that are very dangerous for bicyclists and pedestrians. Separated bicycle facilities should be considered on these routes similar to the American Tobacco Trail bridge in addition to the recommended Multi-use Path Grade Separations crossing I-40 listed in Appendix C. The generally lower volume grade separations along I-40 such as Sunrise Road, Erwin Road, Old Durham-Chapel Hill Road, Farrington Road, Barbee Road, Alston Avenue (SR 1945), etc. may be suitable for on-road bicycle facilities and sidewalks. Adequate space should be provided to allow for these facilities.

The *2006 DurhamWalks! Pedestrian Plan* recommends priority sidewalks on US 15-501, Old Durham-Chapel Hill Road, NC 751, Fayetteville Road, NC 54, Barbee Road, NC 55, and Alston Avenue. See Appendix I for local sidewalk policies.

The *2006 Durham Comprehensive Bicycle Transportation Plan* recommends a sidepath on US 15-501. The plan recommends bike lanes on Old Durham-Chapel Hill Road, Farrington Road, NC 54 (interchange), NC 751, Fayetteville Road, NC 54 (underpass), Barbee Road, NC 55, South Alston Avenue, T W Alexander Drive (SR 2028), Davis Drive, Miami Boulevard, and Page Road. The plan recommends a greenway parallel to the D-O LRT project as it crosses over I-40 and runs parallel to I-40, a greenway parallel to I-40 on both the north and south sides between NC 751 and Crooked Creek, a greenway along Crooked Creek, a greenway along Northeast Creek between Barbee Road and NC 55, and a greenway between NC 147 and Davis Drive. Space to accommodate these recommended greenways should be considered with the I-40 project.

The *2011 Durham Trails and Greenways Master Plan* recommends a street trail on Farrington Road over I-40, Crooked Creek Trail under I-40, trail along T W Alexander Drive, and a trail along Davis Drive. Space to accommodate these recommended trails should be considered with the I-40 project.

### Public/Stakeholder Involvement

During the public comment period, city of Durham staff expressed the desire for a side path along I-40 from US 15-501 to Page Road. A multi-use path separate from I-40 has been added to the corridor recommendation. The added multi-use path does not duplicate the D-O LRT and SouthPointe proposed paths that are already in the CTP recommendations.

Also during the public comment period, the North Carolina Wildlife Resources Commission (NCWRC) commented on the impacts of road widening projects on the fragmentation of wildlife habitats. The recommended I-40 road widening project between New Hope Church Road and US 15-501 will likely impact Natural Heritage Natural Areas and the NCWRC recommends avoiding the widening where it intersects these important natural areas. Additionally, when widening cannot be avoided, the NCWRC requires NCDOT to consider building wildlife crossing structures where land is permanently conserved on either side of the road widening to reduce habitat fragmentation. See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.



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Local ID: CHAT0101-H (Weathersfield Road to Smith Level Road (SR 1919))

Figure 21

## Identified Problem

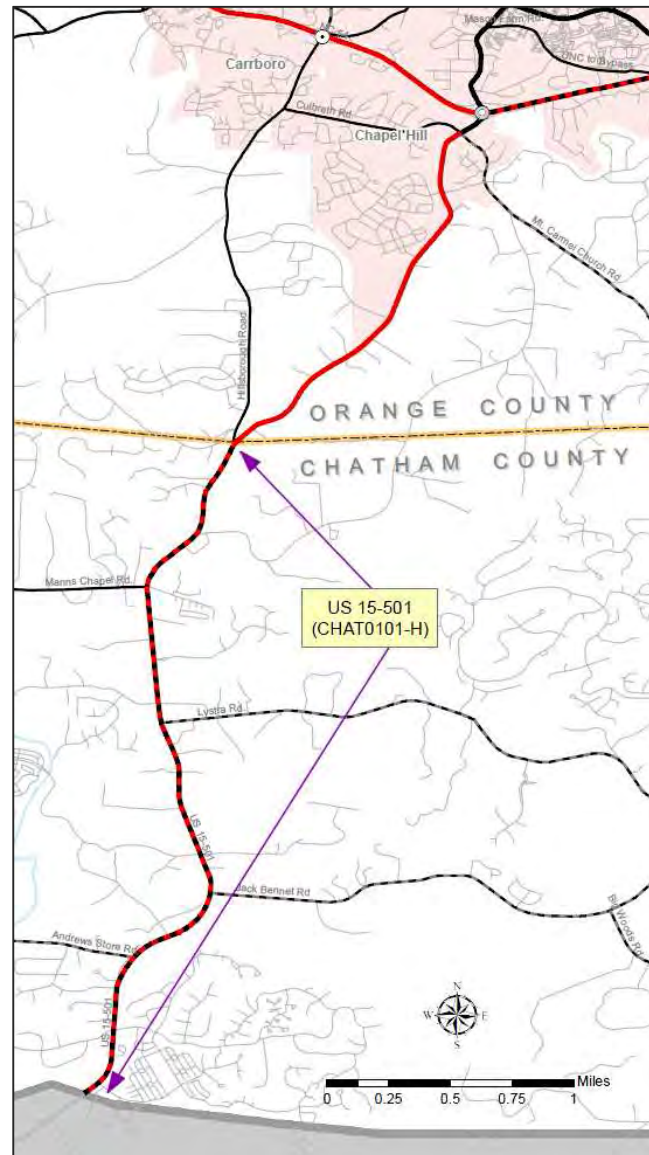
The US 15-501 highway corridor is expected to exceed LOS D capacity by 2040.

The corridor's Average Annual Daily Traffic (AADT) count for 2015 ranges from 15,000 to 30,000 vpd and is expected to increase with future approved developments along the corridor.

This corridor, from the NC 54 ramp in Chapel Hill to the US 64 Bypass in Pittsboro, is functionally classified as a north-south principal arterial. The corridor serves as the primary corridor for inter-county travel demands between Chatham and Orange Counties on the west side of Jordan Lake and has recently seen an increase in retail and residential development serving individuals working in nearby commercial, high-tech, medical, and research centers.

## CTP Project Proposal

Access management and synchronized street improvements would help maintain an acceptable level of service along the high volume corridor as detailed in the *US 15-501 Corridor Study Traffic Analysis Report* completed in 2014. The intersections with Andrew's Store Road (SR 1528) and Taylor Road (SR 1529) are already undergoing conversion to synchronized streets as a part of the driveway permit requirement for the Briar Chapel development. The work is being constructed by Briar Chapel to State standards, but the records and reports are being reviewed by the Chatham Planning Department to ensure quality.



Continued evaluation of this corridor is needed in future years as the Town of Pittsboro grows and approved developments are constructed.

For more information regarding the *2014 US 15-501 Corridor Study* or current projects ongoing in the corridor contact the NCDOT Highway Division 8 office.

Local ID: [Draft STIP FY 2017-2027]

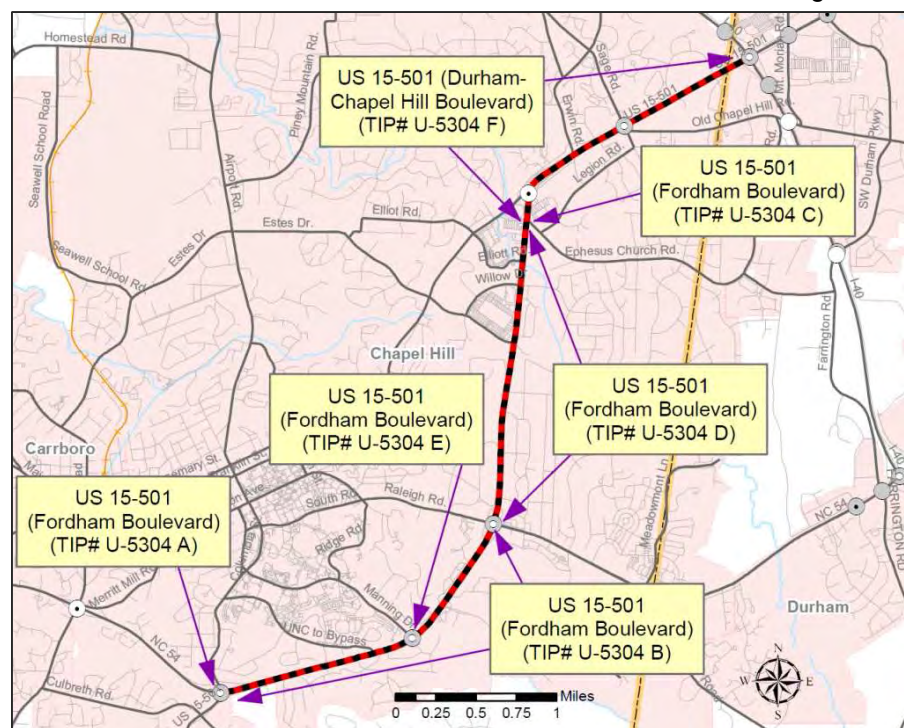
- ❖ TIP# U-5304 A (NC 86 (South Columbia Street) Interchange), improvements
- ❖ TIP# U-5304 B (NC 86 (South Columbia Street) to NC 54 (Raleigh Road)), upgrade corridor
- ❖ TIP# U-5304 C (Ephesus Church Road (SR 1742) Intersection), improvements (work completed under TIP# U-5550)
- ❖ TIP# U-5304 D (NC 54 (Raleigh Road) to Ephesus Church Road (SR 1742)), upgrade corridor
- ❖ TIP# U-5304 E (Manning Drive (SR 1902) Intersection), convert to interchange
- ❖ TIP# U-5304 F (Ephesus Church Road (SR 1742) to I-40), upgrade corridor

Figure 22

## Identified Problem

US 15-501 is projected to exceed LOS D capacity by the year 2040. In addition, it does not provide adequate pedestrian, bicycle, and transit facilities, and has an interchange that does not meet design standards.

US 15-501 (Fordham Boulevard), from NC 86 (South Columbia Street) to Ephesus Church Road (SR 1742), is currently a four lane divided statewide boulevard.



## Justification of Need

This section of US 15-501 currently has a 200-foot right-of-way and a raised grassy median. The section has a LOS "D" capacity of 36,600 vehicles per day (vpd) for the existing right-of-way, and is broken down into four smaller segments, each with a separate calculated traffic impact.

Table 12

From	To	Lanes	2015 AADT	Existing Capacity	2040 Volume	2040 V/C	2040 Cross-Section
NC 86 (South Columbia Street)	Manning Drive	4D	45,000	36,600	43,500	1.2	6F
Manning Drive	Raleigh Road (SR 2048)	4D	54,000	36,600	57,800	1.6	6F
Raleigh Road (SR 2048)	East Franklin Street (SR 1010)	4D	30,000 – 37,000	36,600	37,100	1.0	6F
East Franklin Street (SR 1010)	I-40	4D	42,000 – 48,000	36,600	46,700	1.3	4G

Note: In the “Lanes” column, “D” means the facility is “divided” (has a median). In the “2040 Cross-Section” column, the number-letter pair indicates the recommended typical cross-section. See Appendix D for typical cross-section details.

There are many residential units, shops, offices, University Mall, Eastgate Shopping Center, and the University of North Carolina near to this stretch of US 15-501. The traffic volumes on US 15-501 will continue to increase, not only because of the trips generated by the neighboring developments, but because US 15-501 serves as a critical connector between Chapel Hill, Durham, and the rest of the Triangle via I-40.

The current and future development around the US 15-501/NC 54 interchange will likely generate increased bicycle, pedestrian, and transit traffic. There are some paved shoulders and segments of sidewalks on this segment of US 15-501. However, the shoulders and sidewalks are not continuous and additional improvements are needed to provide adequate facilities for bicyclists and pedestrians. The nearby bus stops do not have any amenities nor any bus pull-outs resulting in blocked traffic. The need for pedestrian, bicycle, and transit facilities increases with additional development around US 15-501.

The greatest delays and safety concerns are concentrated among several intersections and interchanges that are identified in the CTP for improvements, including those with: South Columbia Street; Mason Farm Road, Manning Drive, NC 54 (Raleigh Road); Ephesus Church Road and, Sage Road. The DCHC MPO 2014 Mobility Report Card shows that the Manning Drive and Mason Farm Road intersections function at a Level of Service (LOS) F and the Ephesus Church Road intersection at a LOS E during peak times. The functioning level of these intersections should decrease as traffic increases.

## CTP Project Proposal

### Project Description and Overview

This U-5304 US 15-501 Fordham Boulevard project is scheduled in the draft State Transportation Improvement Program (STIP) FY 2017-2027 for construction as follows:

- Segment A, NC 86 (South Columbia Street): Interchange improvements, future years (Beyond 2027);



- Segment B, NC 86 (South Columbia Street) to NC 54 (Raleigh Rd): Capacity improvements, years 2024-2026;
- Segment C, Ephesus Church Road (SR 1742): Intersection improvements, TIP# U-5550, year 2018;
- Segment D, NC 54 (Raleigh Road) to Ephesus Church Road: Capacity improvements, years 2024-2026;
- Segment E, Manning Drive: Convert at-grade intersection to interchange, years 2024-2026; and
- Segment F, Ephesus Church Road to I-40: Corridor capacity improvements, years 2024-2026.

It is described as being a corridor upgrade with intersection improvements and capacity improvements with sidewalks, wide outside lanes and transit accommodations. The capacity improvements and multimodal accommodations are planned for Segments B and D. Capacity improvements for this project may consider additional travel lanes or synchronized street treatment. Right-of-way and utility funding begins in 2024 in the draft STIP.

#### Linkages to Other Plans and Proposed Project History

In the Chapel Hill Bike Plan, there are many multi-use paths, sidewalks and bicycle facilities that are on or connected to the US 15-501 corridor. There are proposed wide shoulders from NC 86 to Ephesus Church Road. In the Chapel Hill Pedestrian Facilities Plan, there are proposed off road bicycle/pedestrian paths from around Mason Farm Road to near Old Mason Farm Road, more proposed off road bicycle/pedestrian paths from around Estes Drive to Willow Drive, proposed sidewalks from Ephesus Church Road to Booker Creek, and proposed greenway paths that are planned to cross US 15-501 at Booker Creek, Bolin Creek and the creek near Manning Drive. There are also proposed crossing improvements at US 15-501 and the intersections of Oteys Road, Kings Mill Road, Manning Drive, Old Mason Farm Road (SR 1900), Brandon Road, Cleland Road, Estes Drive (SR 1750), Willow Drive, and Ephesus Church Road.

#### Public/Stakeholder Involvement

No comments were received specific to this recommended project.

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Local ID: [Draft STIP FY 2017-2027]

- ❖ 2040 MTP# 113 (I-40 to US 15-501 Bypass), convert to freeway
- ❖ TIP# U-5717 (Garrett Road (SR 1116) intersection), convert to interchange

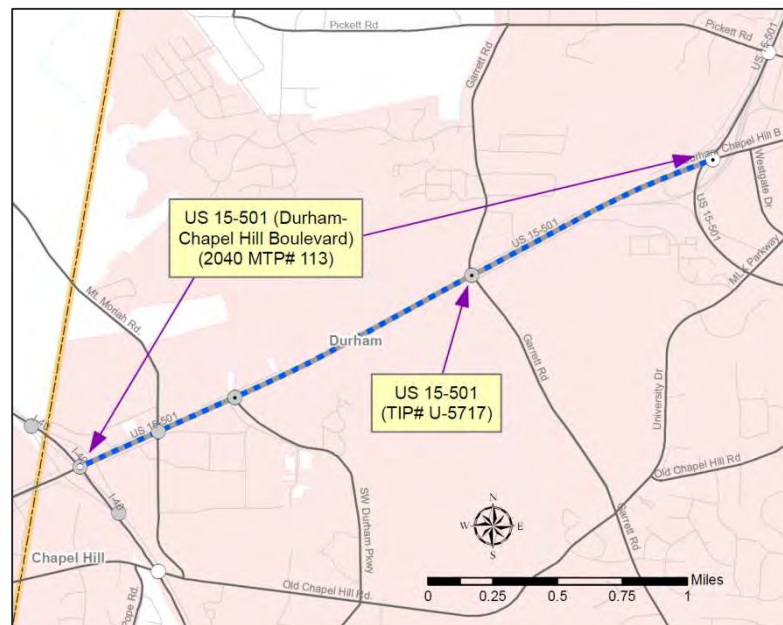
Figure 23

## Identified Problem

The 2040 projected volume on US 15-501 is expected to exceed LOS D capacity. Although this roadway segment was widened from four to six lanes in the last ten years, capacity improvements are needed to ensure that a LOS D or better is maintained in this important corridor in the future.

US 15-501 is the most direct major roadway between the city of Durham and the town of Chapel Hill. Federally

Classified as Other Freeway, it provides access between I-40 and Duke University and Medical Center and between I-40 and I-85. Currently, several GoTriangle and GoDurham express and regional bus routes use the roadway and the future Durham-Orange Light Rail Transit (D-O LRT) alignment is proposed parallel to this roadway. A D-O LRT station is recommended near the US 15-501/ Southwest Durham Drive (SR 1110) intersection.



## Justification of Need

The US 15-501 corridor is among the most important travel corridors in the Triangle and likely the most important corridor in Durham after the interstates and Durham Freeway. The corridor experiences significant delays at the I-40 interchange, where the 2014 Mobility Report Card shows that interchange operating at LOS E. The three intersections at Mt. Moriah Road, Southwest Durham Drive and Garrett Road operate at LOS C and LOS D currently. Traffic volume is forecasted to steadily increase in this corridor as indicated in the table below. Thus the corridor is projected to experience travel delays without significant capacity improvements.

Table 13

From	To	Lanes	2015 AADT	Existing Capacity	2040 Volume	2040 V/C	2040 Cross-Section
I-40	Garrett Road (SR 1116)	6D	49,000	55,000	67,000	1.2	6A
Garrett Road (SR 1116)	US 15-501 Bypass	6D	52,000	55,000	63,000	1.1	6A

Note: In the "Lanes" column, "D" means the facility is "divided" (has a median). In the "2040 Cross-Section" column, the number-letter pair indicates the recommended typical cross-section. See Appendix D for typical cross-section details.

Safety is a concern in this corridor. The Mobility Report Card indicates that there was a fatality at the US 15-501/Mt. Moriah Road intersection in the last several years and there were several bicycle and pedestrian collisions as well. Given the proximity of residential development, retail centers and employment centers, there is a high demand for pedestrian and bicycle activity. The CTP Deficiency Analysis showed that 2040 forecasted population and employment densities near Garrett Road and along Southwest Durham Drive could generate significant bicycle and pedestrian trips, ranging from 750 to 3,000 trips per day in these areas. The I-40 interchange has a bridge classified as deficient because it is functionally obsolete – this means that the bridge does not meet current standards.

The entire corridor currently has a moderate bus transit frequency, 16 to 30 minute headways, during the peak periods. Go Triangle has an express route on US 15-501 and both Go Durham and Go Triangle have service along a parallel route, Old Durham/Chapel Hill Road (SR 1838/2220), that serves the Patterson Place retail center and the US 15-501/Garrett Road retail area. The CTP Deficiency Analysis showed that the expected demand for transit, based on the projected population and employment density in the adjacent areas, could benefit from 15-minute bus headways in the Mt. Moriah Road (SR 2294) and Southwest Durham Drive area.

Go Triangle is in the process of planning the Durham-Orange Light Rail Transit (D-O LRT) that will parallel the US 15-501 corridor from I-40 to the US 15-501 Bypass. The D-O LRT is intended to carry passengers traveling between Durham and Chapel Hill and provide a transit link to the park-and-ride facilities used by regional commuters. The D-O LRT Alternatives Analysis estimates approximately 23,000 passengers using the system each day. Although the D-O LRT will attract commuters who might have otherwise operated a vehicle on US 15-501, the light rail facility will attract commuter vehicles to the roadway to access the park-and-ride facilities at the light rail stations.

### Community Vision and Problem History

The capacity deficiencies and safety problems have been well vetted with the community through several long-range plans, a corridor study, a major investment study and a collector street plan. The DCHC MPO has planned for capacity, safety, bicycle and pedestrian and transit improvements in the long-range plans completed over the last few decades and worked to get those projects in the Transportation Improvement Program (TIP). In a previous prioritization process, i.e., SPOT 3.0, the MPO submitted the freeway upgrade of this corridor and the interchange projects at I-40, Southwest

Durham Drive and Garrett Road – these projects proved to be fairly competitive. Go Triangle has conducted workshops to gather citizen comments on the proposed D-O LRT. There were four alignment alternatives along this section of US 15-501 that attracted considerable input from business owners near the Garrett Road intersection and environmental interests associated with New Hope Creek. All of these processes included public hearings, as well. The community wants to address the automobile and transit capacity problems of the corridor, but they also want to improve the bicycle and pedestrian facilities in the corridor. The inclusion of alternative transportation modes is an important goal of the DCHC MPO.

## **CTP Project Proposal**

### Project Description and Overview

The project proposes to make this section of US 15-501 into a controlled access freeway to increase the roadway capacity. Given the existing median and relatively few access points, the freeway conversion mostly requires an improvement of the I-40 interchange and the conversion of the Southwest Durham Drive and Garrett Road intersections into interchanges. Also, the Mt. Moriah Road intersection is recommended to be converted to a grade separated overpass. Facilities are recommended to allow pedestrians to safely cross US 15-501 and the intersecting roadways, e.g., Southwest Durham Drive, and bus stop accommodations such as shelters and bus pullouts might be needed nearby on the intersecting roadways. Planned pedestrian and bicycle facilities along Old Chapel Hill Road offer alternative transportation modes along a parallel roadway that has lower vehicle travel speeds and volume.

The draft STIP FY 2017-2027 has identified the right-of-way and construction of the Garrett Road/US 15-501 interchange to begin in FY 2019 and FY 2020, respectively. Considering the NCDOT prioritization process and the 2015 changes to transportation funding by the North Carolina General Assembly (i.e., funding increase), the build date for this interchange could move forward or backwards.

### Natural and Human Environment Context

New Hope Creek crosses the section between Southwest Durham Drive and Garrett Road and Sandy Creek crosses the section immediately west of the US 15-501 Bypass interchange. There are wetlands and floodplains on both sides of these creeks, however, Army Corps of Engineering (ACOE) lands are not present (ACOE land reaches from the south but stops about 2,500 feet south of US 15-501).

During the design phase of the previous US 15-501 widening (from four to six lanes), environmental and recreational interests demanded, and eventually received, an extended bridge span on the US 15-501 to make animal and human movement easier along a trail on New Hope Creek. The New Hope Preserve is on both the north and south side of US 15-501 and the creek trail connects these sections. There is a



maintained trail loop in the so-called bottomlands that are immediately south of this section of US 15-501. Sandy Creek Park, which is north the of the roadway section that is immediately west of the US 15-501 Bypass interchange, has a trail and multi-use path.

Possible impacts and mitigation measures related to these wetlands and creeks will be addressed at the environmental impact analysis stage of project development.

### Relationship to Land Use

Currently, the land use in the vicinity of this corridor is suburban. There are regional retail centers in the northeast and southeast quadrants of the I-40 interchange, including some medical office and hotel development and several large apartment complexes in the southeast quadrant. The Garrett Road intersection area has medium-scaled retail, including at least two new car dealers, and some apartment development. The 2040 socioeconomic (SE Data) projection indicates that a large amount of employment and residential growth will likely occur at both ends of this roadway segment, i.e., adjacent to the I-40 interchange and in the east side of the US 15-501 Bypass interchange. This projected growth is related to the planned light rail transit stations and other transit oriented development in those areas. This growth will add to the many trips that already traverse the corridor between Durham and Chapel Hill, and between I-40 and I-85.

### Linkages to Other Plans and Proposed Project History

Many studies have been focused in whole, or part, on the US 15-501 corridor. The following studies have important deficiency and project proposal information:

- *US 15-501 Corridor Master Plan*, 1994, designates intersections at Southwest Durham Drive and Garrett Road, and two east/west collector roads that cross I-40 north and south of the interchange.
- *Southwest Durham/Southeast Chapel Hill Collector Street Plan*, 2008, includes the collector roads from the 1994 Master Plan.
- *Major Investment Study (MIS)*, Phase I in 1998 and Phase II in 2001, evaluates several potential transit technologies and alignments.
- *DCHC MPOs 2014 Mobility Report Card*, 2015, addresses roadway, intersections and non-auto travel.
- *Final Environmental Impact Statement (FEIS)* for the Durham-Orange Light Rail Transit, 2016, addresses rail alignment and station location.
- *2040 Metropolitan Transportation Plan (MTP)* for the DCHC MPO, 2013, has the freeway conversion, light rail and related projects.

The 2040 MTP has the following proposed projects and policies that impact the US 15-501 corridor. Projects funded in the Draft State Transportation Improvement Program (STIP) FY 2017-2027 are shown in **bold font**.

- I-40, from I-440 (Wake County) to NC 86 (Orange County), 2040 MTP# 43, 45, 45.2, capacity improvements which might be managed lanes

- **Garrett Road/US 15-501 interchange, TIP# U-5717**, funding begins in FY 2019 for right-of-way and 2020 for construction in the Draft FY 2017-2027 STIP
- **US 15-501, from South Columbia Street (NC 86) to I-40, TIP# U-5304**, capacity improvements that might consider additional travel lanes or synchronized streets – Right-of-way and utilities funding begins in 2024 in the draft FY 2017-2027 STIP
- **US 15-501 Bypass, from US 15-501 interchange (former South Square area) to NC 751 (Cameron Boulevard), 2040 MTP# 114**, widened from four to six lanes
- **Southwest Durham Drive, 2040 MTP# 104, 106, 106.1**, new alignment from US 15-501 to Mt. Moriah Road, and widened to four lanes from Witherspoon Boulevard to Old Chapel Hill Road
- **Durham-Orange Light Rail Transit (D-O LRT) , TIP# TE-5205**, note that the preferred rail alignment changed in 2015 from the original alignment that created a new crossing of New Hope Creek to one that parallels US 15-501 between Southwest Durham Drive and Garrett Road
- **Old Chapel Hill-Durham Road, from US 15-501 to Garrett Road, TIP# EB-4707**, bicycle, pedestrian and transit facility improvements, and a proposed roundabout – funded in the FY 2017-2027 STIP as EB-4707A and EB-4707B
- See policy disclaimers in Chapter 2, page 2-1.

### Multimodal Considerations

There are bicycle and pedestrian accommodation needs in this area. There are apartments and houses near the Garrett Road (SR 1116) intersection and along Southwest Durham Drive. The residential development is generating bicycle and walking trips to the nearby retail centers, and people can be seen walking immediately adjacent to US 15-501 as vehicle travel 50 mph or higher, and trying to cross wide, multi-phased intersections and roadway.

This section of US 15-501 currently has a 260-foot right-of-way, two interchanges with ramps, and three signalized intersections. The residential and commercial development around US 15-501 will generate increased bicycle, pedestrian, and transit traffic. New bicycle, pedestrian, and transit facilities should be considered to accommodate the increase. In the *Durham Comprehensive Bicycle Transportation Plan*, side paths have been proposed along this route, in addition to some greenway paths that are near the route and cross US 15-501 in a couple of places.

The CTP transit, bicycle and pedestrian plans have identified several alternative mode projects in, and adjacent to, the US 15-501 corridor. The most important are:

- bicycle and pedestrian access to the D-O LRT stations at Gateway, Patterson Place and MLK Parkway (SR 2733)
- park-and-ride facilities at the stations
- a multi-use path that follows the D-O LRT alignment and US 15-501
- a trail that follows New Hope Creek
- bicycle lanes on Mt Moriah Road, Southwest Durham Drive and Garrett Road

## Public/Stakeholder Involvement

With the upgrade of US 15-501 to a freeway facility, there is a desire to separate weaving movements by adequate spacing of the interchanges. The distance between the I-40 interchange and the proposed interchange at Southwest Durham Drive is approximately 0.5 miles. Whereas NCDOT's standard urban freeway interchange minimum spacing is 1 mile. Other proposed interchange separations along this corridor are less than 1 mile: from existing US 15-501 Business interchange to proposed Garrett Road interchange, and from proposed Garrett Road interchange to proposed Southwest Durham Drive interchange.

During the public comment period, adequate access to the proposed Durham-Orange Light Rail station at Patterson Place and preservation of right-of-way for frontage/backage roads for the Patterson Place existing and future development was recommended. Also preservation of the footprint for a grade separation was recommended for a new road crossing of US 15-501. To create adequate access and connectivity Danziger Drive was added with a connection to Sayward Drive with recommended improvements. Also, to improve connectivity of existing and future development Sayward Drive was extended on new location and extended across US 15-501 as a grade separation. New Hope Commons was extended east of Mt Moriah Road with a new location extension to the added grade separation of US 15-501.

The DCHC MPO in coordination with the local governments and NCDOT plan to conduct a upcoming corridor study for the US 15-501 corridor between I-40 and US 15-501 Business to evaluate the upgrade of US 15-501 to a freeway, including access, connectivity and spacing of interchanges.

Local ID:

- ❖ 2040 MTP# 114 (Pickett Road (SR 1303) to NC 751 (Cameron Boulevard)), widening
- ❖ DURH0004-H (NC 751 (Cameron Boulevard) to I-85)

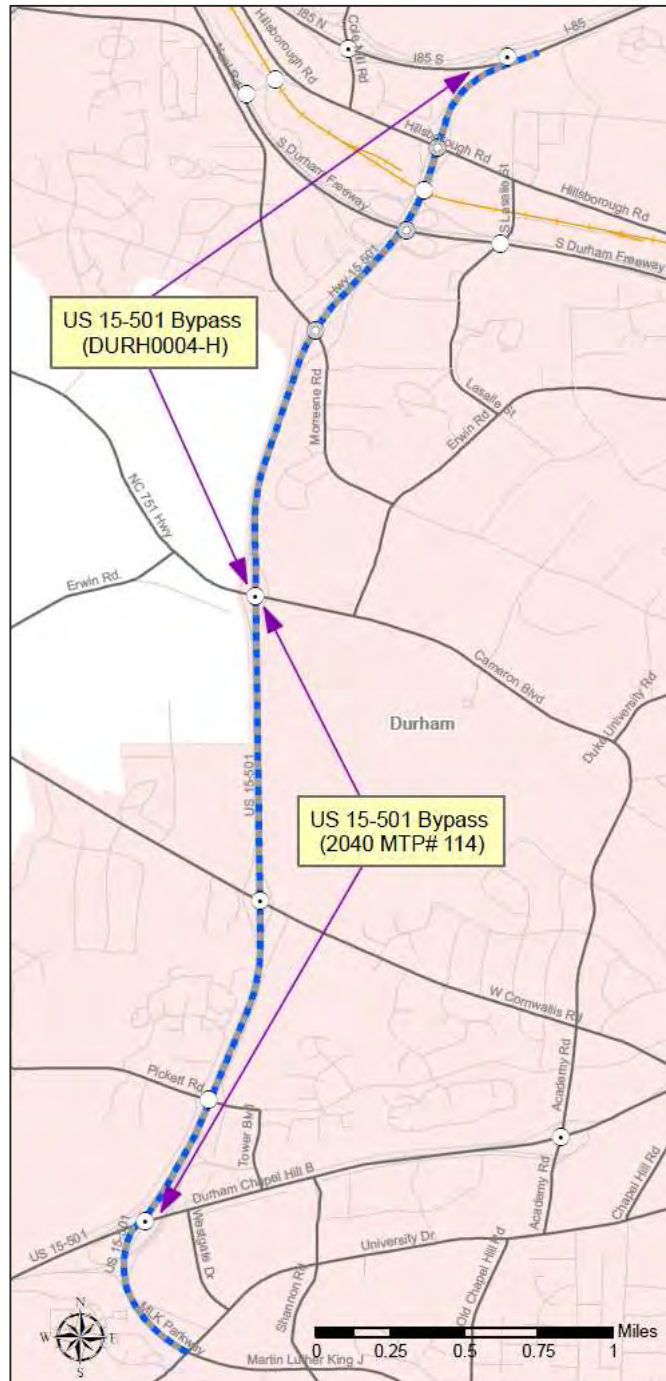
Figure 24

## Identified Problem

The 2040 forecasted volumes for US 15-501 Bypass are projected to exceed LOS D capacity.

US 15-501 Bypass is a controlled access freeway between US 15-501 Business (Durham-Chapel Hill Boulevard) and I-85. This is a segment of US 15-501 which is the major roadway connection between Durham and Chapel Hill and between I-40 and I-85 in southwest Durham. Federally Classified as Other Freeway, it provides access between I-40, the retail areas along US 15-501, and Duke University and Medical Center. Currently, several Go Triangle and Go Durham express and regional bus routes use the roadway and the future Durham-Orange Light Rail Transit (D-O LRT) alignment is proposed to run parallel to this roadway. Two D-O LRT stations are proposed near the US 15-501 Business (Durham-Chapel Hill Boulevard) and Martin Luther King Jr. Parkway interchanges (MLK and South Square Stations), and two D-O LRT stations are proposed near the Morreene Road and NC 147 interchanges (LaSalle and Duke/VA Hospitals Stations).

This section of US 15-501 currently has a 260-foot right-of-way, four traffic lanes, and six interchanges with ramps.



Significant future employment and population growth is forecasted for the Duke University area and the South Square area. The increased residential, institutional, and commercial development around US 15-501 will generate increased trips.

In addition, there are bicycle and pedestrian cross street needs in this area. There are many housing and employment centers nearby this corridor and US 15-501 bypass should not be a barrier for access across the corridor. There are few parallel roadways that provide alternative bicycle and pedestrian access in the north-south direction along this corridor.

Capacity improvements are needed to ensure this segment operates at an acceptable level of service in the future. Safety improvements are needed to improve high crash locations. Bicycle, pedestrian, and transit improvements parallel to the corridor and at interchanges are needed to serve all of the travel demand in the corridor.

### Justification of Need

The next table shows the 2040 forecasted volumes for US 15-501 Bypass to exceed existing LOS D capacities.

Table 14

<b>From</b>	<b>To</b>	<b>Lanes</b>	<b>2015 AADT</b>	<b>Existing Capacity</b>	<b>2040 Volume</b>	<b>2040 V/C</b>	<b>2040 Cross-Section</b>
US 15-501 Business	Cornwallis Road (SR 1308)	4D	58,000	61,700	72,000	1.2	6B
Cornwallis Road (SR 1308)	NC 751 (Cameron Boulevard)	4D	58,000	61,700	82,000	1.3	6B
NC 751 (Cameron Boulevard)	Morreene Road (SR 1317)	4D	59,000	61,700	80,000	1.3	6B
Morreene Road (SR 1317)	US 70 Business (Hillsborough Road)	4D	58,000	61,700	85,000	1.4	6B
US 70 Business (Hillsborough Road)	I-85	4D	53,000	61,700	83,000	1.3	6B

Note: In the "Lanes" column, "D" means the facility is "divided" (has a median). In the "2040 Cross-Section" column, the number-letter pair indicates the recommended typical cross-section. See Appendix D for typical cross-section details.

US 15-501 is a regional connector route between I-85 and I-40. As such, the growth projected for northern and southern Durham County could further the need for increased capacity on US 15-501. In addition, significant employment growth is projected for Duke University which could attract commute trips particularly to the NC 751 and Morreene Road (SR 1317) interchanges. The South Square area is also expected to grow as an employment center.

There is a complex series of interchanges from Morreene Road (SR 1317) to I-85. These interchanges include many very tight loops and curves that require speeds as low as 15 miles per hour. Damaged guardrails and tire ruts are a constant sight on these ramps.



The Mobility Report Card reveals that there are crashes on this corridor including one recent fatality. The US 15-501 and US 15-501 Business interchange has been noted as a Potentially Hazardous Section Location due to night crashes.

There are five functionally obsolete bridges along this corridor.

### Community Vision and Problem History

US 15-501 is envisioned to continue to be a major transportation corridor in Durham providing access to the employment centers at Duke University, the Duke/VA Hospitals area, and the retail areas near South Square. It will also serve as the freeway linkage between I-40 and I-85 and NC 147 on the west side of the city of Durham. The D-O LRT is proposed to parallel this corridor and serve the employment centers. It is envisioned that the D-O LRT is completed first and diverts some of the current and near-term traffic growth off the roadway, but ultimately the US 15-501 Bypass is projected to need widening to accommodate further growth in vehicle traffic and growth in traffic to destinations not accessible by transit. The conversion of US 15-501 to a freeway between the bypass and I-40 could also contribute to increased growth in traffic and the need for capacity improvements on the bypass.

## **CTP Project Proposal**

### Project Description and Overview

The project proposes to widen US 15-501 bypass to six lanes, three in each direction. The widening is mostly envisioned to occur in the median, but some additional auxiliary lanes or widening to the outside may be needed. The interchanges may also require improvements to improve safety and mobility. In particular the collector-distributor system from Morreene Road (SR 1317) to I-85 should be studied for potential safety and mobility improvements. There are many closely spaced ramps and tight curvature ramps along this section, and as a result the CTP has identified the Morreene Road (SR 1317), NC 147 and US 70 Business (Hillsborough Road) interchanges for improvements. Bicycle and pedestrian movements across the corridor and parallel to the corridor need to be improved. Transit accommodations need to be considered as well as potential accessibility improvements for motorists, buses, pedestrians, and bicyclists to the nearby D-O LRT stations.

### Natural and Human Environment Context

Sandy Creek runs parallel to US 15-501. South of Cornwallis Road (SR 1308) it runs on the west side, it crosses under US 15-501 just south of Cornwallis Road, then runs on the east side north of Cornwallis Road. The city of Durham's greenway plan includes a trail along Sandy Creek in this area. The city of Durham also operates Sandy Creek Park and Morreene Road Park adjacent to the corridor.

The Durham Housing Authority operates a low-income housing project on Morreene Road adjacent to US 15-501. There are also other residential developments nearby including American Village, Colony Hill, Morreene West Apartments, etc. The project should be sensitive to the impact to environmental justice communities. Noise walls and visual screening need to be evaluated.

Duke University owns a large amount of land on both sides of US 15-501. The Duke University golf course is adjacent to US 15-501 from Cornwallis Road to Cameron Boulevard. In addition, a natural surface greenway trail encircles the golf course. Sensitivity to these popular recreational uses is needed for the proposed project. Duke University uses the land on the west side of US 15-501 for the Duke Lemur Center and as part of Duke Forest, a natural area that is used for both recreational uses and environmental research. Mitigation for impacts to natural areas needs to be evaluated.

### Relationship to Land Use

This corridor contains a variety of land uses. There is a suburban commercial center at the southern end, a high rise office building near Pickett Road, conservation/recreational land at the Duke golf course and Lemur Center, dense multi-family development near Erwin Road/Morreene Road, and strip commercial development near Hillsborough Road.

The future lane use similarly anticipates a variety of uses into the future. Growth is expected to be concentrated near the future Durham-Orange Light Rail Transit stations in the Compact Neighborhood District boundaries. This includes the area along Erwin Road (SR 1320) near Duke Hospitals and the area near South Square. Significant population and employment growth is projected in these areas.

### Linkages to Other Plans and Proposed Project History

Development of this project should be coordinated with the following plans:

- Durham-Orange Light Rail Transit (D-O LRT) *Final Environmental Impact Statement/Record of Decision*, 2016
- *Durham Trails and Greenways Master Plan*, 2011
- *Durham Comprehensive Bicycle Transportation Plan*, 2006
- *DurhamWalks! Pedestrian Plan*, 2006
- *DCHC MPO 2040 Metropolitan Transportation Plan*, 2013
- *DCHC MPO Mobility Report Card*, 2015

The city of Durham is developing a bicycle and pedestrian project on Morreene Road from Neal Road (SR 1314) to Erwin Road.

## Multimodal Considerations

According to the 2013 American Community Survey, Census Tracts abutting US 15-501 have Commute to Work shares of up to 9.1% for public transportation, 3.5% for bicycle, and 26.1% for walking. The nearby concentration of employment at Duke University and Duke University Medical Center makes these neighborhoods more conducive for non-vehicular commuting.

Buses traveling between Durham and Chapel Hill currently use US 15-501 Bypass. The D-O LRT is proposed to travel parallel to this route which could replace the need for some of the bus service between Durham and Chapel Hill. However, the bypass corridor may be used more in the future for feeder bus service to the nearby D-O LRT stations.

As a controlled access freeway facility, pedestrian and bicycle travel is prohibited on the bypass. However, there is a need for pedestrian and bicycle travel on routes across the bypass. There is also a need for pedestrian and bicycle travel parallel to the freeway on a separated facility. Future development in the South Square and Duke University areas could generate high rates of bicycle and pedestrian trips.

The DurhamWalks! Pedestrian Plan recommends sidewalks on Morreene Road, Cameron Boulevard (NC 751), Cornwallis Road, Pickett Road (SR 1303), and US 15-501 Business.

In the Durham Comprehensive Bicycle Transportation Plan, greenways are proposed parallel to US 15-501 from US 15-501 Business to Hillsborough Road. Bike lanes are proposed for Hillsborough Road, Morreene Road, Cameron Boulevard, Cornwallis Road, and Pickett Road (SR 1303). A sidepath is proposed for US 15-501 Business.

The Trails and Greenways Master Plan recommends an extension of the Sandy Creek Trail from Pickett Road (1303) to Cornwallis Road and a connection along Cornwallis Road under US 15-501 to the Al Buehler Trail.

## Public/Stakeholder Involvement

No comments were received specific to this recommended project.

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Local ID: [Draft STIP FY 2017-2027]

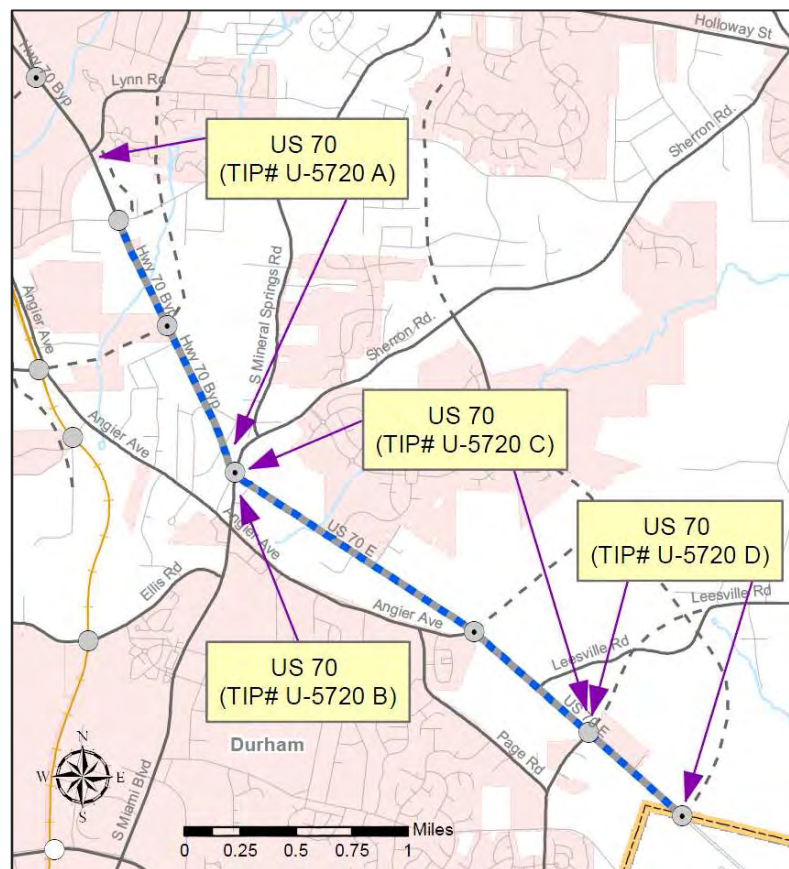
- ❖ TIP# U-5720 A (Lynn Road to Sherron Road (SR 1811)/South Miami Boulevard (SR 1959)), convert to freeway
- ❖ TIP# U-5720 B (South Miami Boulevard intersection), convert to interchange
- ❖ TIP# U-5720 C (Sherron Road (SR 1811)/South Miami Boulevard (SR 1959) to Page Road Extension (SR 2095)), convert to freeway
- ❖ TIP# U-5720 D (Page Road Extension (SR 2095) to west of T.W. Alexander Drive (Wake County)), convert to freeway

Figure 25

## Identified Problem

US 70 volumes are projected to exceed a LOS D capacity by 2040.

US 70 is a major route connecting Durham and Raleigh and runs parallel to I-40. The segment of US 70 north of NC 98 is a controlled access freeway and the East End Connector is reconstructing part of US 70 from NC 98 to Pleasant Drive (SR 1815) as a controlled access freeway. With the construction of the East End Connector and growth in eastern Durham County and northern Wake County, traffic demand on US 70 is expected to grow and improvements are needed. In addition, US 70 serves as an alternative for congestion on I-40 for traffic between Durham and Raleigh.



The right-of-way varies from about 100 to 180 feet along the segment. There are many signalized and unsignalized intersections and driveways on the route. From Pleasant Drive to Miami Boulevard, the road is generally a four lane section with a two-way left turn lane, and from Miami Boulevard to the Wake County Line the road is generally a four lane section with a wide center median.

US 70 is used for both inter-regional traffic, as an alternative to I-540, I-40, and NC 147, and to serve local traffic and local businesses. There are many driveways to businesses and residences which are safety concerns. There are very few sidewalks or bike accommodations on US 70. There is some transit bus service but conditions are very poor and unsafe for bus riders accessing stops on foot.

Improvements are recommended to increase capacity, improve safety for motorists, pedestrians, and bicyclists, and to provide better freeway connectivity through the Triangle region.

### Justification of Need

The table below shows 2040 projected US 70 volumes exceeding current capacity.

Table 15

<b>From</b>	<b>To</b>	<b>Lanes</b>	<b>2015 AADT</b>	<b>Existing Capacity</b>	<b>2040 Volume</b>	<b>2040 V/C</b>	<b>2040 Cross-Section</b>
Pleasant Drive (SR 1815)	South Miami Boulevard (SR 1959)	5	40,000	36,600	64,000	2.2	6B
South Miami Boulevard (SR 1959)	Wake County	4D	32,000 – 37,000	36,600	49,000	1.3	6B

Note: In the "Lanes" column, "D" means the facility is "divided" (has a median). In the "2040 Cross-Section" column, the number-letter pair indicates the recommended typical cross-section. See Appendix D for typical cross-section details.

The US 70 corridor through eastern Durham County is forecasted to have significant population growth and moderate employment growth. The population growth will increase the demand for US 70 as a transportation corridor to jobs in downtown Durham and the Duke University area. Growth in northern Wake County could also contribute to the travel demand on US 70.

The intersections at Pleasant Drive, Miami Boulevard and Page Road Extension (SR 2095) cause lengthy backups during peak commuting hours, which is expected to grow with increased development.

The intersections of US 70 and Marly Drive (SR 1957) and Peyton Avenue (SR 1957), both near Miami Boulevard have been noted as Potentially Hazardous Intersection Locations due to frontal impact crashes. See the Crashes section of the CTP Deficiency Analysis.

There are functionally obsolete bridges at NC 98 and Norfolk and Western Railroad.

### Community Vision and Problem History

US 70 is envisioned to become a six lane access controlled freeway from I-85 in Durham to I-540 Raleigh. This conversion to a freeway facility will increase the roadway



capacity and improve mobility and regional freeway connectivity. Several interchanges are recommended to be constructed along this route to maintain access to major local roadways such as Glover Road Extension (SR 1940), Miami Boulevard, Angier Avenue Extension (SR 1926), and Northern Durham Parkway. Several grade separations are recommended as well to maintain connectivity.

Frontage roads or other access roads will be needed to maintain access to properties and businesses along the corridor with the freeway conversion. In addition, bicycle and pedestrian facilities need to be considered with the project, which may include facilities on these access roads, sidepaths, or greenways in the corridor. As the area grows and more transit-supportive land uses and densities are built, transit accommodations should also be evaluated with the project.

The DCHC MPO, Capital Area MPO and NCDOT began the Triangle Tolling Study in late 2016 and are scheduled to complete the study by 2018. US 70 will be part of the tolling study to ascertain whether or not managed lanes are feasible and logical.

## **CTP Project Proposal**

### Project Description and Overview

The proposed project recommends converting and widening US 70 to a six lane freeway with controlled access. Interchanges are recommended at Glover Road Extension, Miami Boulevard, Angier Avenue Extension, and Northern Durham Parkway. Grade separations are recommended at Lynn Road (SR 1921), Pleasant Drive, and Page Road (SR 2095)/Leesville Road Extension (SR 1906). Additional grade separations may be necessary as the area around US 70 continues to grow and develop. Bicycle and pedestrian facilities should be considered on all interchanges and there may be need for a parallel multi-use path along US 70 in segments. Access roads should be considered to ensure access to properties and connectivity between the grade separations and interchanges.

### Natural and Human Environment Context

Nearly all of the US 70 corridor in Durham County is within the Falls Lake protected watershed. There are multiple small stream crossings. Much of the corridor is near the ridge line between the Neuse and Cape Fear watersheds.

US 70 crosses through suburban style development from Pleasant Drive to the Wake County Line. There is mostly commercial development, few residential areas, and some undeveloped forested areas along this corridor.

## Relationship to Land Use

The US 70 corridor is fully within the suburban development tier for the city of Durham. There is significant opportunity for growth in this area compared to the relatively sparse development that currently exists. Significant population growth is projected for eastern Durham County between US 70 and NC 98. Furthermore, continued employment growth is projected for the nearby Research Triangle Park.

Commercial and industrial future land use is projected immediately adjacent to the corridor with more medium to low density residential development off of the corridor. With the freeway conversion, access roads and an increased surface street network along US 70 may be necessary to provide land access to adjacent parcels. There are many currently industrial land tracts and future industrial developments projected near the US 70 corridor. As a result, these land uses could likely increase the amount of truck traffic on US 70 in the future.

## Linkages to Other Plans and Proposed Project History

Development of this project should be coordinated with the following plans:

- The DCHC MPO, CAMPO and NCDOT began the Triangle Tolling Study in late 2016. The study is scheduled to be complete in 2018.
- This project is funded and thus the NEPA planning process began in 2016.
- *Durham Trails and Greenways Master Plan*, 2011
- *Durham Comprehensive Bicycle Transportation Plan*, 2006
- *DurhamWalks! Pedestrian Plan*, 2006
- *DCHC MPO 2040 Metropolitan Transportation Plan*, 2013
- *DCHC MPO Mobility Report Card*, 2015

## Multimodal Considerations

There is one GoDurham route that uses US 70 today. The land uses and pedestrian access on US 70 is not conducive to public transportation ridership. As eastern Durham County continues to develop, demand for bus service is likely to increase. When US 70 is converted to a controlled access facility, the bus service most likely to use the road will be express routes. BOSS may be desired on US 70 and the shoulder accommodates should be considered.

As a controlled access freeway, US 70 cannot include on-road bicycle and pedestrian facilities, but a separate multi-use path is recommended along the US 70 corridor. However, it is important to consider bicycle and pedestrian access across the facility and along interchanges. Separated facilities should be provided for crossing streets at busy interchange areas. On-street bicycle and pedestrian facilities should be considered at grade separations for crossing streets.

*The DurhamWalks! Pedestrian Plan* recommends priority sidewalks on Lynn Road. By policy, the plan also recommends the addition of sidewalks on all roads in Durham except in special cases such as along controlled access roads.

The *Durham Comprehensive Bicycle Transportation Plan* recommends a sidepath along US 70 from the Wake County Line to Miami Boulevard and bicycle lanes on US 70 from Miami Boulevard to Lynn Road. Bicycle lanes are not recommended as part of the US 70 recommended freeway conversion. Wide shoulders are recommended for Lynn Road, Pleasant Drive, Sherron Road (SR 1811), and Leesville Road. Bike lanes are recommended for Miami Boulevard, Angier Avenue, and Page Road extension. A greenway is recommended to cross US 70 at Miami Boulevard and in between Leesville Road and Page Road extension.

The *Durham Trails and Greenways Master Plan* does not recommend any greenways parallel or perpendicular to US 70.

#### Public/Stakeholder Involvement

During the public comment period, city of Durham staff expressed the need for bicycle or multi-use accommodations along US 70 from Pleasant Drive to Wake County. A multi-use path separate from US 70 has been added to the corridor recommendation, from Carr Road to the recommended Northern Durham Parkway, since on-road bicycle accommodations are not allowed on freeway facilities.

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Local ID: [Draft STIP FY 2017-2027]

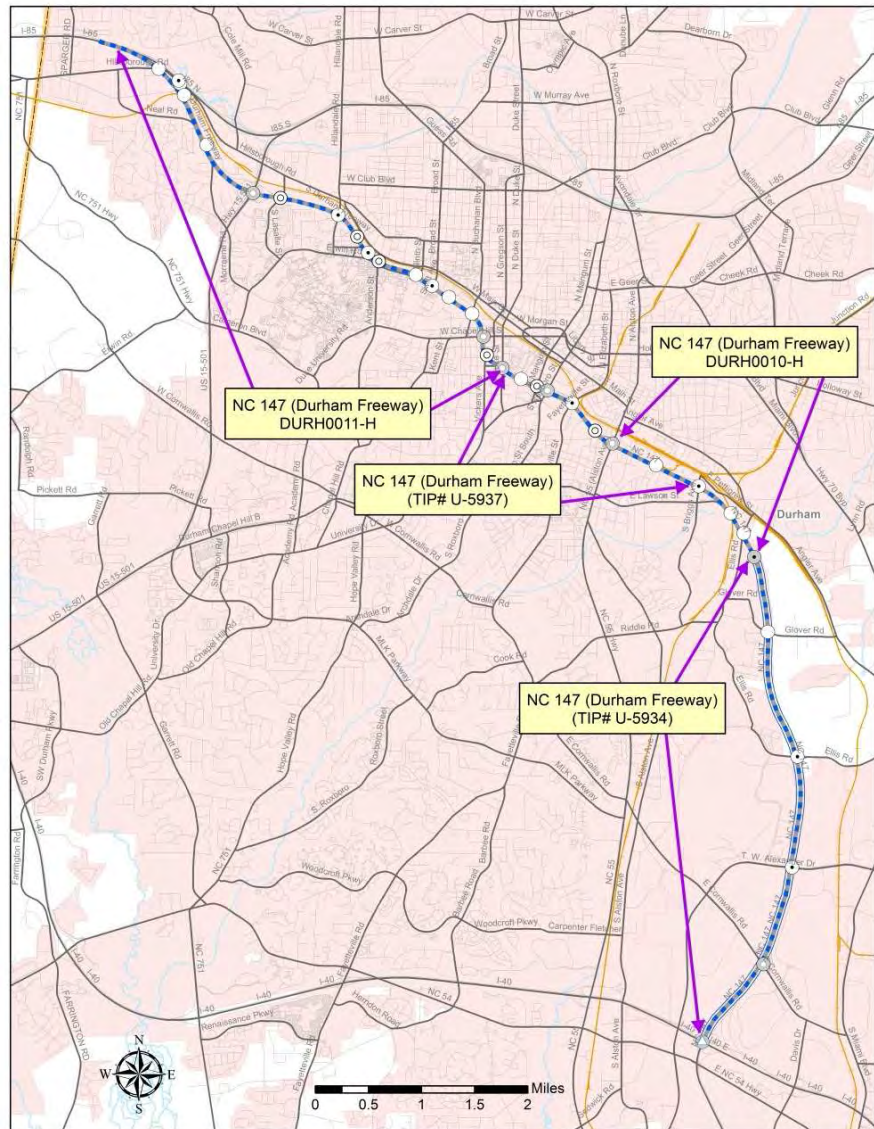
- ❖ DURH0011-H (I-85 to South Duke Street (SR 1445))
- ❖ TIP# U-5937 (South Duke Street (SR 1445) to Briggs Avenue), operational improvements and auxiliary lanes
- ❖ DURH0010-H (NC 55 (Alston Avenue) to future I-885 (East End Connector))
- ❖ TIP# U-5934 (I-40 to future I-885 (East End Connector)), widening

Figure 26

## Identified Problem

NC 147, or the Durham Freeway, volumes are projected to exceed a LOS D capacity by 2040 from Cornwallis Road (SR 1121) to Elba Street (SR 2411).

NC 147 is primarily a four-lane freeway from I-85 to I-40. It provides proximate access to several of Durham's top employment centers such as Duke University, downtown Durham, and the Research Triangle Park. It was built in segments with some of the oldest segments through downtown Durham. Currently, the section from Vickers Avenue to South Briggs Avenue experiences backed up traffic during the peak travel periods and the daily traffic counts exceed the roadway capacity. The interchange geometry and short ramps are considered far below today's standards.



## Justification of Need

NC 147 crosses through the most significant employment centers in Durham: the Duke University area, downtown Durham, and the Research Triangle Park. Further employment growth in these three areas could increase the travel demand on NC 147. Population growth is also expected around downtown Durham and nearby neighborhoods.

There are lengthy backups from southbound NC 147 onto eastbound I-40 during peak commuting hours, and a corresponding backup from westbound I-40 to northbound NC 147.

Table 16

From	To	Lanes	2015 AADT	Existing Capacity	2040 Volume	2040 V/C	2040 Cross-Section
I-40	Cornwallis Road (SR 1121)	6D	64,000	90,700	76,700	0.9	8D
Cornwallis Road (SR 1121)	T.W. Alexander Drive (SR 2028)	4D	62,000	90,700	92,400	1.5	8D
T.W. Alexander Drive (SR 2028)	Ellis Road (SR 1954)	4D	68,000	61,700	97,000	1.6	8D
Ellis Road (SR 1954)	Future I-885 (East End Connector)	4D	64,000	61,700	77,000	1.3	8D
Future I-885 (East End Connector)	S. Briggs Avenue (SR 1171)	4D	64,000	61,700	77,000	1.3	6A
S. Briggs Avenue	NC 55 (Alston Avenue)	4D	68,000	61,700	87,000	1.4	6A
NC 55 (Alston Avenue)	Fayetteville Street (SR 1118)	4D	82,000	61,700	87,000	1.4	4A
Fayetteville Street (SR 1118)	US 15-501 Business	4D	78,000	61,700	84,000	1.4	4A
US 15-501 Business	West Chapel Hill Street (SR 1127)	4D	63,000	61,700	80,000	1.3	4A
West Chapel Hill Street (SR 1127)	Swift Avenue (SR 1322)	4D	64,000	61,700	81,000	1.3	4A
Swift Avenue (SR 1322)	Elba Street (SR 2411)	4D	59,000	61,700	72,000	1.2	4A
Elba Street (SR 2411)	Fulton Street (SR 1321)	4D	43,000	61,700	61,000	1.0	4A
Fulton Street (SR 1321)	US 15-501 Bypass	4D	41,000	61,700	48,000	0.8	4A
US 15-501 Bypass	I-85	4D	19,000	61,700	29,000	0.5	4A

Note: In the "Lanes" column, "D" means the facility is "divided" (has a median). In the "2040 Cross-Section" column, the number-letter pair indicates the recommended typical cross-section. See Appendix D for typical cross-section details.

There are functionally obsolete bridges on NC 147 at NC 55, US 15-501, West Chapel Hill Street (SR 1127), Vickers Avenue, South Duke Street (SR 1445), Grant Street, Southern Railroad, E. Cornwallis Road, NC 54, LaSalle Street (SR 2403), and Anderson Street.



# CTP Project Proposal

## Project Description and Overview

The proposed project improvements vary along the corridor. From I-40 to the East End Connector, the project recommends widening to an eight lane divided freeway, and from the East End Connector to NC 55, widening to six lanes is recommended. From NC 55 to I-85, the project recommends a four lane divided freeway. Managed lanes should be evaluated for use in the section from NC 55 to I-40 to both help fund the capacity improvements and encourage higher vehicle occupancy rates, especially during peak periods. Based on the feasibility study for NC 147, the CTP has identified managed lanes for the section from I-40 to the East End Connector.

From NC 55 through Chapel Hill Street, the project recommends operational improvements with the primary objective to improve safety for both vehicles on NC 147 and all road users at interchanges. Access improvements should also be considered. The safety and access improvements may consider speed limit reductions, ramp closures or consolidations, lengthening on- and off-ramps to provide for more merging space, additional connectivity on local streets to maintain or improve access, auxiliary lanes, shoulder improvements, bridge replacements, guardrails, geometric changes, modifications to local streets and intersections at interchanges to improve bicycle and pedestrian facilities and safety, etc. Free flow movements from freeway on- and off-ramps to local streets should be eliminated to improve bicycle and pedestrian safety. The I-40 and US 15-501 Bypass interchanges need capacity and safety improvements.

The DCHC MPO, Capital Area MPO and NCDOT began the Triangle Tolling Study in late 2016 and are scheduled to complete the study by 2018. NC 147 will be part of the tolling study to ascertain whether or not managed lanes are feasible and logical.

## Natural and Human Environment Context

NC 147 crosses through suburban and urban development. Near I-40 the road is the major route through the Research Triangle Park. It then transitions to suburban style development briefly before entering the center of urban downtown Durham and the Duke University/Hospital area. The context is again suburban closer to I-85.

The section of NC 147 from the Briggs Avenue to US 15-501 goes through the most intensely developed portion of Durham. There are many nearby neighborhoods, urban development, dense residential areas, and large institutional uses. The section from Chapel Hill Street to Alston Avenue was built first before the National Environmental Policy Act (NEPA) required study and mitigation for natural and human environmental impacts. This section greatly impacted many neighborhoods in Durham including the African American Hayti neighborhood. A later extension to the west impacted the Crest Street neighborhood but required mitigation for these impacts according to NEPA. The original construction of NC 147 had a significant impact on the growth and development of Durham. Many residents are concerned and wary about any additional negative

impacts that a proposed project through the densely developed portion of the city may cause. In addition, there are lingering negative impacts to the city from the original project such as disconnected streets and neighborhoods, high speed on and off ramps that are incompatible with safe pedestrian and bicycle travel and urban type development, noise, and visual impacts. The proposed project needs to mitigate for these prior impacts as well as minimize any additional impacts.

There are multiple stream crossings on this long corridor. However most are relatively small as NC 147 is generally near the ridge line between the Neuse River and Cape Fear River watersheds. There is a larger stream crossing at Northeast Creek near Ellis Road.

### Relationship to Land Use

NC 147 crosses through the urban and suburban tier in Durham. It also crosses through or abuts the Compact Neighborhood Districts near Alston Avenue, downtown Durham, and Ninth Street/Duke Hospitals.

The urban and compact neighborhood districts are expected to have the densest development that is more conducive to transit, walking and bicycling transportation. A significant amount of employment growth is projected from Alston Avenue to Duke Hospitals. Population growth is also anticipated in this corridor, much of it in multi-family developments.

The southern segment of NC 147 through the Research Triangle Park is also expected to have significant employment growth, but population growth should continue to be limited. The employment centers in the Research Triangle Park have traditionally been in large campus style developments with a suburban style. The Research Triangle Park is expected to become denser with the anticipated growth, but not to the same density as downtown Durham.

While NC 147 is a freeway for its entire length, the segment through downtown has many more access points and interchanges than the southern segment through the Research Triangle Park. Attention to NC 147 project design is needed to continue to provide access to the densest part of the city while improving safety for all users. The local vision is that NC 147 should not serve as a through route for regional traffic. I-85 to the north and I-40 to the south serve this role. Traffic on NC 147 through downtown should primarily be headed to or from a destination in downtown. This may mean that a lower design speed is necessary to ensure safety in this segment.

In contrast, the segment of NC 147 to the south serves more regional traffic due to the more dispersed land uses in the Research Triangle Park. Furthermore, the future connection of NC 147 to the East End Connector and US 70/I-85 could attract more regional traffic demand for this segment. NC 147 through this area is appropriate for a high speed freeway design with fewer access points and interchanges.

## Linkages to Other Plans and Proposed Project History

Development of this project should be coordinated with the following plans:

- The DCHC MPO, CAMPO and NCDOT began the Triangle Tolling Study in late 2016. The study is scheduled to be complete in 2018.
- (Draft) Feasibility Study Improvements to NC 147 (Durham Freeway), From I-40 to NC 55 (Alston Avenue), TIP# FS-2015C, 2016
- D-O LRT *Final Environmental Impact Statement/Record of Decision*, 2016
- *City of Durham Traffic Separation Study*, 2014 (as received by Durham City Council)
- *Durham Trails and Greenways Master Plan*, 2011
- *Durham Comprehensive Bicycle Transportation Plan*, 2006
- *DurhamWalks! Pedestrian Plan*, 2006
- DCHC MPO *2040 Metropolitan Transportation Plan*, 2013
- *DCHC MPO Mobility Report Card*, 2015

The NCDOT Feasibility Studies Unit completed a draft feasibility study in 2016 for the NC 147 section from NC 55 (Alston Avenue) to I-40, TIP# FS-1205C. The study recommended further study of a cross section with 8 general purpose lanes, and a cross-section with 6 general purpose and 2 managed lanes.

## Multimodal Considerations

Several GoDurham and GoTriangle bus routes use NC 147. Many of these are express routes. Any improvements to NC 147 should consider how public transportation can use the facility easily and with less impact by potential congestion. BOSS should be considered. If managed lanes are considered in any location, bus transit routes should be able to use the facility at no cost.

The *2013 American Community Survey* data show that Census Tracts bordering NC 147 have some of the highest public transit usage in the State for Commuting to Work. In fact, Census Tract 14 near the intersection of NC 147 and Alston Avenue and Briggs Avenue has the highest public transportation mode share in the State at 32.1%. The NC 147 corridor from Briggs Avenue to the north/west has high public transportation ridership. The NC 147 corridor from Briggs Avenue to the south/east has lower ridership typical of the suburban style development in the Research Triangle Park.

Commuting by bicycle and walking are also high along the central Durham segment of the project from Briggs Avenue to the west. Future development is expected to generate high rates of bicycle and pedestrian trips. Durham's top employment centers are near NC 147 and are within a reasonable walking or biking distance to neighborhoods on the opposite side of the freeway. NC 147 currently is a barrier for safe bicycle and pedestrian access to Duke Hospitals from the north and to downtown Durham from the south. The high speed on and off ramps create dangerous conflicts for bicyclists and pedestrians at many interchanges through the downtown. The NC 147 project should consider improvements to the bicycle and pedestrian crossings.

The *DurhamWalks! Pedestrian Plan* recommends priority sidewalks on Alston Avenue, Pettigrew Street, Morehead Avenue (SR 1365), Buchanan Boulevard, Broad Street (SR 1322), Erwin Road (SR 1320), LaSalle Street, Morreene Road (SR 1317), and Hillsborough Road (US 70 Bus). The plan also recommends the addition of sidewalks on all roads in Durham by policy.

The *Durham Comprehensive Bicycle Transportation Plan* recommends bicycle lanes on T W Alexander Drive, Ellis Road (east/south), Glover Road (SR 1954), Ellis Road (west/north), Briggs Avenue, Bacon Street, Alston Avenue, Fayetteville Street, Roxboro Street (US 15 Bus), Mangum Street (US 15 Bus), Blackwell Street, Duke Street, Gregson Street, Chapel Hill Street, Buchanan Boulevard, Broad Street, Erwin Road, Anderson Street, Fulton Street (SR 1321), LaSalle Street, Neal Road (SR 1314), and US 70. This plan also recommends greenway trails parallel to NC 147 between US 15-501 and Fulton Street and crossing under NC 147 at Fulton Street, parallel to the D-O LRT project and crossing NC 147 near Erwin Road, a greenway extending north and south from the Bryant Bridge, and a greenway along the rail line between Briggs Avenue and Ellis Road. This proposal also recommends a separate multi-use path along NC 147 from the trail at I-40 and TW Alexander Drive (SR 2028) to the CSX trail at Ellis Rd (SR 2149)/NC 147 underpass to provide connection from NC 54 to the Kelly Bryant bridge.

The *Durham Trails and Greenways Master Plan* recommends a trail on Cornwallis Road and T W Alexander Drive. These are both part of the Research Triangle Park trails system.

#### Public/Stakeholder Involvement

During the public comment period, City of Durham staff expressed the need for multi-use accommodations along NC 147 from NC 54 to the Kelly Bryant bridge. A multi-use path separate from NC 147 has been added to the corridor recommendation from a trail at I-40/T.W. Alexander Drive to the CSX trail at Ellis Road/NC 147 underpass.

Local ID: [Draft STIP FY 2017-2027]

- ❖ TIP# U-5774 A (US 15-501 interchange), upgrade
- ❖ TIP# U-5774 B (US 15-501 (Orange County) to Barbee Chapel Road (SR 1110) (Durham County)), upgrade roadway corridor, convert Barbee Chapel Road intersection to interchange
- ❖ TIP# U-5774 C (Barbee Chapel Road (SR 1110) to I-40, upgrade roadway corridor
- ❖ TIP# U-5774 D (Falconbridge Road intersection), convert to interchange
- ❖ TIP# U-5774 E (Farrington Road (SR 1109) intersection), convert to grade separation
- ❖ TIP# U-5774 F (I-40/NC 54 interchange), improvements
- ❖ TIP# U-5774 G (I-40 to NC 751), upgrade roadway corridor
- ❖ TIP# U-5774 H (NC 751 to Fayetteville Road (SR 1118)), upgrade roadway corridor
- ❖ TIP# U-5774 I (Fayetteville Road (SR 1118) to Barbee Road (SR 1106)), upgrade roadway corridor
- ❖ TIP# U-5774 J (Barbee Road (SR 1106) to NC 55), upgrade roadway corridor

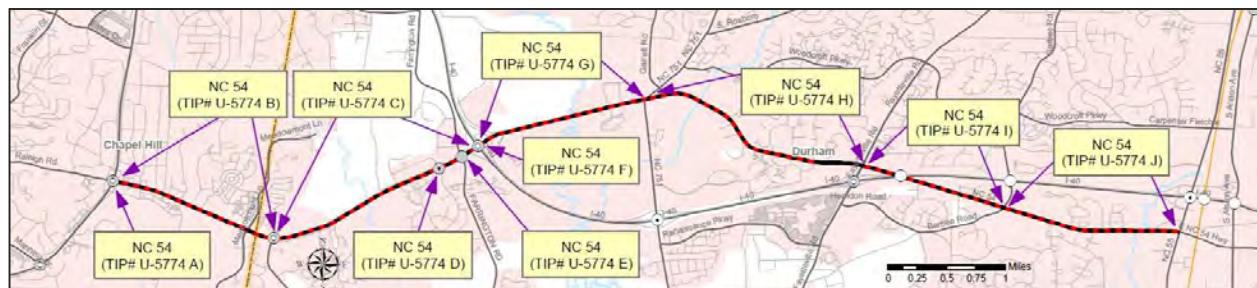


Figure 27

## Identified Problem

NC 54 volumes are projected to exceed a LOS D capacity by 2040. The section of NC 54 from Barbee Chapel Hill Road (SR 1110) to NC 55 currently exceeds existing daily capacity.

NC 54 is a principal arterial that parallels the most important travel corridor in the Triangle, I-40, and provides regional access to the some of the most important employments centers, including the Research Triangle Park (RTP) and the University of North Carolina at Chapel Hill and its hospitals. Capacity improvements are needed to ensure that a LOS D or better is attained in several sections that already exceed capacity and maintain that level of service in the remaining sections.

This problem statement addresses the corridor by the roadway sections, intersecting roads, and interchanges identified below. The letter for each of the bulleted items below

matches the letter designation in the TIP ID for the sections of project U-5774 in the draft FY 2017-2027 State Transportation Improvement Program (TIP). This TIP ID is also the CTP ID. The sections denoted with an asterisk (\*) were studied in detail in the DCHC MPO's *NC 54/I-40 Corridor Study*, which was completed in November 2011. This study can be referenced for detailed deficiency analyses and transportation facilities that were considered and selected for the corridor.

- A. US 15-501 interchange (Orange County)\*
- B. US 15-501 to Barbee Chapel Road (SR 1110) (Durham County)\*, and Barbee Chapel Road intersection\*
- C. Barbee Chapel Road to I-40\*
- D. Falconbridge Road intersection\*
- E. Farrington Road (SR 1109) intersection\*
- F. I-40/NC 54 interchange\*
- G. I-40 to NC 751
- H. NC 751 to Fayetteville Road (SR 1118)
- I. Fayetteville Road to Barbee Road (SR 1106)
- J. Barbee Road to NC 55

#### Justification of Need

The NC 54 corridor is among the most important travel corridors in the Triangle. It parallels I-40 and provides regional access to large employment centers. The roadway cross-section ranges from two in the eastern sections to six lanes in the western sections that are in Chapel Hill. The entire corridor experiences significant delays especially at the interchanges and intersections, and during peak travel periods. The table directly below uses current and forecasted (year 2040) traffic count data for NC 54 from the CTP deficiency analysis to demonstrate the role that high traffic volumes plays in corridor congestion. The "Ref" column in the table refers to the letter in the bulleted project sections above.

Table 17

Ref	From	To	Lanes	2015 AADT	Existing Capacity	2040 Volume	2040 V/C	2040 Cross-Section
B	US 15-501	Barbee Chapel Road (SR 1110)	6D	50,000	55,000	56,800	1.0	6E
C	Barbee Chapel Road (SR 1110)	I-40	4D	46,000	36,600	47,800	1.3	6ESS
G	I-40	NC 751	2	18,000	12,700	24,500	1.9	4D
H	NC 751	Fayetteville Road (SR 1118)	2	17,000	13,800	19,800	1.4	4D
I	Fayetteville Road (SR 1118)	Barbee Road (SR 1106)	2	17,000	12,700	21,300	1.7	4D
J	Barbee Road (SR 1106)	NC 55	2	21,000	12,700	28,100	2.2	4D

Note: In the "Lanes" column, "D" means the facility is "divided" (has a median). In the "2040 Cross-Section" column, the number-letter pair indicates the recommended typical cross-section, and "SS" has been added to indicate a synchronized street corridor treatment for this section. See Appendix D for typical cross-section details.



The DCHC MPO 2014 Mobility Report Card designates these roadway sections as operating at a LOS E and LOS F. In addition, the NCDOT feasibility study TIP# FS-1005C, which was completed in 2012 and covered all the sections east of I-40, showed that all those sections are projected to operate at a LOS E and LOS F in 2035 and that ¾ of the intersections are projected to operate at a LOS E or LOS F.

The section immediately west of I-40 experiences a high number of automobile crashes (see the DCHC MPO's 2014 Mobility Report Card for this crash data at the following link: <http://www.dchcmpo.org/programs/cmp/default.asp>).

Proposed improvements to the intersections and interchanges shown below have been justified in the detailed deficiency analysis of the *NC 54/I-40 Corridor Study*. The information below is from an additional source, the DCHC MPO's 2014 Mobility Report Card (unless noted from the CTP Deficiency Analysis).

- A. US 15-501 interchange – This bridge is functionally obsolete (based on the Deficient Bridge section of the CTP Deficiency Analysis), which means that the bridge is safe but does not meet today's higher standards.
- B. Barbee Chapel Road intersection – Turning movements on this roadway experience long delays especially the Barbee Chapel Road northbound to NC 54 westbound movement in the morning peak period.
- D. Falconbridge Road intersection – Improvements are needed to provide north-south access to NC 54 and to ensure that the traffic merging movements are an adequate distance from the adjacent I-40/NC 54 interchange to maintain safety and capacity.
- E. Farrington Road intersection – This at-grade intersection is too close to the I-40/NC54 interchange, causing backups on the westbound lanes of the interstate when the I-40 westbound to NC 54 westbound movement experiences long delays at the Farrington Road intersection.
- F. I-40/NC 54 interchange – Several movements on this interchange are under capacity and the delays will likely worsen given the forecasted increase, i.e., up to 47,800 daily volume.

Both Chapel Hill Transit and Go Triangle operate buses in the corridor west of the I-40/NC 54 interchange to accommodate the regional commutes, and Go Durham operates bus service east of that interchange. The entire corridor currently has a moderate bus transit frequency, 16 to 30 minute headways, during the peak periods. The section west of Friday Center Drive has a very high frequency, 5-minute headways, because shuttle buses operate between the Friday Center park-and-ride lots and the university and hospitals.

The CTP Deficiency Analysis showed that the expected demand for transit, based on the projected population and employment density in the adjacent areas, could benefit from 15-minute bus headways. Go Triangle is in the process of planning the Durham-Orange Light Rail Transit (D-O LRT) that will parallel the NC 54 corridor essentially from US 15-501 to I-40. The D-O LRT is intended to carry passengers traveling between

Durham and Chapel Hill and provide a transit link to the park-and-ride facilities used by regional commuters from southern Durham County and Wake County. The D-O LRT Alternatives Analysis estimates approximately 23,000 passengers using the system each day.

There is significant pedestrian activity because of the proximity of the residential neighborhoods, retail centers and employment centers. Pedestrians need adequate facilities to safely travel among the high automobile traffic volumes. The CTP Deficiency Analysis showed that 2040 forecasted population and employment densities along the NC 54 corridor could generate significant bicycle and pedestrian trips as high as a few thousand trips from US 15-501 to Barbee Chapel Road, and several hundred trips from Rollingwood Drive to NC 55.

### Community Vision and Problem History

The NC 54 corridor from Chapel Hill through south Durham and the Research Triangle Park is among the most important travel corridors in the Triangle region. The capacity deficiencies and safety problems have been well vetted with the community through several plans and studies. The *NC 54/I-40 Corridor Study* conducted community workshops attended by over 150 citizens. The DCHC MPO has planned for capacity, safety, bicycle and pedestrian improvements in the long-range plans completed over the last few decades and worked to get those projects in the Transportation Improvement Program (TIP). In the most recent prioritization process, i.e., SPOT 4.0, the MPO assigned the maximum allowable points, i.e., 30 points, to NC 54 improvements. Go Triangle has conducted workshops to gather citizen comments on the proposed D-O LRT. All of these processes included public hearings as well. The community wants to address the automobile and transit capacity problems of the corridor, but they also want to improve the bicycle and pedestrian facilities in the corridor. The inclusion of alternative transportation modes is an important goal of the DCHC MPO, as well.

## **CTP Project Proposal**

### Project Description and Overview

In the draft STIP FY 2017-2027, U-5774 indicates the upgrade of the roadway corridor with the upgrade of the US 15-501 interchange, interchange improvements at I-40, the conversion of at-grade intersections to interchanges (or construct intersection improvements) with Barbee Chapel Rd and Falconbridge Rd, and conversion of an at-grade intersection with Farrington Rd to a grade separation. The town of Chapel Hill is interested in keeping options open for Barbee Chapel Road and Falconbridge Road intersection improvements including improved at-grade intersections. The CTP project proposal is described below. This project is to improve bicycle and pedestrian travel the complete length of the corridor, and accommodate the D-O LRT.

- A. US 15-501 interchange – Upgrade the current interchange.

- B. US 15-501 to Barbee Chapel Road – Upgrade roadway corridor; and Barbee Chapel Road intersection – Construct intersection improvements or convert to interchange.
- C. Barbee Chapel Road to I-40 – Upgrade roadway corridor, and extend off-road multi-use path.
- D. Falconbridge Road interchange – Construct intersection improvements or convert to interchange.
- E. Farrington Road grade separation – Construct grade separation, and add access road from Falconbridge Road to Farrington Road.
- F. I-40/NC 54 interchange – Construct interchange improvements, including eastbound I-40 to eastbound NC 54 cloverleaf and Farrington Road to eastbound I-40 slip ramp.
- G. I-40 to NC 751 – Upgrade roadway corridor.
- H. NC 751 to Fayetteville Road – Upgrade roadway corridor.
- I. Fayetteville Road to Barbee Road – Upgrade roadway corridor.
- J. Barbee Road to NC 55 – Upgrade roadway corridor.

### Natural and Human Environment Context

The NC 54 corridor crosses wetlands and Army Corps of Engineering (ACOE) lands at three different locations:

- Little Creek – between Downing Creek Pkwy and Huntingbridge Road
- New Hope Creek – between the I-40/NC 54 interchange and NC 751
- Third Fork Creek – Garrett Road and Park Ridge Road

The impacts and possible mitigation measures related to these wetlands will be addressed at the environmental impact analysis stage of project development.

### Relationship to Land Use

Currently, the land use in the vicinity of this corridor is suburban. However, the socioeconomic growth maps from the CTP Deficiency Analysis show that substantial residential growth is expected to occur near Barbee Chapel and the northwest quadrant of the I-40/NC 54 interchange, and much employment growth is expected to occur around the future light rail stations at Hamilton, Friday Center, Hillmont (near Barbee Chapel) and Leigh Village (northwest quadrant of I-40/NC 54). These areas are expected to function like urban centers in the future. In addition, continued employment growth around the UNC-Chapel Hill campus and hospitals will likely attract more commuters through the NC 54 corridor. The D-O LRT plan has identified park-and-ride facilities at some of the light rail transit stations to accommodate these commuters.

### Linkages to Other Plans and Proposed Project History

Many studies have been focused in whole, or part, on the NC 54 corridor. The following studies have important deficiency and project proposal information:

- *NC 54/I-40 Corridor Study*, 2011, addresses section from US 15-501 to I-40

- Feasibility Study, Widening of NC 54 from I-40 to NC 55 (FS-1005C), 2012, addresses sections east of I-40
- *DCHC MPO's 2014 Mobility Report Card*, 2015, addresses roadway, intersections and non-auto travel
- Draft Environmental Impact Statement (DEIS) for the Durham-Orange Light Rail Transit, 2015, addresses rail alignment and station location
- *2040 Metropolitan Transportation Plan* (MTP) for the DCHC MPO, 2013, has NC 54 and related projects

Besides the NC 54 projects already identified in this statement, the 2040 MTP has the following projects and policies that may impact the NC 54 corridor. Projects funded in the Draft State Transportation Improvement Program (STIP) FY 2017-2027 are shown in **bold font**.

- **US 15-501, from South Columbia Street (NC 86) to I-40, TIP# U-5304**, corridor upgrade, including capacity improvements, interchange and intersection improvements, and the conversion of an intersection to an interchange with multimodal accommodations.
- **Durham-Orange Light Rail Transit (D-O LRT) , TIP# TE-5205**, note that the preferred rail alignment changed in 2015 from the original alignment through Meadowmont to one that parallels NC 54 between Friday Center Drive and I-40.
- **Southwest Durham Drive, 2040 MTP# 104, 106, 106.1**, new alignment from I-40 to NC 54, mostly along George King Road.
- **Falconbridge Road extension (or Farrington Road realignment), from NC 54 to Farrington Road, 2040 MTP# 201**, (in conjunction with the Farrington Road/NC 54 grade separation) to move NC 54 access away from Farrington Road.
- **NC 751, from NC 54 to Renaissance Pkwy, 2040 MTP# 77.2**, widen to four lanes.
- **I-40, from Wade Avenue (SR 1728) (Wake County) to US 15-501, TIP# I-5702**, construct managed lanes.
- **I-40, from US 15-501 to NC 86 (Chapel Hill exit), 2040 MTP# 43**, capacity improvements which might be managed lanes.
- See policy disclaimers in Chapter 2, page 2-1.

### Multimodal Considerations

The CTP transit, bicycle and pedestrian plans have identified many alternative mode projects in the NC 54 corridor. Among the most significant are the D-O LRT stations, park-and-ride facilities, multi-use path extension from Friday Center Drive to I-40, and sidewalk and bicycle lanes the entire extent of the corridor.

### Public/Stakeholder Involvement

During the public comment period, the North Carolina Wildlife Resources Commission (NCWRC) commented on the impacts of road widening projects on the fragmentation of wildlife habitats. The NC 54 road widening project between I-40 and NC 751 will likely impact Natural Heritage Natural Areas and the NCWRC recommends avoiding the

widening where it intersects these important natural areas. Additionally, when widening cannot be avoided, the NCWRC requires NCDOT to consider building wildlife crossing structures where land is permanently conserved on either side of the road widening to reduce habitat fragmentation. See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

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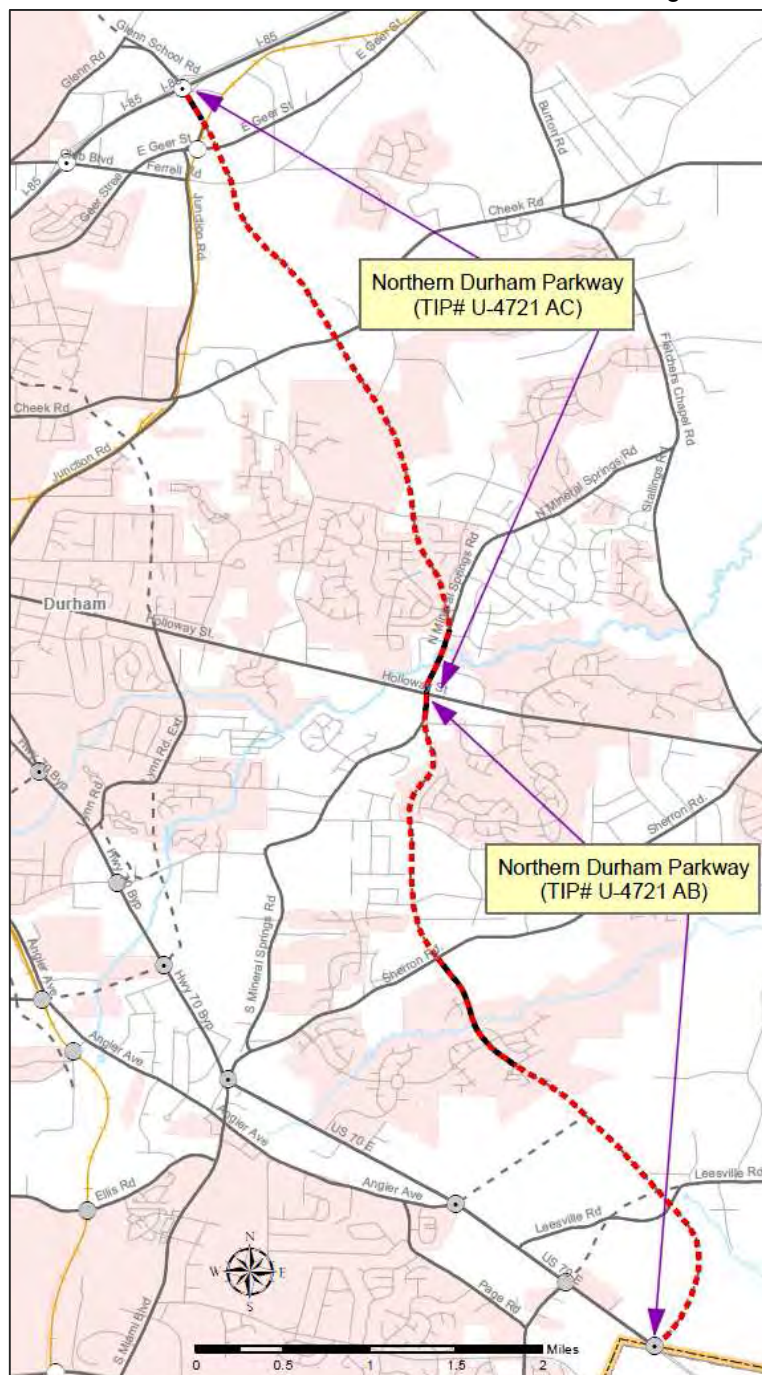
- ❖ TIP# U-4721 AB (US 70 to NC 98 (Wake Forest Road))
- ❖ TIP# U-4721 AC (NC 98 (Wake Forest Road) to I-85)

Figure 28

## Identified Problem

Population and employment are growing in Durham, the Research Triangle Park, and northwestern Wake County. The Research Triangle Park is and will continue to be a major employment center. Residential growth is forecasted to continue in northern and eastern Durham County, as well as Person and Granville counties. Furthermore, the existing routes between the population and employment centers travel primarily through the central city of Durham area and there are many negative impacts to increasing the capacity of many of these routes. As a result, there is a need for a new major arterial from northern Durham County to eastern Durham County, the Northern Durham Parkway.

The Northern Durham Parkway could provide an alternative to routes such as US 501, US 501 Business, US 70, and NC 55 through central Durham. It could also provide better connectivity between growing communities in northern and eastern Durham County, and it would provide direct access to



these communities. It could be a bicycle and pedestrian route through this area as well and would provide a cross-town facility for transit buses in the future. The Northern Durham Parkway should be constructed to serve both regional and local traffic and provide a multimodal facility for all users.

### Justification of Need

As the Northern Durham Parkway would be a new facility, traffic counts are not available based on the existing network. A 2013 Traffic Forecast and 2014 Feasibility Study were developed for the Northern Durham Parkway (NDP).

The “2040 Volume (E+C without NDP)” in the table below was developed for the CTP using the 2040 TRM Existing plus Committed (E+C) network and the “2040 Volume (MTP with NDP)” was developed for the 2013 TIP Project U-4721 (NDP) Traffic Forecast using the 2040 TRM standard MTP network. In comparing these two table columns, the US 70 2040 Volume (E+C without NDP) is considerably lower than the 2040 Volume (MTP with NDP) south of NC 98 due to US 70 not being upgraded to a freeway in the E+C network. In the standard MTP network US 70 is upgraded to a freeway. The E+C network also does not include the NDP, whereas the standard MTP network does include the NDP.

Table 18

Facility	From	To	Lanes	2015 AADT	Existing Capacity	2040 Volume (E+C without NDP)	2040 Volume (MTP with NDP*)	2040 V/C (without NDP)	2040 Cross-Section
US 70	I-85	NC 98	4D	50,000 – 55,000	59,900	96,200	89,700 - 102,300*	1.6	6B
US 70	NC 98	S Miami Boulevard (SR 1959)	4, 4D, 5	31,000 – 40,000	27,600 - 59,900	63,700	98,800 - 107,000*	2.2	6B
US 70	S Miami Boulevard (SR 1959)	NDP	4D	30,000 – 36,000	40,500	49,200	82,300 - 83,800*	1.1	6B
NDP (future)	I-85	NC 98	4D	--	--	--	12,900 – 21,700*	--	4G
NDP (future)	NC 98	Sherron Road (SR 1811)	4D	--	--	--	18,700 – 19,600*	--	4G
NDP (future)	Sherron Road (SR 1811)	US 70	4D	--	--	--	23,900 – 27,900*	--	4G

Note: In the “Lanes” column, “D” means the facility is “divided” (has a median). In the “2040 Cross-Section” column, the number-letter pair indicates the recommended typical cross-section. See Appendix D for typical cross-section details.

However, there are several unaddressed needs identified in the CTP on other routes that the Northern Durham Parkway is expected to help ameliorate. Cheek Road (SR 1800), Fletchers Chapel Road (SR 1815), Glenn School Road (SR 1675), Mineral Springs Road (SR 1917), and Red Mill Road (SR 1632) are nearby roads that have unaddressed needs that should be helped by the Northern Durham Parkway.

Significant population growth is anticipated for eastern Durham County, particularly between NC 98 and US 70. In addition, growth in population in Person County to the north and Granville County to the northeast will likely contribute towards demand for north-south travel through Durham County. Employment growth in this area is more modest, but the employment growth in the Research Triangle Park should increase the demand for north-south travel through Durham County.

### Community Vision and Problem History

The Northern Durham Parkway has a long history in Durham. For many decades, the Durham Thoroughfare Plan recommended a circumferential road, Eno Drive, which arced from I-85 in Durham County to I-85 in Orange County and was eligible for Highway Trust Fund “loop” project funding. This concept had a NEPA study prepared in the early 2000’s that concluded with a decision to not construct the project. The eastern part of this road morphed into the Northern Durham Parkway project. Through much community and governmental discussion, NCDOT and the city of Durham decided to support the Northern Durham Parkway as one of five projects that replaced Eno Drive in the state legislation for “loop” projects.

Eno Drive was proposed as an expressway-type facility. In contrast, the Northern Durham Parkway was envisioned to be a two or four-lane parkway or boulevard type facility. The city of Durham decided that a controlled access freeway or expressway type loop road was not compatible with the land use and growth direction of that part of the city. Northern Durham Parkway is not envisioned to carry solely regional traffic. It is envisioned to serve some regional traffic but also local traffic. Longer regional trips should be directed to I-85 and US 70. Northern Durham Parkway is envisioned to be a complete street that is fully integrated into the neighborhoods that it travels through and that includes facilities for transit, bicycles, and pedestrians. It is likely to have residential, commercial, and institutional uses along it such as subdivisions, retail centers, and schools. Access management should be incorporated and driveways should be consolidated whenever possible.

## **CTP Project Proposal**

### Project Description and Overview

The proposed project recommends the construction of a new location four lane divided boulevard from US 70 to Old Oxford Road. The proposed cross-section includes a median, bicycle lanes, and sidewalks. However, a separated bicycle facility should be considered, such as a curb-separated or delineator-separated facility, where possible to increase safety and usage for all cyclists. Sidewalks are an essential part of the project. Interchanges are recommended at US 70 and I-85.

## Natural and Human Environment Context

The Northern Durham Parkway is nearly all within the protected watershed for Falls Lake. It includes multiple stream crossings including the Cabin Branch, Eno River, Ellerbee Creek, Panther Creek, Chunky Pipe Creek, and Lick Creek. Segments near the Cabin Branch and Eno River are through land owned by the U.S. Army Corps of Engineers. This includes the Penny's Bend Nature Preserve near the Eno River.

The proposed route crosses near multiple schools including Spring Valley Elementary School, Oak Grove Elementary School, Southern High School, Glenn Elementary School, Little River Elementary School, and Lucas Middle School. A branch of the Durham Tech Community College is also nearby.

Most of the human environmental context is currently rural or suburban. There are many new subdivisions being built along the corridor and many have included the dedication of right-of-way for the proposed road to minimize potential impacts to properties. There are also multiple commercial areas particularly where the proposed route crosses an existing route such as near NC 98 and I-85.

## Relationship to Land Use

The proposed Northern Durham Parkway arcs through the eastern side of Durham County within the suburban development tier. Land uses are anticipated to vary along the corridor from medium to low density residential, conservation land, industrial, and commercial. Population growth is anticipated in this area of the county, especially in between NC 98 and US 70. Some employment growth is also anticipated, primarily near I-85 and US 70.

Some of Northern Durham Parkway has already been built by existing large developments. For example, Brightleaf at the Park has built a segment south of Sherron Road. Entrances to residential neighborhoods and Spring Valley Elementary School currently exist on the Northern Durham Parkway in this neighborhood. Northern Durham Parkway is expected to provide both a transportation and land access function. While driveway access directly onto Northern Durham Parkway will generally be limited and discouraged, it is desired for the road to function as a boulevard facility by providing at-grade access to other streets and large properties such as schools. A freeway or expressway would not function well because of the desired bicycle, pedestrian and transit accommodations and at-grade access.

## Linkages to Other Plans and Proposed Project History

Development of this project should be coordinated with the following plans:

- *Durham Trails and Greenways Master Plan, 2011*
- *Durham Comprehensive Bicycle Transportation Plan, 2006*
- *DurhamWalks! Pedestrian Plan, 2006*

- DCHC MPO 2040 Metropolitan Transportation Plan, 2013
- DCHC MPO Mobility Report Card, 2015

NCDOT Program Development Branch completed a feasibility study for the Northern Durham Parkway in 2013. However due to a lack of funding in the STIP, further development of the project has been stalled and the project is not currently in the STIP.

### Multimodal Considerations

The Northern Durham Parkway is expected to become a major north-south connector through Durham County. It is envisioned to help alleviate traffic demand on current routes that go directly through residential neighborhoods and have high current and projected traffic volumes, including:

- Duke Street (SR 1445) (and Gregson Street) (south of I-85): 10,000 vpd (2015 AADT), and 10,700 vpd (2040 volume)
- NC 55 (Alston Avenue/Avondale Drive) (from NC 147 to I-85): 13,000 to 20,000 vpd (2015 AADT), and 19,800 to 25,000 vpd (2040 volume)
- US 15-501 Business (Roxboro Street) (South of I-85): 15,000 (2015 AADT), 19,600 (2040 volume)

Many of these routes are greatly constrained by development and do not provide adequate bicycle and pedestrian facilities. As such, Northern Durham Parkway provides an excellent opportunity to divert traffic away from residential neighborhoods that have high vehicle traffic volumes and high pedestrian and bicycle activity, as well.

As a new facility, Northern Durham Parkway provides an opportunity to build a fully integrated bicycle and pedestrian facility through the County. And, it can be constructed based on a state-of-the-practice guideline for safety and accessibility. A separated bicycle facility should be provided along the Northern Durham Parkway. Sidewalks should be provided on both sides of the entire facility. Special attention should be given to intersections, especially the major intersections at NC 98, I-85, and US 501.

It is likely that public transportation services will use the Northern Durham Parkway for future routes. As eastern and northern Durham County continues to develop, public transportation demand should increase. Northern Durham Parkway should consider bus pullouts, stops, and shelters throughout the route.

The DurhamWalks! Pedestrian Plan recommends priority sidewalks on Freeman Road (SR 1846) and Geer Street (SR 1670). The plan also recommends the addition of sidewalks on all roads in Durham by policy.

The Durham Comprehensive Bicycle Transportation Plan recommends bicycle lanes and a greenway path along Northern Durham Parkway. Several greenways are proposed to cross the Northern Durham Parkway as described in the next paragraph. Bicycle lanes are recommended to be located on Leesville (SR 1906)/Page Road Extension (SR 2095). Wide shoulders are recommended on Sherron Road (SR 1811),

Mineral Springs Road, Freeman Road, Cheek Road, Ferrell Road (SR 1671), Geer Street, Glenn Road (SR 1636), Hamlin Road (SR 1634), and Old Oxford Road (SR 1004).

The Durham Trails and Greenways Master Plan recommends a Brier Creek Trail, Lick Creek Trail (two branches), Oak Grove Trail, Little Lick Creek Trail, Chunky Pipe Creek Trail, Panther Creek Rail Trail, North Ellerbee Creek Trail, Roxboro Rail Trail, Eno River Trail (part of the Mountains to Sea Trail), and Cabin Branch Trail (two branches) along the Northern Durham Parkway. Most streams and creeks in eastern/northern Durham County flow from west to east and the Northern Durham Parkway is proposed to mostly these streams perpendicularly in a north-south direction. Thus there are many potential greenway crossings parallel to these streams along the route. Special attention is needed to provide safe greenway crossings or overpasses/underpasses.

#### Public/Stakeholder Involvement

During the public comment period, the North Carolina Wildlife Resources Commission (NCWRC) commented on the impacts of new road projects on the fragmentation of wildlife habitats. The Northern Durham Parkway new location road project between US 70 and Flat Rive Drive will likely impact Natural Heritage Natural Areas and the NCWRC recommends avoiding building roads through these important natural areas and large areas of connected blocks of habitat. When a new road cannot be avoided, the NCWRC requires NCDOT to consider building wildlife crossing structures where land is permanently conserved on either side of the new road to reduce habitat fragmentation.

Additionally, the NCWRC commented on the impacts of new road projects on the degradation of aquatic wildlife in streams and wetlands. The NCWRC encourages the use of Low Impact Development (LID) techniques and other important measures to minimize negative impacts from roads and development along the proposed Northern Durham Parkway sections: US 70 to Flat River Drive; North Mineral Springs Road to Glenn School Road; and Glenn Road to Old Oxford Road. The NCWRC also provided their standard recommendations for bridges, if this project has the opportunity to build bridges or improve existing bridges.

See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.



## ii. HIGHWAY – Minimum Problem Statements

Note -- The statement listing starts with a proposed one-way pair study recommendation and continues with problem statements listed in order by facility type: Interstates, US highways, NC routes and then other roadways. Each section per facility type is in alphabetical order.

### **Proposed One-Way Pair Study**

The City of Durham and NCDOT are supportive of studying the following one-way pairs:

- Gregson Street (SR 1327)/ Vickers Avenue (SR 1361)/ Duke Street (SR 1445) from US 15-501 Business (University Drive) to I-85, and
- US 15-501 Business (Mangum Street/Roxboro Street) from US 15-501 Business (Lakewood Avenue) to East Markham Street.

A study considering local concerns about traffic volumes, speeding and safety on the listed one-way pairs would also include the adjoining roadway network. More study is needed to define the problems and develop viable solutions.

### **I-85 (I-40 to Durham County line), 2040 MTP#: 48, 48.1**

The 2015 Annual Average Daily Traffic (AADT) volume on segments of I-85 from I-40 to the Durham County line is currently between 43,000 vehicles per day (vpd) and 47,000 vpd. It is projected to be near Level of Service (LOS) D capacity by 2040 with expected volumes of 49,800 vehicles per day (vpd), 51,600 vpd, and 52,700 vpd from I-40 to South Churton Street (SR 1009), South Churton Street to NC 86, and NC 86 to US 70, respectively. LOS D capacity on the facility is 59,300 vpd. Improvements are recommended in order to relieve anticipated congestion and to improve mobility on the interstate facility. This section of I-85 is currently a four-lane divided freeway with three interchanges and corresponding ramps within an approximate 260-foot right-of-way. This section of I-85 is adjacent to the improved six-lane section of I-85 through Durham County.

The CTP project proposal is to improve I-85 to a six-lane freeway with a raised median to better accommodate the projected 2040 volume.

### **I-85 (US 70 to Granville County), 2040 MTP#: 49, Local ID: DURH0002-H**

I-85 from US 70 to the Durham and Granville county boundary is mostly a four-lane freeway but is six lanes in the section closest to US 70. In terms of regional trips, this interstate connects Durham to several small North Carolina cities and towns in the northeast, and is one of the few major roadways that connects Durham to the north and east because of the barrier that Falls Lake imposes. In terms of interstate trips, I-85 is the principal roadway connecting Atlanta (Georgia), Charlotte, the North Carolina

piedmont cities, Richmond (Virginia) and Washington (DC). The CTP recommends the addition of travel lanes on I-85 to create a six-lane freeway and upgraded interchanges and ramps.

The extension of the lane additions and upgrades should be considered across the Falls Lake bridge to the I-85/US 15 interchange because there is a significant number of commuter trips to large employers in Butner, the prisons and state hospital, and to Creedmoor residences. Another CTP project proposes a new four-lane divided roadway, the Northern Durham Parkway, which will intersect I-85 at the current Glenn School Road (SR 1675) interchange.

The 2015 AADT on I-85 ranges from 46,000 vpd to 55,000 vpd with a 60,000 vpd LOS D roadway capacity. The 2040 volumes are projected to range from 65,000 vpd to 70,000 vpd, which would exceed LOS D capacity. This increase will yield volume-to-capacity ratios that approach 1.2 and potentially result in travel delays, and possible crash frequency and severity increases on this important interstate corridor.

Currently, there are not any major interchanges on this segment (east of the US 70 interchange) and as a result there are not any extraordinary intersection delays or safety problems based on the 2014 DCHC MPO Mobility Report Card. Red Mill Road (SR 1632) and East Club Boulevard (SR 1671) are the highest volume intersecting roads and their 2015 AADT is 11,000 vpd and 9,900 vpd, respectively. And, Glenn School Road is the only interchange that has a significant retail presence. However, the volumes on the intersecting roads are expected to increase significantly given the expected residential and employment growth in this portion of the region. The CTP deficiency analysis shows that the Glenn School Road/I-85 and Red Mill Road/I-85 interchanges have functionally obsolete bridges, and the East Club Boulevard/I-85 interchange bridge is both structurally and functionally obsolete. The Red Mill Road/I-85 interchange meets at least one of the intersection crash warrants, and should be further investigated. Upgrading these interchanges and ramps should be considered. The 2040 projected volumes for Red Mill Road, East Club Boulevard and the Northern Durham Parkway (new facility) are projected to individually approach 17,000 vpd, further straining the obsolete design of these facilities.

The DCHC MPO, Capital Area MPO and NCDOT began the Triangle Tolling Study in late 2016 and is scheduled to be complete by 2018. I-85 will be part of the tolling study to ascertain whether or not managed lanes are feasible and logical for I-85.

Residential and employment development will continue to occur around the I-85 interchanges. Bicycle, pedestrian and transit trips should be considered in the interchange upgrades and the cross-section of the intersecting roadways.

The US Army Corps of Engineers and resource agencies should be included in the environmental analysis stage of project development very early. I-85 crosses Falls Lake and its related wetlands, Army Corps of Engineering property, and critical

watershed. The entire length of this study segment is within a protected or critical watershed.

During the public comment period, the North Carolina Wildlife Resources Commission (NCWRC) commented on the impacts of road widening projects on the fragmentation of wildlife habitats. The I-85 road widening project between Granville County and Red Mill Road will likely impact Natural Heritage Natural Areas and the NCWRC recommends avoiding the widening where it intersects these important natural areas. Additionally, when widening cannot be avoided, the NCWRC requires NCDOT to consider building wildlife crossing structures where land is permanently conserved on either side of the road widening to reduce habitat fragmentation. See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

#### **I-85/US 70 Connector (SR 1239), 2040 MTP#: 206**

Peak-period traffic flow on Efland-Cedar Grove Road (SR 1372) from US 70 to Forest Avenue (SR 1322), from Forest Avenue to Mount Willing Road (SR 1120), and from Mount Willing Road to I-85/I-40 currently exceeds the realistic design capacity and service flow rate on the subject two lane facilities. These facilities collectively serve as the only option for many commuters with origins in northern Orange County to access I-85/I-40 in the northbound/eastbound (respectively) direction to further access the region's major employment centers to the south and east. This particular route involves taking two (2), 90-degree turns and traversing an at-grade railroad crossing located approximately 30 feet from two (2) intersections on either side. The combination of facilities creates a major capacity contraction relative to the facilities that feed it traffic. Additionally, stacking at the intersections connecting the combination of facilities may create hazardous conditions for vehicles encountering the at-grade railroad crossing adjacent to the intersections.

The CTP proposal is to convert the existing I-85/US 70 Connector's interchange with US 70 approximately 1.25 miles east to a full-movement interchange with ramps providing access from all directions. Orange County would like other options considered in the environmental review process besides converting to a full movement interchange: converting the interchange to a full-movement T-shaped at-grade intersection and converting to an at-grade roundabout. Currently, ramps only provide access from northbound on the Connector to eastbound US 70 and from westbound US 70 to southbound on the Connector. There is no access from eastbound US 70 to the Connector or from the Connector to US 70 westbound. The project would allow an improved mobility alternative for commuters using Efland-Cedar Grove Road to access I-40/I-85 and avoidance of a major capacity contraction and at-grade railroad crossing safety concern using the previously described combination of local streets approximately 1.25 miles west. Any change to the interchange should consider the accommodation of bicycle travel along US 70.

**“Downtown Loop” (US 15-501 Business (North Roxboro Street), US 70 Business (East and West Morgan Street, South Great Jones Street, Ramseur Street,) and North Great Jones Street (SR 1380)) (US 15-501 Business to US 70 Business (West Main Street)), Local ID: DURH0073-H**

The Durham “Downtown Loop,” consisting of US 15-501 Business (North Roxboro Street), US 70 Business (East and West Morgan Street, South Great Jones Street, Ramseur Street) and North Great Jones Street (SR 1380) from US 15-501 Business to US 70 Business (West Main Street), is the main roadway circulator for downtown Durham. The City of Durham developed a feasibility study, *Downtown Durham Loop Two-Way Feasibility Study* (2010), for the Downtown Loop because of the local interest in converting the loop to two-way traffic to encourage economic redevelopment. Improved vehicular and pedestrian access throughout the downtown core is expected to help economic redevelopment. Along with converting the Downtown Loop to two-way operation, other traffic calming and capacity reducing measures could be incorporated, such as reducing posted speed, narrowing lanes and on-street parking, to help project characteristics of a Central Business District (CBD).

The study analyzed existing and future conditions with the current one-way movement of the Downtown Loop and with the proposed conversion of the Downtown Loop to two-way movement. The study shows that the one-way Downtown Loop signalized intersections currently operate at an adequate level-of-service and are projected to continue to do so through 2025 due to one-way operation minimizing conflict points between opposing movements and also minimizing delay at traffic signals. The study also shows that the Downtown Loop signalized intersections, if converted to two-way operation, would be adequate through 2025. The CTP recommendation is for the conversion of the Downtown Loop to two-way operation, in coordination with the feasibility study and future environmental analysis, to encourage economic redevelopment.

For more information regarding the *Downtown Durham Loop Two-Way Feasibility Study* (2010), see the study website (<https://durhamnc.gov/1087/Downtown-Loop-2-Way-Conversion-Feasibili>) or contact the City of Durham, Transportation Department.

**US 501 (North Duke Street) (I-85 to US 501 Business (North Roxboro Street)), Local ID: DURH0005-H**

US 501 (North Duke Street), from I-85 to US 501 Business (North Roxboro Street), is currently a five-lane roadway with sidewalks on both sides of the segment from I-85 to Murray Avenue. This US highway is the principal road between north Durham and I-85 and central Durham. US 501 merges with US 501 Business (North Roxboro Road) in northern Durham to continue north to the city of Roxboro (approximately 28 miles). The CTP recommends the creation of a four-lane, divided synchronized street cross-section with turn lanes at major intersections and commercial driveways. A six-lane divided

roadway would likely require impacts to many structures and could be more difficult for pedestrians and bicyclists to maneuver.

US 501 is expected to attract the majority of new trips as northern Durham County grows because there are no planned improvements on parallel routes. NC 157 (Guess Road) does not have any improvements and possible capacity improvements on North Roxboro Street (US 501 Business) might be limited to the addition of a narrow median because of the proximity of residential and commercial buildings to the current roadway. Guess Road has similar limitations. Thus, capacity improvements for this corridor are likely to be less costly and complex on North Duke Street given a relatively lower density of residential and commercial development.

The current volume on US 501 exceeds the existing LOS D capacity. The 2015 AADT ranges from 22,000 to 37,000 vehicles per day (vpd) on US 501 with a 26,800 vpd capacity (LOS D). There appears to be excess capacity on one parallel route. Guess Road (1.3 miles to the west) has 23,000 vpd on a roadway with a 44,000 vpd capacity. The current 28,000 vpd on North Roxboro Street (US 501 Business) (0.8 miles to the east), however, greatly exceeds 22,200 vpd capacity of that roadway. The 2040 volumes on US 501 (North Duke Street) are projected to range from 37,000 to 43,000 vpd. This will yield volume-to-capacity ratios from 1.4 to 1.7, an indication of heavy travel delays on this important corridor. The projected 2040 volume on North Roxboro Street results in a highly congested 1.9 volume-to-capacity ratio between Old Oxford Road (SR 1004) and East Club Boulevard (SR 1669), but Guess Road will continue to operate at a volume that is below capacity.

There are not any major roads that intersect US 501 along this segment and as a result there are not any extraordinary intersection delays or safety problems. The intersections on this corridor have a level-of-service of C or better (i.e., A or B) based on the 2014 DCHC MPO Mobility Report Card.

Residential development along this segment and the retail and office development on the northern section generate bicycle, pedestrian and transit trips. The CTP recommends bike lanes for the complete extent of this road segment and consideration of sheltered transit stops and bus pull-outs in the design. The State Transportation Improvement Program (TIP) project EB-5715 is a sidewalk on the east side of US 501 from Murray Avenue to North Roxboro Road that is planned for construction in 2017.

US 501 crosses Ellerbee Creek immediately south of the US 501/Stadium Drive intersection but there are not any associated wetlands or floodplains. The entire length of this study segment is within a protected watershed.

#### **US 501 (North Roxboro Road) (North Duke Street (US 501) to Sandlewood Drive (SR 1698), 2040 MTP#: 92**

US 501 (North Roxboro Road) needs additional capacity between the US 501 (North Duke Street)/ US 501 Business (North Roxboro Street) split and Sandlewood Drive (SR

1698) due to projected future congestion and to improve mobility. A 4-lane divided synchronized street is proposed for the current 5-lane section from North Duke Street to Milton Road (SR 1456). A median is recommended to be added from Milton Road to Sandelewood Drive. Providing a divided roadway in this segment will improve mobility and effectively creates a divided cross-section from I-85 to Person County in the north.

North Roxboro Road is the major thoroughfare that connects I-85 and central Durham with northern Durham County and the city of Roxboro. It is the most important commuter route in northern Durham County and currently experiences significant traffic delays at intersections such as Latta Road/Infinity Road. Retail, commercial, schools, libraries and other service locations for northern Durham residents are clustered along this thoroughfare. It is in the North Carolina truck network and in some cases twin and 53-foot trucks are permitted. Most of the area in the vicinity of this roadway segment is within the water and sewer service area of the city of Durham and expected to experience moderate residential growth in the future.

The current LOS D capacity is 36,600 vehicles per day (vpd), and 2015 daily traffic counts range from 31,000 vpd near the Eno River to 20,000 vpd near Sandelewood Drive. There has been no measureable increase in daily traffic counts from 2003 through 2015. However, 2040 traffic forecasts have daily volumes increasing to as high as 48,000 vpd just north of North Duke Street, which result in volumes that are 30% over capacity, i.e., volume-to-capacity ratio (v/c) of 1.3. Capacity increases on North Duke Street and the extension of North Alston Avenue to North Roxboro Street (US 501 Business)/Old Oxford Road (SR 1004) may attract more trips to this segment of North Roxboro Road.

It should be noted that the Omega Road intersection is a potentially hazardous intersection as indicated in the 2014 NC Highway Safety Improvement Program (HSIP) report, i.e., it exceeds the warrant for frontal impact crashes. In addition, the Eno River bridge is functionally obsolete, which means that it was not constructed to the standards that are currently used.

Although this project was not funded in the FY 2016-2025 State Transportation Improvement Program (TIP), it did receive a moderate score in the NCDOT prioritization process (SPOT P3.0). However, it was not submitted in the SPOT P4.0 process, but if submitted, it might score well enough in the next prioritization cycle to be funded in the TIP. A funded project, TIP# U-5516, is to provide intersection improvements to the Latta Road/Infinity Road intersection with US 501, which is just north of Omega Road.

During the public comment period, the North Carolina Wildlife Resources Commission (NCWRC) commented on the impacts of road widening projects on the fragmentation of wildlife habitats. The US 501 (North Roxboro Road) road widening project between US 501 (North Duke Street) and Infinity Road (SR 1639) will likely impact Natural Heritage Natural Areas and the NCWRC recommends avoiding the widening where it intersects these important natural areas. Additionally, when widening cannot be avoided, the NCWRC requires NCDOT to consider building wildlife crossing structures where land is



permanently conserved on either side of the road widening to reduce habitat fragmentation. See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

#### **US 70 (I-85/US 70 Connector to US 70 Alternate), Local ID: ORAN0101-H**

Traffic volume on segments of US 70 from the I-85/US 70 Connector to US 70 Alternate is projected to exceed LOS D capacities by 2040 with expected volumes of 17,200 vehicles per day (vpd), 19,700 vpd, and 22,200 vpd from the I-85/US 70 Connector to West Hill Avenue (SR 1161), West Hill Avenue to NC 86 (North Churton Street), and North Churton Street to US 70 Alternate, respectively. LOS D capacities on the facility range from 12,400 vpd to 12,700 vpd. Improvements are needed in order to relieve anticipated congestion and to maintain a LOS D on the facility. This section of US 70 is currently a two-lane, 24-foot undivided cross section with left and right-turn lanes at various intersections and a center two-way left turn lane at various locations along the facility.

The CTP project proposal is to provide a four-lane divided cross section for this facility with five-foot bike lanes and five-foot sidewalks separated from the travel lanes to better accommodate the projected traffic volume.

During the public comment period, the North Carolina Wildlife Resources Commission (NCWRC) commented on the impacts of road widening projects on the fragmentation of wildlife habitats. The US 70 road widening project, between I-85/US 70 Connector and West Hill Avenue North, and between US 70 Business/NC 86 (North Churton Street) and US 70 Alternate, will likely impact Natural Heritage Natural Areas and the NCWRC recommends avoiding the widening where it intersects these important natural areas. Additionally, when widening cannot be avoided, the NCWRC requires NCDOT to consider building wildlife crossing structures where land is permanently conserved on either side of the road widening to reduce habitat fragmentation. See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

#### **NC 54 (Old Fayetteville Road (SR 1107/SR 1937) to Bethel Hickory Grove Church Road (SR 1104)), STIP#: R-5821**

NC 54 from Old Fayetteville Road (SR 1937 and SR 1107) to Bethel Hickory Grove Church Road (SR 1104) starts as a four-lane divided urban boulevard and quickly turns into a rural, two-lane highway as it heads west out of town. This road primarily serves commuters from western Orange County and Alamance County. Traffic volumes on NC 54 from Bethel Hickory Grove Church Road to Old Fayetteville Road currently are near or exceed Level of Service (LOS) D capacity of 12,400 vehicles per day (vpd) with existing volumes of 12,000 to 15,000 vpd. Volume on the facility is projected to increase to 24,900 vpd near Old Fayetteville Road by 2040 in the CTP. However, NCDOT counts from the last decade show no increase in AADT just west of the

intersection of NC 54 and Old Fayetteville Road, so a corridor study is desired along this corridor to better project traffic growth and recommend improvements.

Improvements are needed in order to relieve existing and anticipated congestion and to maintain a minimum LOS D on the existing facility. This section of NC 54 is currently a two-lane, 24-foot undivided cross section with limited-storage right- and left-turn lanes at its intersection with Neville Road (SR 1945). The CTP project proposal is to improve the capacity of this roadway, but further study is needed before any definitive cross-section or specific improvements are identified. The corridor runs through two watershed protection areas and the roadway is popular among bicyclists.

This project is in the current STIP FY 2016-2025 for planning and environmental study only and is described as the construction of operational improvements including bicycle/pedestrian accommodations from Orange Grove Road (SR 1006) to Old Fayetteville Road (SR 1107/SR 1937), and improvement of the Orange Grove Road intersection. In the draft STIP FY 2017-2027, the project is scheduled for construction in FY 2023. An upcoming corridor study is anticipated to analyze traffic growth of the corridor and environmental constraints, and will recommend any needed improvements. The study is to be developed by the DCHC MPO in coordination with the local governments and NCDOT.

It should be noted that the 2013 Orange County Comprehensive Transportation Plan (CTP) covering the portion of the Triangle Area Rural Planning Organization (TARPO) planning area within Orange County recommends a four-lane divided cross section for this facility from Orange Grove Road (SR 1006) to Neville Road (SR 1945).

**NC 751 (NC 54 to Martha's Chapel Road (SR 1752)), 2040 MTP#: 77.2, 77.3, Local ID: CHAT0102-H**

NC 751 runs from US 64 in Chatham County to US 70 in Durham County. This particular section of NC 751 is from Martha's Chapel Road (SR 1752) in rural Chatham County, which is next to the DCHC MPO border, to NC 54 in the city of Durham. Most of this section is a two-lane road with turn lanes at cross streets and major driveways. The section adjacent to I-40 and Renaissance Parkway, which runs from Southpoint Auto Park Boulevard to Renaissance Parkway, has four to five lanes to accommodate the relatively high traffic volume with turn lanes for I-40 and Renaissance Parkway. The roadway drains to nearby Jordan Lake and there are over twenty fresh water ponds in the corridor.

Improvements are recommended on NC 751 to accommodate projected traffic in order to maintain a Level of Service D and provide mobility between I-40 and the growing retail, residential and employment development in southern Durham County and eastern Chatham County. Improvements will likely vary along the corridor and could include adding turn lanes at intersections, widening the current lanes and shoulders at a minimum, or adding lanes.

It should be noted that a feasibility study (FS-1008B) was started in 2014 for this section of NC 751 that collected field data and produced traffic forecasts. Although the feasibility study was not completed, it can provide details on capacity needs for this roadway.

This problem statement presents the roadway in four different sections below.

The southern section, from Martha's Chapel Road (SR 1752) to O'Kelly Chapel Road (SR 1731), is a two-lane major collector with turn lanes at some intersections. It mostly has a 60-foot right-of-way but some subsections have 90-foot and even 200-foot right-of-way sections. The area is rural but has occasional churches and small scale commercial development such as nurseries. The 2015 AADT is 7,600 vehicles per day (vpd) and this volume has been about the same since 2003. The capacity is 12,400 vpd at LOS D. Although the current volume is well within capacity, the high peak volume split (75%) and the narrow rural roadway (24 feet overall width) combine to create safety concerns and congestion that is not common on rural highways. The 2040 volume is expected to increase to 14,000, or a 1.1 V/C ratio, which could increase the safety concerns and congestion problems. It is recommended that this southern section be widened to a four-lane divided boulevard facility.

The middle section, from O'Kelly Chapel Road to Renaissance Parkway, is a two-lane major thoroughfare with turn lanes at intersections. It mostly has a 60-foot right-of-way but some subsections have up to 90-foot, and the overall road width is 19 feet to 24 feet. It should be noted that this section connects to two east-west roads, Stagecoach Road (SR 1107) and O'Kelly Chapel Road, that provide travelers with a southern alternative to congested I-40 and NC 54. The area is a mixture of residential and retail/commercial, and there is ample undeveloped land that is developing at suburban densities. Recent development includes large single-family or multi-family development.

The 2015 AADT ranges from 13,000 vpd at the southern end to 14,000 vpd at the northern end and exceed the existing LOS D capacity of 12,700 vpd. The high peak volume split (65% to 75%), the narrow overall roadway, and multiple driveways and intersections combined can contribute to safety concerns and to congestion as well. The 2040 volume is expected to be 18,000 vpd to 21,000 vpd, resulting in a 1.4 to 1.8 V/C ratio that could increase delay.

The section adjacent to I-40, from Renaissance Parkway to Southpoint Autopark Boulevard, is a four -lane major thoroughfare south of I-40 and a four-lane divided boulevard north of I-40. It has many right turn slip lanes and double left turn lanes at the I-40 and Renaissance Parkway intersections to accommodate traffic to nearby South Pointe Mall and the adjacent big box and chain retail stores, and growing office developments. Local planners do not anticipate further widening of this roadway section because the roadway in some locations are close to buildings and the area to the west is mostly unbuildable given its proximity to Third Fork Creek and New Hope Creek.

The 2015 AADT ranges from 16,000 vpd north of I-40 to 14,000 vpd south of I-40. The capacity is as high as 36,600 vpd. The 2040 volume is projected to be 30,600 vpd and 18,800 vpd north and south of I-40, respectively. Additional lanes are not recommended for this section in the long-range plan because the 2040 projected volumes do not exceed existing capacities.

The northern section, from Southpoint Autopark Boulevard to NC 54, is mostly a two-lane major thoroughfare with turn and accessory lanes at the driveways for apartment complexes. It has a 60-foot right-of-way and the overall road width is 24 feet. The area is a mixture of multi-family residential and retail such as car dealerships, which has a relatively low trip volume among retail establishments. The road widens to a five-lane facility with a 110-foot right-of-way for about 800 feet south of NC 54 at the Hope Valley Commons shopping center. This roadway section provides an important connection between south Durham and I-40.

The 2015 AADT is 16,000 vpd and has increased from 12,000 vpd in 2003. The capacity is 12,700 vpd at LOS D for the two-lane section and 27,600 for the five-lane section. The DCHC MPO's Mobility Report Card did not discern any extraordinary delays in this alignment. The lack of congestion is probably because there are very few driveways and those that exist have turn and accessory lanes to help traffic flow. The 2040 volume is expected to be 31,000 vpd, resulting in a 2.4 V/C ratio in the two-lane section and considerable delays and potential safety problems. The NC 54/NC 751 intersection had an LOS C and LOS D rating in 2013 (see DCHC MPO Mobility Report Card) and this service level is expected to continue to deteriorate. It is recommended that this northern section be widened to a four-lane divided boulevard facility where it is two lanes and a median be added where it is a five lane section.

The future residential and commercial development around the section of NC 751 that is north of Fayetteville Road (SR 1118) could generate significant bicycle, pedestrian, and transit traffic. There are currently just a few sections with sidewalks and some bike lanes between Stagecoach Road (SR 1107) and Fayetteville Road. There is no transit service south of Renaissance Parkway. The CTP recommends sidewalks and bike lanes along this section of NC 751, and as well as a multi-use path called Eagle Spur Greenway to connect to the popular American Tobacco Trail.

#### **NC 751 (Hope Valley Road) (Woodcroft Parkway to South Roxboro Street), 2040 MTP#: 77.1**

NC 751 (Hope Valley Road), from NC 54 to South Roxboro Street, is currently a two-lane undivided major thoroughfare north of Woodcroft Parkway and a four to five-lane major thoroughfare south of Woodcroft Parkway. There are turn lanes at cross streets and major driveways, e.g., apartment complexes. Improvements to a four-lane divided boulevard are recommended between Woodcroft Parkway and South Roxboro Street to accommodate projected traffic in order to maintain a LOS D and to provide mobility between southwest Durham, I-40 and central Durham. The CTP recommends an

extension of Woodcroft Parkway from NC 751 to Garrett Road (SR 1116) that is expected to attract trips away from the section of NC 751 between Woodcroft Parkway and Garrett Road.

This section of NC 751 currently has a 60-foot right-of-way, sidewalks covering many locations along the route, and no bicycle lanes. The 2015 AADT is 16,000 vpd to 18,000 vpd north and south, respectively, of Woodcroft Parkway. The capacity north of Woodcroft Parkway is 11,600 vpd and thus already experiences LOS E congestion. Although the capacity south of Woodcroft Parkway, 31,600 vpd, is higher than the current 18,000 vpd, there are many traffic signals, driveways and lane changing that cause delays in this section. The 2040 volume is expected to increase to 22,800 vpd and 25,700 vpd in the north and south sections, respectively, and increase the congestion and delays.

Intersection improvements should be considered, as well. The NC 751/Garrett Road intersection exceeds the NCDOT standard safety warrant for frontal impact crashes (as indicated in the 2014 NC Highway Safety Improvement Program (HSIP) report), and has an LOS D rating in the 2014 Mobility Report Card.

In this vicinity, there are many residential developments, shops, and restaurants, and a high school and two large grocery stores. There are also plans for more neighborhoods to be developed around this area. With the current and future developments around NC 751, a significant percent increase in traffic congestion on this stretch of NC 751 is expected, especially during the PM peak time frame when both the nearby high school and working commuters are on the road at the same. Furthermore, the intersection of NC 751 and South Roxboro Street needs to be improved, possibly by making South Roxboro Street to NC 751 (south) a through movement and creating NC 751 (north) as the single leg of a T-intersection into South Roxboro Street. South Roxboro Street is a four-lane divided arterial that is planned to be extended in the future to provide a direct route to downtown Durham.

The current residential and commercial development around NC 751, in addition to the future residential development, could generate increased bicycle, pedestrian, and transit traffic. The current pedestrian facilities are discontinuous and inadequate for existing pedestrian traffic. There are no bicycle facilities, and many of the bus stops do not have amenities nor include bus pull-outs resulting in blocked traffic. The need for pedestrian, bicycle, and transit facilities increases with additional development along NC 751. In the Durham Comprehensive Bicycle Transportation Plan, bicycle lanes have been proposed along NC 751. The Third Fork Creek Trail intersects with this section of NC 751 and additional bicycle and pedestrian facilities are needed to connect nearby destinations to the trail. The DurhamWalks! Pedestrian Plan recommends sidewalks on both sides of NC 751.

During the public comment period, the NCWRC commented on the impacts of road widening projects on the degradation of aquatic wildlife in streams and wetlands. The NCWRC encourages the use of Low Impact Development (LID) techniques and other

important measures to minimize negative impacts from roads and development along the NC 751 section of South Roxboro Street to Woodcroft Parkway. The NCWRC also provided their standard recommendations for bridges, if this project has the opportunity to build bridges or improve existing bridges.

See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

#### **NC 86 South (Pittsboro Street) (West Cameron Avenue to NC 86 North (South Columbia Street)), Local ID: ORAN0103-H**

Pittsboro Street (NC 86 South) runs from West Cameron Avenue to NC 86 North (South Columbia Street) and is a main thoroughfare down the West side of UNC's campus. The road segment is the continuation of NC 86 heading to the south and corresponds with South Columbia Street (NC 86) heading to the north. The 2015 AADT is 9,400 vpd; by 2040, the AADT is expected to be 11,100 vpd compared to a LOS D capacity of 12,700 vpd for the existing right-of-way. This is indicative of a competitive segment for vehicular travel in 2040 if all things stayed the same; however, the planned Bus Rapid Transit (BRT) route could make a change to this road segment necessary. In order to maintain the facility's mobility with proposed additional buses having designated right-of-way, capacity expansion is recommended on this segment.

#### **NC 86 (Old NC 10 (SR 1710) to US 70 Business), Local ID: ORAN0104-H**

NC 86, from Old NC 10 (SR 1710) to the US 70 Business route is currently a two-lane, undivided arterial that is approaching capacity and is recommended to be expanded to a four lane divided boulevard facility. There are two potential project sections: US 70 Business to I-85 and I-85 to NC 10. Improvements are needed to accommodate both current and projected traffic in order to maintain a LOS D. The current LOS D roadway capacity, 12,400 vehicles per day (vpd), struggles to handle the 11,000 vpd (2015 AADT). The 2040 volume forecast of 18,500 vpd and 32,700 vpd on NC 86 north and south of I-85, respectively, could create very high levels of congestion and delay.

This section of NC 86 currently has sidewalks at select locations, but no bicycle lanes. There are many neighborhoods, restaurants, and shops along this stretch of NC 86. This section of NC 86 serves as a major commuting route between Hillsborough and Chapel Hill, and provides access to an existing park-and-ride along Waterstone Drive and would provide access to future park-and-ride lots in the Hillsborough area. A future passenger rail station is also proposed north of this segment on the NC 86 corridor at South Churton Street (SR 1009) and Orange Grove Road Extension. Additionally, the Old NC 10 corridor is heavily used by both commuting and recreational bikers moving between Durham and Hillsborough. This route appears on both the Hillsborough Connectivity Plan and the Orange County bicycle plan.



The current residential and commercial development around NC 86, in addition to the planned office and residential development, could likely generate increased bicycle, pedestrian, and transit traffic. The current pedestrian facilities are discontinuous and inadequate for existing pedestrian traffic. There are no bicycle facilities, and many of the bus stops do not have amenities nor include bus pull-outs resulting in blocked traffic. The need for pedestrian, bicycle, and transit facilities will increase with additional development along NC 86 and with the construction of a passenger rail station.

**NC 86 (US 70 Bypass (Cornelius Street) to north of the NC 86/NC 57 split), Local ID: ORAN0105-H**

NC 86, from US 70 Bypass (Cornelius Street) to north of the NC 86/NC 57 split, is currently a two-lane undivided regional facility that is expected to be over capacity by 2040. NC 86 overlaps with NC 57 on this section of roadway. Improvements are recommended to accommodate projected traffic in order to maintain a LOS D and to improve pedestrian safety.

This section of NC 86 currently has a 60-foot right-of-way, no sidewalks, and no bicycle lanes. The 2015 AADT is 16,000 vehicles per day (vpd); by 2040, the volume is expected to be over 20,000 vpd compared to an LOS D capacity of 12,900 vpd for the existing cross section. There are many neighborhoods, restaurants, shops, and a couple schools nearby this stretch of NC 86. This route provides an important connection to Roxboro and several towns in the southern Virginia region, which contribute to the high traffic volume on this route. Any further suburbanization of this northern Hillsborough area could also account for a significant percent increase in traffic on NC 86. Portions of NC 86 north of NC 57 and along US 70 Business/NC 86 (South Churton Street) are a part of a 92 mile North Carolina Scenic Byway called Colonial Heritage Byway.

Improvements at the NC 86/NC 57 intersection are identified as a need in the Safe Routes to School Action Plan for Stanford Middle School. While the intersection was reconfigured more than a decade ago to install a traffic signal, the intersection is still less than desirable with closely intersecting local streets and a right turn short cut that remains open. Additionally, the acute intersection angle with US 70 Bypass makes certain maneuvers difficult for the significant heavy truck traffic routed through this intersection by the town's designated truck route which prohibits non-local trucks continuing south on NC 86.

The current residential and commercial development around NC 86, in addition to any planned development, will likely generate increased bicycle, pedestrian, and transit traffic. The current pedestrian facilities are discontinuous and inadequate for existing pedestrian traffic. There are no bicycle facilities. There is an existing Orange Public Transportation (OPT) bus service, the Orange-Chapel Hill Midday Connector, which traverses NC 86 to Ceder Grove, north of Hillsborough. There is also a GoTriangle route on NC 86 and the US 70 bypass directly south of this section. The need for

pedestrian, bicycle, and transit facilities increases with additional development along NC 86 and more through traffic from northern Orange County.

**NC 98 (Holloway Street/Wake Forest Highway) (US 70 Business (North Miami Boulevard) to Wake County Line), 2040 MTP#: 81.1, Local ID: DURH0014-H**

NC 98, from US 70 Business to the Wake County boundary, is currently a four-lane undivided road from US 70 Business to Nichols Farm Drive and a two-lane section east of the intersection with Nichols Farm Drive. The short section from US 70 to Junction Road (SR 1838) is already five lanes and is planned to receive capacity improvements as part of the East End Connector construction that is already in progress. There are two possible project sections: US 70 Business to Nichols Farm Drive; and Nichols Farms Drive to the Wake County Line. There are turn lanes at many cross streets, center left turn lanes at some retail developments, and turn and acceleration lanes at driveways to major subdivisions. Sidewalks and bike lanes are rare and mostly concentrated in the segment near US 70. NC 98 is the principal road between Durham and northern Wake County (including Wake Forest) because Falls Lake limits the number of roadways that can make this east-west connection. It is the only major east-west roadway between I-85 and I-540, which is ten miles or more, and these rural areas are likely to experience substantial residential growth over the next few decades. The CTP recommends the addition of a narrow median in the current four-lane sections and the addition of two travel lanes in the current two-lane section to create a four-lane divided boulevard on NC 98 from US 70 Business to Wake County.

The 2015 AADT for the four-lane segment of NC 98 ranges from 12,000 vpd to 28,000 vpd, and the segment just east of Junction Road is approaching the four-lane undivided 24,000 vpd LOS D capacity. The 2040 volume, however, is projected to range from 24,000 vpd to 39,000 vpd. This will create volume-to-capacity ratios from 1.0 to 1.5, an indication of travel delays on a key corridor. The 2015 AADT for the two-lane segment of NC 98 east of Nichols Farm Drive is 12,000 vpd, which given the 12,400 vpd LOS D capacity, is creating some delays and safety concerns (e.g., passing vehicles on a two-lane road). The 2040 volume is expected to increase to 18,000 vpd, which could result in more delays and crashes if additional capacity is not added. In the four lane sections near US 70, the intersections with Hardee Street, Adams Street and Lynn Road Extension (SR 1919) exceed the NCDOT standard safety warrant for frontal impact crashes (as indicated in the 2014 NC Highway Safety Improvement Program (HSIP) report).

Although long-range plans provide for additional lanes on I-85 and I-540, this additional capacity is likely to have little effect in drawing traffic away from NC 98 given the ten plus mile distance between those roadways and the expected residential growth.

There are other transportation issues on NC 98 besides congestion. The US 70/NC 98 bridge is considered functionally obsolete. The East End Connector project, which started construction in 2015, plans to make needed improvements to this bridge. Intersection delay is currently not a problem. The intersections on the NC 98 corridor

have a level-of-service of C or better (i.e., A or B) based on the 2014 DCHC MPO Mobility Report Card.

The current and future residential development in the NC 98 area and the expected retail development on NC 98 will likely generate increased bicycle, pedestrian, and transit traffic. Sidewalks and bike lanes are rare, and bus stops do not have any amenities. The CTP recommends a bike lane for the complete extension of the NC 98 corridor and sidewalks to fill any of the existing gaps. In addition, NC 98 roadway improvements need to consider safe crossing treatments for bicycle and pedestrian traffic that cross NC 98.

The US Army Corps of Engineers and resource agencies should be included early in the environmental analysis stage of the project development. Potential environmental impacts will be a concern and likely have an influence on the design and viability of adding lanes to this roadway. NC 98 crosses over Lick Creek and Little Lick Creek, and the Lick Creek section contains wetlands, Army Corps of Engineers property and critical watershed. The entire length of this project segment is within either a protected or critical watershed.

During the public comment period, the North Carolina Wildlife Resources Commission (NCWRC) commented on the impacts of road widening projects on the fragmentation of wildlife habitats. The NC 98 road widening project between Wake County and Nichols Farm Road will likely impact Natural Heritage Natural Areas and the NCWRC recommends avoiding the widening where it intersects these important natural areas. Additionally, when widening cannot be avoided, the NCWRC requires NCDOT to consider building wildlife crossing structures where land is permanently conserved on either side of the road widening to reduce habitat fragmentation. See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

#### **Barbee Chapel Road (SR 1110) (NC 54 to Farrington Mill Road (SR 1109)), Local ID: DURH0019-H**

Barbee Chapel Road (SR 1110), from NC 54 to Farrington Mill Road (SR 1109), is currently a two-lane undivided suburban road that does not provide adequate pedestrian and on-road bicycle facilities. Improvements are needed to accommodate pedestrian and bicycle traffic and improve connectivity between Chapel Hill, Chatham County, Durham, and Research Triangle Park.

This section of Barbee Chapel Road currently has a 60-foot right-of-way, sidewalks at a few locations, and no bicycle lanes. The 2015 AADT is 13,000 vehicles per day (vpd); by 2040, the AADT is expected to be 19,100 vpd compared to a LOS D capacity of 11,600 vpd for the existing right-of-way. There are mostly residential units along this stretch of Barbee Chapel Road/Farrington Road and plans to build more residential units nearby as well. The traffic around Barbee Chapel Road will continue to increase with the increased development around this area. The CTP proposes to improve this

facility to a four lane divided boulevard facility to accommodate projected 2040 vehicular traffic, and anticipated increased bicycle and pedestrian traffic.

This route also serves as a connection to developing Chatham County neighborhoods and as a relief route for nearby NC 54 and I-40. This route is part of the Triangle Commuter Bike Initiative.

The current and planned residential development around Barbee Chapel Road could generate increased bicycle, pedestrian, and transit traffic. The current pedestrian facilities are discontinuous and inadequate for existing pedestrian traffic. There are no bicycle facilities, and many of the bus stops do not have amenities nor include bus pull-outs resulting in blocked traffic. The need for pedestrian, bicycle, and transit facilities could increase with additional development around Barbee Chapel Road. Bicycle lanes have been proposed along this route in the Durham Comprehensive Bicycle Transportation Plan. The DurhamWalks! Pedestrian Plan recommends sidewalks on both sides of this route.

**Carver Street Extension (Danube Lane (SR 1648) to Hamlin Road (SR 1634)), City of Durham CIP#: ST-257, 2040 MTP#: 9**

East Carver Street is proposed to be extended from Danube Lane (SR 1648) to Hamlin Road (SR 1634) to improve east-west connectivity in northern Durham County. This area has recently experienced significant residential growth and East Carver Street provides access to the retail, medical and commercial facilities clustered along US 501 Business (North Roxboro Street) and Ben Franklin Boulevard. This two-lane divided roadway extension with sidewalks and bicycle lanes is currently under construction. The only other east-west connectors in this area, Hebron Road (SR 1656) and Old Oxford Road (SR 1004), are about 1 ½ miles apart along US 501 Business (North Roxboro Street).

This project is funded in the city of Durham Capital Improvement Program (CIP), the funding source being local traffic impact fees, and the City's Public Works Department is also managing the project. Construction began in fall of 2016 and it is scheduled to be complete in spring of 2019.

During the public comment period, the North Carolina Wildlife Resources Commission (NCWRC) commented on the impacts of new road projects on the fragmentation of wildlife habitats. The Carver Street Extension new location road project between Old Oxford Road and Danube Lane will likely impact Natural Heritage Natural Areas and the NCWRC recommends avoiding building roads through these important natural areas and large areas of connected blocks of habitat. When a new road cannot be avoided, the NCWRC requires NCDOT to consider building wildlife crossing structures where land is permanently conserved on either side of the new road to reduce habitat fragmentation.

Additionally, the NCWRC commented on the impacts of new road projects on the degradation of aquatic wildlife in streams and wetlands. The NCWRC encourages the use of Low Impact Development (LID) techniques and other important measures to minimize negative impacts from roads and development along the proposed Carver Street Extension section of Old Oxford Road to Danube Lane. The NCWRC also provided their standard recommendations for bridges, if this project has the opportunity to build bridges or improve existing bridges.

See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

### **South Churton Street (SR 1009) (Eno River Bridge to I-40), TIP No. U-5845**

Current 2015 AADT volumes on South Churton Street (SR 1009) are 13,000 vpd north of I-40 and 16,000 vpd from I-85 to US 70 Business/NC 86. Traffic volumes on all segments of South Churton Street (SR 1009) from I-40 to the Eno River are currently over LOS D capacity of 11,600 vehicles per day (vpd) in the two-lane sections and 12,800 vpd in the three-lane sections; the section north of I-85 is projected to exceed 21,000 vpd by 2040. Improvements are recommended in order to relieve anticipated congestion and to maintain a minimum LOS D on the existing facility. South Churton Street currently has a two-lane section from I-40 to Oakdale Drive (SR 1133) with turn lanes at some intersections. The cross-section converts to a three-lane profile from Oakdale Drive to north of Orange Grove Road (SR 1006) and converts back to a two-lane section before crossing bridge #240 over the Southern Railroad.

This corridor provides significant access to neighborhoods and shopping areas throughout Hillsborough as well as connecting all portions of town to both I-85 and I-40. With only two bridges over the Eno River in town, this route is the primary north-south travel conduit. Significant development and redevelopment along this corridor is also projected in the town's land use plan. The anticipated development is planned to be compact in nature increasing the need for bicycle and pedestrian improvements in the corridor to more seamlessly connect the entire community and maximize the options to use alternate modes of transportation. The Collins Ridge development Phase 1 off of Orange Grove Street is approximately 100 acres including 674 planned dwellings, a community center and a walking trail. This development is expected to add significant traffic to the adjacent roadways of South Churton Street and Orange Grove Road. The town also plans to have a passenger rail station near the intersection of Orange Grove Road and South Churton Street, which is planned to also serve as a transit hub for the existing services in the community.

The CTP project proposal is to provide a four-lane divided cross section with a raised median for this facility to better accommodate the projected 2040 volume. Bike lanes and sidewalks are also recommended along the project length. This project is scheduled in the current STIP FY 2016-2025 for construction in FY 2023. It is described as the widening of South Churton Street (SR 1009) from I-40 to the Eno River in Hillsborough to multi-lanes.

US 70 Business/NC 86 (Churton Street) north of the Eno River through downtown Hillsborough is currently over existing LOS D capacity with 2015 AADT ranging from 12,000 vpd south of US 70 Bypass to 20,000 vpd north of the Eno River bridge. Projected traffic volumes through downtown Hillsborough range from 24,500 vpd north of the Eno River bridge to 16,200 vpd south of the US 70 Bypass; the projected traffic growth will increase existing traffic congestion over time. Widening US 70 Business/NC 86 (Churton Street) is not an option for alleviating traffic since it would significantly impact the downtown character, the businesses and residential properties. It is also a historic district, so impacts should be avoided. There are turn lanes at most intersections and several areas with a center left turn lane that helps with mobility.

Developing alternative routes around downtown US 70 Business/NC 86 (Churton Street) have been discussed in the past, but there is no local government consensus. It is believed, and the Triangle Regional Model (TRMv5) confirms, that there is not much through traffic on Churton Street, so not enough traffic could be diverted on a bypass around Churton Street to significantly alleviate congestion. There are natural environmental concerns and historic areas in and around Hillsborough that would need to be considered if a bypass were developed.

There are several existing major alternate routes around Hillsborough to head north up NC 86 and NC 57, such as US 70 Bypass (or Alternate) from Durham along I-85 and the I-85/US 70 Connector from I-40/85 to US 70 Bypass. There are other existing minor roadways that connect up to US 70 Bypass that can be traveled east and west of downtown to avoid the Churton Street congestion as well.

**Eno Mountain Road (SR 1148) & Mayo Street (SR 1192) at Orange Grove Road (SR 1006) Intersection, TIP No. U-3436, 2040 MTP #: 89.3**

The Eno Mountain Road (SR 1148) and Mayo Street (SR 1192) intersections with Orange Grove Road (SR 1006) are suburban intersections that need improved safety and traffic flow. Improvements are also needed for adequate pedestrian, on-road bicycle and bus accommodations.

The Eno Mountain Road and Mayo Street intersections with Orange Grove Road are two 3-leg intersections that are approximately 300 feet apart. Orange Grove Road is the east-west street, with Eno Mountain Road intersecting it from the north and Mayo Street intersecting it from the south. These three roads combined make an alternative route to get from South Hillsborough to downtown Hillsborough without using congested South Churton Street (SR 1148).

All three roads are two-lane undivided, have 60-foot right-of-ways, no sidewalks, and no bicycle lanes. The 2015 AADT on Orange Grove Road is 8,100 vehicles per day (vpd); by 2040, the AADT is expected to be 9,100 vpd with 11,100 vpd and 8,700 vpd on the Eno Mountain Road and Mayo Street legs, respectively.



This CTP project recommends Eno Mountain Road to be realigned to the intersection of Mayo Street and Orange Grove Road. This project is not currently in the STIP. Orange Grove Road is also scheduled, TIP# U-5848, to be extended east to US 70 Business from South Churton Street, creating a critical east-west connection south of the river. This realignment could influence the future traffic through this intersection.

Nearby residential and commercial development, in addition to any future development, could significantly increase traffic along these routes. There are existing townhomes in the northwest quadrant of Eno Mountain Road and Orange Grove Road. The current and planned development around Eno Mountain Road, Mayo Street, and Orange Grove Road could generate increased bicycle, pedestrian, and transit traffic, especially the planned Collins Ridge development with one of its access points across Churton Street from Orange Grove Road at the end of Orange Grove Street. The Collins Ridge development Phase 1 is approximately 100 acres including 674 planned dwellings, a community center and a walking trail. This development could add significant traffic to the adjacent roadways of South Churton Street and Orange Grove Road.

The current pedestrian facilities are discontinuous and inadequate for existing pedestrian traffic. There are no bicycle facilities, and many of the bus stops do not have amenities nor include bus pull-outs resulting in blocked traffic. The need for pedestrian, bicycle, and transit facilities will continue to increase with additional development around these three roads.

**Erwin Road (SR 1734/1306) (US 15-501 (Fordham Boulevard/Durham-Chapel Hill Boulevard) to NC 751), Local ID: ORAN0107-H, DURH0036-H**

Erwin Road (SR 1734/1306), between US 15-501 (Fordham Boulevard/Durham-Chapel Hill Boulevard) and NC 751, is a two-lane minor thoroughfare road that does not provide adequate pedestrian and on-road bicycle facilities. The CTP recommends improving Erwin Road to a good two to three lane road with from US 15-501 to Whitfield Road and a four lane divided roadway north of Whitfield with bicycle and pedestrian accommodations on both sections to relieve projected congestion. Improvements are also recommended to accommodate pedestrian and bicycle traffic and improve connectivity between Durham and Chapel Hill.

Erwin Road currently has a 60-foot right-of-way, sidewalks at certain locations, a brief stretch of wide shoulders from Weaver Dairy Road (SR 1733) to I-40, and no bicycle lanes. The 2015 AADT ranges from 7,200 vpd to 12,000 vpd; by 2040, the AADT is expected to be 14,200 vpd to 23,400 compared to a LOS D capacity of 11,600 vpd to 12,900 vpd for the existing right-of-way. There are many residential units along Erwin Road with some schools, churches, and shops along it as well. Erwin runs parallel to US 15-501 and offers a direct connection between Durham and Chapel Hill. It is a convenient route for access to Duke University. In addition to inadequate shoulder width, there are several intersections with inadequate sight distance. Improvements are needed to better the roadway conditions for motorists, bicyclists, and pedestrians.

The development around Erwin Road will likely generate increased bicycle, pedestrian, and transit traffic. The current pedestrian facilities are discontinuous and inadequate for existing pedestrian traffic. There are no bicycle facilities, and many of the bus stops do not have amenities nor include bus pullouts resulting in blocked traffic. The need for pedestrian, bicycle, and transit facilities will continue to increase with additional development around Erwin Road. Bicycle lanes have been proposed along this route in the Durham Comprehensive Bicycle Transportation Plan. The DurhamWalks! Pedestrian Plan recommends sidewalks on both sides of Erwin Road within the Durham city limits. In Chapel Hill's inactive *Bike and Pedestrian Action Plan*, sidewalks have been proposed from US 15-501 to I-40, crossing improvements have been proposed at US 15-501, Sage Road, and just north of Chippoaks Drive, and a greenway has been proposed from just north of Chippoaks Drive to I-40. Chapel Hill is currently developing a Mobility and Connectivity Plan to replace the inactive plan. Duke Forest is along the northern section of Erwin Road near NC 751. Hollow Rock Nature Park is along Erwin Road at Pickett Road (SR 1734/1303).

During the public comment period, the North Carolina Wildlife Resources Commission (NCWRC) commented on the impacts of road widening projects on the fragmentation of wildlife habitats. The Erwin Road widening project between Sage Road and Whitfield Road will likely impact Natural Heritage Natural Areas and the NCWRC recommends avoiding the widening where it intersects these important natural areas. Additionally, when widening cannot be avoided, the NCWRC requires NCDOT to consider building wildlife crossing structures where land is permanently conserved on either side of the road widening to reduce habitat fragmentation.

Additionally, the NCWRC commented on the impacts of road widening projects on the degradation of aquatic wildlife in streams and wetlands. The NCWRC encourages the use of Low Impact Development (LID) techniques and other important measures to minimize negative impacts from roads and development along the Erwin Road section of Sage Road to Whitfield Road. The NCWRC also provided their standard recommendations for bridges, if this project has the opportunity to build bridges or improve existing bridges.

See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

#### **Estes Drive Extension (SR 1780) (North Greensboro Street (SR 1772) to Seawell School Road (SR 1843)), 2040 MTP#: 17.1**

Estes Drive Extension (SR 1780) from North Greensboro Street (SR 1772) to Seawell School Road (SR 1843) is one of the only routes on the western end of Town to travel from Carrboro to Chapel Hill. It is a narrow two-lane road at the North Greensboro end and gradually widens as it crosses the railroad tracks and approaches Seawell School Road. There are currently no sidewalks along the entire corridor, but there are wide paved shoulders of three to four feet east of the railroad tracks. The segment sees an average of 13,000 vehicles daily (2015 AADT), which exceeds the LOS D capacity.

The only significant congestion on this segment of roadway is at the Estes Drive Extension/North Greensboro Street intersection, which is planned to be improved in 2018 (TIP # U-5846) with the construction of a roundabout. Additional travel lanes cannot be added to this segment of Estes Drive Extension due to the close proximity of residential homes to the roadway. Bike lanes and sidewalks are currently recommended on Estes Drive Extension to increase capacity some with additional safety improvements to be considered.

During the public comment period, the NCWRC commented on the impacts of road widening projects on the degradation of aquatic wildlife in streams and wetlands. The NCWRC encourages the use of Low Impact Development (LID) techniques and other important measures to minimize negative impacts from roads and development along the Estes Drive Extension section of North Greensboro Street to Seawell School Road. The NCWRC also provided their standard recommendations for bridges, if this project has the opportunity to build bridges or improve existing bridges.

See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

**Estes Drive Extension (SR 1780) (Seawell School Road (SR 1843) to NC 86 (Martin Luther King Jr Boulevard)), 2040 MTP#: 17**

Estes Drive Extension (SR 1780), from Seawell School Road (SR 1843) to NC 86 (Martin Luther King Jr Boulevard), is currently a two-lane undivided minor thoroughfare that does not provide adequate pedestrian and on-road bicycle facilities, and is projected to exceed its vehicular capacity by 2040. Improvements are also recommended to accommodate pedestrian and bicycle traffic and improve connectivity between Carrboro and Chapel Hill. Estes Drive currently has many residential areas, a couple schools, and a small airport located nearby.

This section of Estes Drive Extension currently has a 30-foot right-of-way, sidewalks at certain locations, and no bicycle lanes. The 2015 AADT is 12,000 vehicles per day (vpd); by 2040, the AADT is expected to be 14,000 vpd compared to a LOS D capacity of 12,900 vpd for the existing right-of-way. This volume produces a volume- to-capacity ratio of just 1.1, which is unlikely to require a widening project. Estes Drive Extension may see significant traffic increases by 2040 due to Chapel Hill's plans (plans are currently indefinite) to construct a northern campus, "Carolina North," for the University of North Carolina (UNC) just north of Estes Drive Extension.

The current development around this section of Estes Drive Extension, in addition to the future development (especially with Carolina North to be built along Estes Drive Extension), may generate increased bicycle, pedestrian, and transit traffic. The current pedestrian facilities are discontinuous and inadequate for existing pedestrian traffic. There are no bicycle facilities, and many of the bus stops do not have amenities nor include bus pull-outs resulting in blocked traffic. The need for pedestrian, bicycle, and transit facilities will continue to increase with additional development around Estes Drive

Extension, especially with the construction of Carolina North. The development of this new campus for UNC is expected to drastically increase non-motorized and transit traffic along Estes Drive Extension.

The CTP proposal for Estes Drive Extension recommends widening and intersection improvements at NC 86 with bicycle, pedestrian, and transit traffic accommodations from Seawell School Road to NC 86 due to the development of Carolina North and anticipates these improvements to the roadway with its development.

In the Carrboro Bicycle Network Plan, bicycle lanes are proposed from Estes Drive Extension to the Carrboro town limits (the railroad tracks). The Chapel Hill Bike Plan proposes bicycle lanes from Seawell School Road to Martin Luther King Jr Boulevard.

Sidewalks have been proposed along the east side of Estes Drive Extension (from North Greensboro Street (SR 1772) to town limits) in the Carrboro Bicycle Policy and Sidewalk Policy. The inactive Chapel Hill *Bike and Pedestrian Action Plan* has proposed sidewalks from Martin Luther King Jr Boulevard (NC 86) to the proposed Carrboro sidewalks. In both the Carrboro and Chapel Hill pedestrian plans, the Bolin Creek Greenway is proposed to cross underneath Estes Drive with a proposed underpass. Chapel Hill is currently developing a Mobility and Connectivity Plan to replace the inactive plan.

During the public comment period, the NCWRC commented on the impacts of road widening projects on the degradation of aquatic wildlife in streams and wetlands. The NCWRC encourages the use of Low Impact Development (LID) techniques and other important measures to minimize negative impacts from roads and development along the Estes Drive Extension section of Seawell School Road to Martin Luther King Jr Boulevard. The NCWRC also provided their standard recommendations for bridges, if this project has the opportunity to build bridges or improve existing bridges.

See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

#### **Eubanks Road (SR 1727) (Millhouse Road (SR 1725) to NC 86 (Martin Luther King Jr Boulevard)), 2040 MTP#: 222**

Eubanks Road (SR 1727), from Millhouse Road (SR 1725) to NC 86 (Martin Luther King Jr Boulevard), is currently a two-lane undivided minor thoroughfare road. The CTP proposal recommends widening to a four lane divided boulevard to accommodate projected 2040 vehicular traffic and to adequately accommodate increased pedestrian and bicycle traffic.

This section of Eubanks Road currently has a 60-foot right-of-way, sidewalks at select locations, and no bicycle lanes. The 2015 AADT is 8,600 vehicles per day (vpd); by 2040, the AADT is expected to be 21,800 vpd compared to a LOS D capacity of 12,400 vpd for the existing right- of- way. There are some residential units, some offices, a

landfill, and a park-and-ride lot along this stretch of Eubanks Road. Many residential units and a town/village center are proposed along this section of Eubanks Road and nearby. Eubanks Road is an important connector route between NC 86 (Martin Luther King Jr Boulevard) (which connects to I-40) and Old NC 86 (northwestern end of Carrboro), and could see significant traffic increase due to its connectivity and proposed development.

The current and planned development around Eubanks Road may generate increased bicycle, pedestrian, and transit traffic. The current pedestrian facilities are discontinuous and inadequate for existing pedestrian traffic. There are no bicycle facilities, and the park-and-ride lot is almost at capacity in use. The need for pedestrian, bicycle, and transit facilities will continue to increase with additional development around Eubanks Road.

In the Chapel Hill Bike Plan, there is a proposed greenway path that is planned to cross Eubanks Road near the park-and-ride lot (with proposed crossing improvements where it crosses) and another greenway path that is planned to cross Eubanks Road near NC 86. There are proposed sidewalks along the south side of Eubanks Road from Millhouse Road (SR 1725) to NC 86 in Chapel Hill's inactive *Bike and Pedestrian Action Plan*. Chapel Hill is currently developing a Mobility and Connectivity Plan to replace the inactive plan. Also, the western edge of Eubanks Road is along Duke Forest.

During the public comment period, the NCWRC commented on the impacts of road widening projects on the degradation of aquatic wildlife in streams and wetlands. The NCWRC encourages the use of Low Impact Development (LID) techniques and other important measures to minimize negative impacts from roads and development along the Eubanks Road section of Rogers Road (SR 1729) to Martin Luther King Jr Boulevard. The NCWRC also provided their standard recommendations for bridges, if this project has the opportunity to build bridges or improve existing bridges.

See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

#### **Fayetteville Road (SR 1118) (Woodcroft Parkway to Riddle Road (SR 1171)), 2040 MTP#: 23**

Fayetteville Road (SR 1118), between Woodcroft Parkway and Riddle Road (SR 1171), is currently a two-lane road except for the area immediately adjacent to Martin Luther King Jr Parkway, which has multiple through lanes and turning lanes. There are three potential project sections: Riddle Road to Martin Luther King Jr Parkway; Martin Luther King Jr Parkway to Barbee Road; and, Barbee Road to Woodcroft Parkway. A 4-lane divided cross-section with sidewalks, bicycle lanes and bus facilities is proposed on Fayetteville Road for accommodating expected future traffic volume. Fayetteville Road serves as a major north-south route that connects the growing residential, retail and commercial areas around the Streets at Southpoint Mall with downtown Durham.

This section of Fayetteville Road currently has a 60-foot right-of-way, an existing greenway path running parallel to the road, sidewalks at select locations, no bicycle lanes, and almost a dozen bus stops. The 2015 daily traffic count ranges from 17,000 vehicles per day (vpd) north of Martin Luther King Jr Parkway to 19,000 vpd between Martin Luther King Jr Parkway and Barbee Road. The traffic counts south of Barbee Road, 17,000 vpd, have not increased in the last several years. The LOS D capacities range from 12,700 vpd to 14,600 vpd on the two-lane sections of this roadway, and the 2040 traffic volume is projected to be as high as 22,500 vpd, putting the projected volume at about 80% over the capacity, i.e., v/c is 1.8.

There are many neighborhoods, restaurants, shops, schools, and a church along this stretch of Fayetteville Road. A high level of new residential, retail and commercial development is expected in the future, including a large residential development near the Juliette Drive intersection. Major retail centers anchored by Lowes Home Improvement and Wal-Mart were recently constructed at the Martin Luther King Jr Parkway intersection and along Martin Luther King Jr Parkway. Bicycle, pedestrian and transit facilities are needed to connect the different land uses and to connect to the American Tobacco Trail. The current pedestrian facilities are discontinuous and inadequate for existing pedestrian traffic and there are no bicycle facilities. Many of the bus stops do not have amenities nor include bus pull-outs resulting in blocked traffic. The Durham Comprehensive Bicycle Transportation Plan proposed bicycle lanes along this route, and the DurhamWalks! Pedestrian Plan recommends sidewalks on both sides of the roadway.

The city of Durham has funded two phases of this project using traffic impact fees. The realignment of Buxton Road and Riddle Road to form a single intersection with Fayetteville Road is funded in the City's Capital Improvement Program (CIP), project # ST-254, and construction is scheduled to begin in early 2017. The CIP project # ST-264 is the addition of lanes in the East Cornwallis Road (SR 1121) to Barbee Road section and is scheduled to start construction in late 2017. Contact the City of Durham Public Works Department for the latest information on these projects.

#### **South Greensboro Street (SR 1919) (East Main Street (SR 1010) to NC 54), Local ID: ORAN0109-H**

This section of roadway leads from NC 54 into the heart of downtown Carrboro. It is a narrow, two-lane road lined with single and multi-family homes. There is some office and storage space at the bottom of the hill near NC 54, and a large commercial center has recently broken ground. This is also a major gateway road into Carrboro, with a current 2015 count of 12,000 vehicles per day. The 2040 projected count is estimated to produce a volume-to-capacity ratio of 1.3 and the road is identified in the CTP as needing improvement. However, adding travel lanes could greatly impact the neighborhoods because the residential and commercial buildings are very close to the roadway. Additionally, once in downtown Carrboro, Greensboro Street (SR 1919) remains a two-lane road, and widening just the southern portion would create even more of a bottleneck than already exists.



Recommended improvements to the road include adding bike lanes and sidewalks. While bike lanes are not in the current STIP (again, due to limited right-of-way), the 2016-2025 STIP includes construction of a sidewalk along one side of the roadway. TIP# U-4726DX, currently programmed for FY 2016, is to construct a sidewalk from the north end of Old Pittsboro Road to NC 54. Sidewalk improvements are recommended from the north end of Old Pittsboro Road to East Main Street. In addition, the commercial development being built near the intersection of Old Pittsboro Road and South Greensboro Street plans to construct a roundabout at the intersection to improve traffic flow.

**North Greensboro Street (SR 1772) (Estes Drive Extension (SR 1780) to East Main Street (SR 1010)), Local ID: ORAN0110-H**

This segment of North Greensboro Street (SR 1772) is one of the primary arteries through downtown Carrboro. It runs from a very congested intersection with Estes Drive Extension (SR 1780), past single and multi-family residential, and into dense high-volume commercial development near East Main Street (SR 1010). The northern portion of the roadway has a speed limit of 35 mph and decreases to 20 mph as it enters the commercial area. It is primarily two lanes, but has a right-turn lane at Estes Drive Extension and a center lane at the highest volume commercial area. Currently (2015 AADT) 13,000 vehicles travel this segment north of Weaver Street daily, putting the roadway at a daily volume greater than the LOS D capacity of this segment. In 2040 the volume is projected to be 17,500 vpd, with a volume-to-capacity ratio of 1.5. The CTP proposal identifies this segment as needing improvement to relieve congestion.

The primary sources of congestion on this segment of roadway are the intersections at either end. The Estes Drive Extension/North Greensboro Street intersection experiences severe delays, but is planned to receive improvements in 2018 (TIP# U-5846) to ease congestion with the construction of a roundabout. The intersection at the south end of the corridor, North Greensboro Street and East Main Street, is also very congested and improvements should be considered to ease traffic flow. North Greensboro Street should not be widened so as to avoid significant impacts to residential and commercial development along the corridor. Bicycle and pedestrian improvements are recommended with some safety improvements to increase the roadway capacity. Safety improvements should be considered along this corridor. The North Greensboro Street/East Main Street intersection exceeds the NCDOT standard safety warrant for frontal impact crashes (as indicated in the 2014 NC Highway Safety Improvement Program (HSIP) report), and the 2014 Mobility Report Card indicates a high number of auto and pedestrian crashes in the corridor. Also, the North Greensboro Street/Shelton Street intersection exceeds one safety warrant for potentially hazardous pedestrian intersection locations (as indicated in the 2014 NC Highway Safety Improvement Program (HSIP) report).

**Hillsborough Road (SR 1009)/North Greensboro Street (SR 1772) (Old Fayetteville Road (SR 1107) to Estes Drive Extension (SR 1780)), Local ID: ORAN0111-H**

Hillsborough Road (SR 1009) is a primary thoroughfare through Carrboro. This segment runs from the rural buffer at the western end of Town, past McDougle Elementary and Middle schools, through residential neighborhoods, and ends at one of the busiest intersections in Carrboro (Estes Drive Extension (SR 1780) and North Greensboro Street (SR 1772)). The roadway currently operates at less than LOS D volumes, and is projected to be near 1.0 volume-to-capacity ratio in 2040. The segment is projected to average almost 11,000 vehicles daily in 2040 and improvements are proposed from Old Fayetteville Road to Estes Drive Extension for improved mobility from downtown Carrboro to Old Fayetteville Road.

The roadway does not experience significant congestion, except for peak hours near the schools and at the Estes Drive Extension/North Greensboro Street intersection. This intersection is planned to be improved, likely in the form of a roundabout in 2018 (TIP # U-5846), which is planned to ease peak hour congestion at that end of the roadway segment. Bike lanes and sidewalks were installed in response to the last call for corridor improvements. Additionally, there is transit service along the entire corridor that serves downtown Carrboro and Chapel Hill, and provides connection to other routes. Finally, Pathway Drive, just to the north of Hillsborough Road, was identified as a parallel route and takes a number of trips off of the roadway.

**Homestead Road (SR 1777) (Rogers Road (SR 1729) to Old NC 86 (SR 1009)), 2040 MTP#: 36**

This segment of Homestead Road (SR 1777) is a windy, two-lane road through residential and agricultural areas. It is an area of high development pressure, with new subdivisions being built frequently. There is only one road, Stratford Drive, that runs north-south and connects Homestead Road to Hillsborough Road (SR 1009) in the middle of Carrboro. Due to the limited connectivity of this part of Town, Homestead Road experiences a fair amount of traffic driving the entire length. There are currently 5,200 to 7,200 vpd (2015 AADT) traveling on this segment, making it operate at less than LOS D capacity. However, there is significant congestion in the morning and afternoon peak due to school traffic at the intersection of High School Road (SR 1834) and Homestead Road. The corridor is projected to more than double its AADT in 2040 to 15,500 south of High School Road, which exceeds LOS D capacity. This segment is recommended to be improved to a good two lane road with turn lanes where needed from Rogers Road to Old NC 86.

Additional vehicle lanes could jeopardize existing residential and agricultural land uses along the corridor. Bike lanes and sidewalks are also recommended along the entirety of the corridor to increase multimodal capacity. Intersection improvements, particularly improvements to the High School Road/Homestead Road intersection, should be considered to improve congestion. Additionally, improvements developed in

accordance with the drop-off and pick-up practices of the three schools adjacent to Homestead Road could reduce peak hour congestion.

During the public comment period, the NCWRC commented on the impacts of road widening projects on the degradation of aquatic wildlife in streams and wetlands. The NCWRC encourages the use of Low Impact Development (LID) techniques and other important measures to minimize negative impacts from roads and development along the Homestead Road section of Rogers Road to Old NC 86. The NCWRC also provided their standard recommendations for bridges, if this project has the opportunity to build bridges or improve existing bridges.

See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

**Homestead Road (SR 1777) (Rogers Road (SR 1729) to NC 86 (Martin Luther King Jr Boulevard)), 2040 MTP#: 35**

Homestead Road (SR 1777), from Rogers Road (SR 1729) to NC 86 (Martin Luther King Jr Boulevard), is currently a two-lane undivided minor thoroughfare road. Improvements are needed to adequately accommodate pedestrian and on-road bicycle traffic.

This section of Homestead Road currently has a 60-foot right-of-way, sidewalks at certain locations, and no bicycle lanes. The 2015 AADT is 8,100 vehicles per day (vpd); by 2040, the AADT is expected to be 13,600 vpd compared to a LOS D capacity of 11,600 vpd for the existing roadway. Currently, there are mostly residential units and a couple of religious institutions along Homestead Road. There are plans for the construction of new residential, office, town/village center, and university developments near Homestead Road. The university development is planned to be the north campus of UNC (however, plans are currently indefinite), which will likely create the need for the many other supporting developments and a significant increase in traffic. With current and existing development along Homestead Road, a complete widening may not be feasible, but improvements to intersections and spot improvements could be possible and are recommended.

The current and planned development around Homestead Road could generate increased bicycle, pedestrian, and transit traffic. The current pedestrian and bicycle facilities are discontinuous and inadequate for existing pedestrian and bicycle traffic. Many of the bus stops do not have amenities nor include bus pull-outs resulting in blocked traffic. The need for pedestrian, bicycle, and transit facilities will continue to increase with additional development around Homestead Road, especially the development of the Carolina North campus. In Chapel Hill's inactive *Bike and Pedestrian Action Plan*, sidewalks are proposed to be built from High School Road (SR 1834) to connect with existing sidewalks that run from NC 86 to around Northern Park Drive. Chapel Hill is currently developing a Mobility and Connectivity Plan to replace the inactive plan.

Improvements to transit, pedestrian, and bicycle facilities are recommended and could assist in reducing congestion in this corridor, since much of the traffic at peak hours is associated with the local schools, and providing alternative modes of travel may help to shift some trips away from personal vehicles.

**Old NC 86/Hillsborough Road (SR 1009) (I-40 to Old Fayetteville Road (SR 1107)),  
Local ID: ORAN0119-H**

Traffic volumes on segments of Old NC 86 (SR 1009) from I-40 to Old Fayetteville Road (SR 1107) are projected to exceed LOS D by 2040 with expected volumes of 15,300 vehicles per day (vpd), 17,900 vpd, and 23,700 vpd from I-40 to Eubanks Road (SR 1727), Eubanks Road to Dairyland Road (SR 1104), and Dairyland Road to Old Fayetteville Road, respectively. LOS D capacities on the facility range from 12,400 vpd to 13,800 vpd. The section of Old NC 86 (SR 1009) from I-40 to Dairyland Road is currently a two-lane, 20 to 24-foot undivided cross section with right and left-turn storage at various intersections. The section of Old NC 86 from Dairyland Road to Old Fayetteville Road is currently a two-lane, 20 to 24-foot undivided cross section that widens to a 30 to 40-foot undivided cross section with a center two-way left turn lane transitioning to left-turn storage at two intersections.

The CTP proposal is to provide a two-lane undivided cross section comprised of twelve-foot travel lanes with five-foot shoulders or bike lanes and improve sight distance where needed to better accommodate vehicular and bicycle travel. Improvements related to travel lane width, intersection and driveway entrance sight distance, and paved shoulders accommodating bicycle travel are needed to alleviate safety concerns and to modernize the roadway to accommodate some projected increase in traffic volume and multimodal use. Orange County would like an off-road multi-use path to be a considered option, but understands that right-of-way needs and costs make a multi-use path less likely to be constructed than wide shoulders or bicycle lanes.

Additional vehicle lanes could affect the character of the roadway and likely impact residential and agricultural areas. Bicycle lanes along the segment between Hillsborough Road and Dairyland Road could benefit the corridor users, as this segment of roadway sees very heavy bicycle traffic at certain times. The road is narrow and it can be difficult for vehicles to pass bicyclists when there is traffic, and bicycle lanes would alleviate this pressure. There are existing turn lanes at major intersections along the entire corridor, but additional improvements could ease some congestion in the future.

**Orange Grove Road Extension (South Churton Street (SR 1009) to US 70 Business), TIP No. U-5848**

Orange Grove Road (SR 1006) is currently a two-lane undivided road that terminates just past the South Churton Street (SR 1009) intersection. South Churton Street (US 70 Business/NC 86), just north of its intersection with US 70 Business/NC 86, is currently

exceeding capacity and traffic delays are expected to increase in the future. Additional connectivity is needed between Orange Grove Road and US 70 Business/NC 86 to provide an alternative route to South Churton Street. Having an alternative route could lessen the vehicle volume passing through the South Churton Street/US 70 Business intersection, and therefore could help maintain a LOS D along the section of Churton Street north of US 70 Business/NC 86, which is just south of downtown Hillsborough.

Orange Grove Road currently has a 60-foot right-of-way, no sidewalks, and no bicycle lanes. South Churton Street (south of US 70 Business) currently has a 100-foot right-of-way, no sidewalks, and no bicycle lanes. Churton Street (north of US 70 Business to US 70 Bypass, in downtown Hillsborough) has a 60-foot right-of-way, sidewalks at certain locations, and no bicycle lanes. The 2015 AADT along Churton Street ranges from 12,000 vpd (south of US 70 Bypass) to 20,000 vpd (north of US 70 Business), causing substantial traffic delays on a roadway that only has a LOS D capacity of 11,600 vpd. Extending Orange Grove Road would provide more connectivity for drivers and a means to use an alternate road to bypass the heavily congested Churton Street route. In addition, the town of Hillsborough has developed a planned rail station, STIP# P-5701, and government services development adjacent to this corridor.

This project is scheduled in the current STIP FY 2016-2025 (and draft STIP FY 2017-2027) for construction in FY 2023. It is described as the extension of Orange Grove Road (SR 1006) to US 70 Business on new location with sidewalks and bicycle lanes. The CTP recommends the extension to be a four lane divided boulevard facility.

The current residential and commercial development around South Churton Street and Orange Grove Road, in addition to planned developments, could generate increased bicycle, pedestrian, and transit traffic, especially the planned Collins Ridge development with one of its access points across Churton Street from Orange Grove Road at the end of existing Orange Grove Street. The Collins Ridge development Phase 1 is approximately 100 acres including 674 planned dwellings, a community center and a walking trail. The extension of Orange Grove Road will likely improve access to this development and lessen projected traffic on the adjacent existing roadways of South Churton Street and Orange Grove Road.

The current pedestrian facilities are discontinuous and inadequate for existing pedestrian traffic. There are no bicycle facilities, and many of the bus stops do not have amenities nor include bus pull-outs resulting in blocked traffic. Additional transit routes could serve the proposed rail station. The need for pedestrian, bicycle, and transit facilities will continue to increase with additional development along South Churton Street. Four foot shoulders are proposed along this section of Orange Grove Road and along South Churton Street from I-40 to the Eno River in the DCHC MPO 2040 Metropolitan Transportation Plan (MTP). The related widening project along South Churton Street also calls for the installation of sidewalks and bike lanes from the Eno River to I-40.

During the public comment period, the NCWRC commented on the impacts of new road projects on the degradation of aquatic wildlife in streams and wetlands. The NCWRC encourages the use of Low Impact Development (LID) techniques and other important measures to minimize negative impacts from roads and development along the Orange Grove Road Extension section of Orange Grove Road to US 70 Business. The NCWRC also provided their standard recommendations for bridges, if this project has the opportunity to build bridges or improve existing bridges.

See the DCHC MPO's CTP website (<http://bit.ly/DCHCMPO-Draft-CTP>) for the full detailed comments provided by the NCWRC.

### **Woodcroft Parkway Extension (NC 751 to Garrett Road (SR 1116)), TIP No. U-5823**

Woodcroft Parkway runs west from Carpenter Fletcher Road to NC 751 (Hope Valley Road) on the east. Connecting the terminus of Woodcroft Parkway to the next road west, Garrett Road (SR 1116), is expected to increase both time and route efficiency when travelling around the area. Improvements such as this are recommended to increase grid connectivity and to divert traffic away from the already overloaded Garrett Road and NC 751 intersection. The CTP recommends the extension to be a four lane divided boulevard facility on new location.

Woodcroft Parkway is predominantly a two-lane, undivided collector street, although there are lengths at which the road is divided by a grassy median. With the current and future developments around NC 751 and Garrett Road, there could be a significant percent increase in traffic congestion on this stretch of NC 751 and Garrett Road, especially during the PM peak time frame when both the nearby high school (Jordan High School) and working commuters are on the road at the same time. These roadways have several tightly spaced intersections that are often overloaded at peak hours with queues exceeding available storage.

The current LOS D capacity for NC 751 south of Woodcroft Parkway is 31,600 vpd, and 2015 AADT daily traffic counts are currently 18,000 vpd and expected to rise to 26,000 vpd in 2040. The current LOS D capacity for Garrett Road is 14,000 vpd, and 2015 AADT daily traffic counts are 19,000 vpd and expected to rise to 25,000 vpd in 2040 resulting in a volume-to-capacity ratio of 1.8.

The extension of Woodcroft Parkway provides a direct connection between the current residential areas along Woodcroft Parkway and Garrett Road to the shopping centers and retail stores clustered at the confluence of Woodcroft Parkway, NC 751, Garrett Road, and NC 54 and to employment centers via NC 54 and I-40. Woodcroft Parkway has a shared pedestrian/bicycle sidepath along the entire route from Hope Valley Road to Fayetteville Road. A portion of this sidepath is part of the city's Third Fork Creek Trail. Woodcroft Parkway also provides connectivity to the American Tobacco Trail.



### iii. Referenced Problems Statements

#### Under Construction

The study segments shown below are currently under construction. For additional construction information about the Alston Avenue and I-885 projects, contact NCDOT's Construction Unit. For additional information, including the Purpose and Need, contact NCDOT's Project Development and Environmental Analysis Branch. See Appendix A for agency contact information.

#### **Alston Avenue – Holloway Street to NC 147**

[TIP #U-3308]

Facility	From	To	Type	CTP Status
NC 55 (North Alston Avenue)	Holloway Street	East Main Street	Boulevard	Needs Improvement
NC 55 (South Alston Avenue)	E Main Street	NC 147	Boulevard	Needs Improvement

#### **Carver Street Extension – Danube Lane to Hamlin Road**

[City of Durham Capital Improvement Program]

Facility	From	To	Type	CTP Status
Carver Street Extension	Danube Lane	Hamlin Road	Minor Thoroughfare	Recommended

More detail for the Carver Street Extension is given in the HIGHWAY-- Minimum Problem Statements section.

#### **I-885 (East End Connector) – US 70 to NC 147**

[TIP #U-0071]

Facility	From	To	Type	CTP Status
East End Connector/ US 70 Bypass	US 70	NC 147	Freeway	Recommended
Lynn Road Extension	Lynn Road	Pleasant Drive	Minor	Recommended
NC 98 (Holloway Street)	US 70 East	North Miami Boulevard	Major	Needs Improvement
NC 98 (Holloway Street)	Junction Road	US 70	Boulevard	Needs Improvement
US 70 Bypass	I-885 (East End Connector)	NC 98 (Holloway Street)	Freeway	Needs Improvement
US 70	Pleasant Drive	I-885 (East End Connector)	Freeway	Needs Improvement

Note that the Lynn Road segment and NC 98 segment will be constructed as part of the East End Connector project. The following link is the East End Connector Web page: <http://www.ncdot.gov/projects/eastendconnector/>.

In addition, the East End Connector will be constructed as a four-lane cross-section. However, the CTP assumes that this roadway will need additional lanes to address future travel demand and thus the ultimate cross-section is shown as six lanes in the CTP.

## **b) PUBLIC TRANSPORTATION & RAIL**

A public transportation and rail assessment was completed during the development of the CTP. There are many recommended improvements associated with the public transportation and rail mode, such as light rail transit, commuter rail, bus rapid transit, express bus, improved regular bus service, park and ride facilities, transit centers, multimodal centers and rail stations. The Durham-Orange Light Rail Transit (D-O LRT) project, TIP# TE-5205, is included in the CTP recommendations. More information on the D-O LRT and comparisons of different transit technologies can be found at <http://ourtransitfuture.com>. The North-South Bus Rapid Transit (BRT) project, ORAN00104-R in Chapel Hill is included in the CTP recommendations. More information on the North-South BRT can be found at <http://nscstudy.org>.

Enhanced feeder bus routes are a concern of Carrboro and are planned for and have been proposed to access the D-O LRT and North-South BRT. Feeder bus routes that will serve Carrboro include the Chapel Hill Transit (CHT) Mason Farm Feeder route that connects Carrboro park and ride lots and downtown Carrboro to the proposed Mason Farm D-O LRT station, and the CHT Carrboro BRT Feeder route connects Hillsborough Road (SR 1009) and Estes Drive Extension (SR 1780) to the North-South BRT at the park and ride lot on NC 86 (Martin Luther King Jr Boulevard).

The CTP supports additional bus coverage, increased schedules (evenings and weekends), and more frequent service. These improved and recommended bus routes along with other enhanced feeder bus routes in the DCHC MPO area are listed in Appendix C. See Appendix C for all the public transportation and rail recommendations and details.

A direct transit connection from the Carrboro/Chapel Hill area to Raleigh Durham International (RDU) Airport is highly desired. However, a previous study found that people were coming from all over the area to RDU so a direct bus service from one or two towns was not feasible. Recently GoTriangle, in conjunction with the Research Triangle Foundation (RTF), the North Carolina Railroad Company (NCRR) and Raleigh-Durham Airport Authority have formed a transit task force to investigate improved transit connections with RDU, although not a direct connection with any new municipalities. See the RTP website for more information: [www.rtp.org/transportation-and-business-leaders-announce-rtp-transit-task-force/](http://www.rtp.org/transportation-and-business-leaders-announce-rtp-transit-task-force/).

## **c) BICYCLE**

During the development of the CTP, a bicycle assessment was completed including the incorporation of local bicycle plans and policies. More information on and links to local bicycle plans and policies can be found in Appendix I, Existing Transportation Plans and Policies.

In accordance with American Association of State Highway and Transportation Officials (AASHTO), roadways identified as bicycle routes should incorporate the following standards as roadway improvements are made and funding is available:

- Curb & gutter sections require at minimum 5 foot bike lanes or 14 foot wide shoulder lanes.
- Shoulder sections require a minimum of 4 foot paved shoulder.
- All bridges along the roadways where bike facilities are recommended shall be equipped with 54 inch railings.

There are many recommended improvements associated with the bicycle mode, such as bicycle lanes, wide paved shoulders, wide outside lanes and off-road bicycle trails and they are recommended to follow AASHTO standards and local plans and policies. See Appendix C for a list of bicycle recommendations.

#### **d) PEDESTRIAN**

During the development of the CTP, a pedestrian assessment was completed including the incorporation of local pedestrian plans and policies. However, only off-road pedestrian path recommendations were developed for the CTP. This allows the CTP to not be in conflict with developing or existing, more comprehensive local plans and policies. More information on and links to local pedestrian plans and policies can be found in Appendix I, Existing Transportation Plans and Policies.

There are many recommended off-road pedestrian improvements and they are listed in Appendix C.

#### **e) MULTI-USE**

A bicycle, pedestrian and multi-use assessment was completed during the development of the CTP including the incorporation of local bicycle, pedestrian and multi-use plans and policies. There are many recommended improvements associated with multi-use paths. See Appendix C for a complete list of multi-use path recommendations.

On the next page is a problem statement that was developed for the Durham-Orange Light Rail Transit (D-O LRT) multi-use path recommendation.

## MULTI-USE – Full Problem Statement

### Durham-Orange Light Rail Transit Multi-use Path

Last updated: 04/06/17

Local ID: DURH0040-M and ORAN0134-M

The Durham-Orange Light Rail Transit Project (D-O LRT) is planned to run between UNC Hospitals in Chapel Hill and Alston Avenue in east Durham. The 17-mile alignment will have 17 stations and run along parts of the major commuting corridors in the western Triangle, including NC 54, I-40, US 15-501 Erwin Road, and Main Street.

The corridor connects three major universities and three major medical centers, and currently includes 175,000 people. The population of the corridor is forecast to grow to 231,000 people by 2035. Light-rail vehicles are planned to run every 10 and 20 minutes at peak times and off-peak/weekends, respectively. The light rail tracks run in an exclusive guideway, except that a short section will run at-grade along Pettigrew Street in downtown Durham in mixed traffic with buses only.

The timeline for development, design and implementation of the D-O LRT includes the following milestones:

- Environmental impact statement (EIS) and preliminary engineering was completed in 2016;
- Final design and engineering began in 2016 and is scheduled to be completed in 2019;
- A federal Full Funding Grant Agreement (FFGA) is expected to be awarded in 2019, with construction beginning thereafter;
- D-O LRT is expected go into service in 2026.

The expected population and employment growth around rail stations along the D-O LRT alignment would also support an adjacent multi-use path. As a result, the CTP recommends construction of a multi-use path parallel to the D-O LRT alignment. However, there will likely be sections of the D-O LRT alignment where a parallel multi-use path would not be safe, appropriate or financially feasible. Therefore, other options that better fit the context of the corridor would be studied, such as providing a multi-use path that deviates from the alignment and corridor, providing new or enhanced sidewalk and bicycle accommodations along or near the alignment, or using existing sidewalk and bicycle accommodations along or near the alignment.

At this time, it is not known in which sections of the D-O LRT alignment a multi-use path would be safe, appropriate, or financially feasible, or if some other pedestrian or bike infrastructure would more appropriate. Evaluation of bicycle and pedestrian accommodations along the alignment is underway and will continue through final design.

# APPENDICES

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## Appendix A Resources and Contacts

### ***Local Planning Organization***

Durham-Chapel Hill-Carrboro Metropolitan Planning Organization ([www.dchcmo.org](http://www.dchcmo.org))

Contact the MPO for information on long-range multi-modal planning services.

101 City Hall Plaza, 4<sup>th</sup> Floor      Durham, NC 27701      (919) 560-4366

### ***North Carolina Department of Transportation***

#### Customer Service Office

Contact information for other units within the NCDOT that are not listed in this appendix is available by calling the Customer Service Office or by visiting the NCDOT directory:

1-877-DOT-4YOU (1-877-368-4968)      <http://www.ncdot.gov/contact/>

Secretary of Transportation      (<http://www.ncdot.org/about/leadership/secretary.html>)

1501 Mail Service Center      Raleigh, NC 27699-1501      (919) 707-2800

Board of Transportation      (<http://www.ncdot.gov/about/board/>)

1501 Mail Service Center      Raleigh, NC 27699-1501      (919) 707-2820

Highway Divisions      (<https://apps.ncdot.gov/dot/directory/authenticated/ToC.aspx>)

Contact the Highway Division with questions concerning NCDOT activities within each Division.

#### Highway Division 5:

*Wake, Durham, Granville, Person, Franklin, Vance, and Warren Counties*

2612 N. Duke Street      Durham, NC 27704      (919) 220-4600

#### Highway Division 7:

*Alamance, Orange, Guilford, Caswell, and Rockingham Counties*

P.O. Box 14996      Greensboro, NC 27415-4996      (336) 487-0000

#### Highway Division 8:

*Chatham, Randolph, Hoke, Lee, Moore, Montgomery, Richmond, and Scotland Counties*

902 N. Sandhills Blvd.      Aberdeen, NC 28315      (910) 944-2344

Contact the following NCDOT divisions and units<sup>1</sup> for:

<a href="#"><u>Transportation Planning Branch (TPB)</u></a>	Information on long-range multi-modal planning services. 1554 Mail Service Center Raleigh 27699-1554 (919) 707-0900
<a href="#"><u>Strategic Prioritization Office (SPOT)</u></a>	Information concerning prioritization of transportation projects. 1534 Mail Service Center Raleigh 27699-1534 (919) 707-4740
<a href="#"><u>Project Development &amp; Environmental Analysis (PDEA)</u></a>	Information on environmental studies for projects that are included in the TIP. 1548 Mail Service Center Raleigh 27699-1548 (919) 707-6000
<a href="#"><u>State Asset Management Unit</u></a>	Information regarding the status for unpaved roads to be paved, additions and deletions of roads to the State maintained system and the Industrial Access Funds program. 1567 Mail Service Center Raleigh 27699-1567 (919) 733-2220
<a href="#"><u>STIP Unit &amp; Feasibility Studies Unit</u></a>	Information concerning Roadway Official Corridor Maps, Feasibility Studies and the Transportation Improvement Program (TIP). 1534 Mail Service Center Raleigh 27699-1534 (919) 707-4622
<a href="#"><u>Public Transportation Division</u></a>	Information on public transit systems. 1550 Mail Service Center Raleigh 27699-1550 (919) 707-4670
<a href="#"><u>Rail Division</u></a>	Rail information throughout the state. 1553 Mail Service Center Raleigh 27699-1553 (919) 707-4700
<a href="#"><u>Division of Bicycle and Pedestrian Transportation</u></a>	Bicycle and pedestrian transportation information throughout the state. 1552 Mail Service Center Raleigh 27699-1552 (919) 707-2600
<a href="#"><u>Structures Management Unit</u></a>	Information on bridge management throughout the state. 1581 Mail Service Center Raleigh 27699-1581 (919) 707-6400
<a href="#"><u>Roadway Design Unit</u></a>	Information regarding design plans and proposals for road and bridge projects throughout the state. 1582 Mail Service Center Raleigh 27699-1582 (919) 707-6200
<a href="#"><u>Transportation Mobility and Safety Division</u></a>	Information regarding crash data throughout the state. 1561 Mail Service Center Raleigh 27699-1561 (919) 814-5000

## Other State Government Offices

### Department of Commerce – Division of Community Assistance

Contact the Department of Commerce for resources and services to help realize economic prosperity, plan for new growth and address community needs.

<http://www.nccommerce.com/rd>

<sup>1</sup> Unit websites are hyperlinked and can also be accessed at <https://connect.ncdot.gov/Pages/default.aspx>.

## **Appendix B**

### **Comprehensive Transportation Plan Definitions**

This appendix contains descriptive information and definitions for the designations depicted on the CTP maps shown in Figure 1.

#### ***Highway Map***

The "[\*NCDOT Facility Type –Control of Access Definitions\*](#)" document provides a visual depiction of facility types for the following CTP classification.

#### **Facility Type Definitions**

##### **❖ Freeways**

- Functional purpose – high mobility, high volume, high speed
- Posted speed – 55 mph or greater
- Cross section – minimum four lanes with continuous median
- Multi-modal elements – High Occupancy Vehicles (HOV)/High Occupancy Transit (HOT) lanes/Managed lanes (ML), busways, truck lanes, park-and-ride facilities at/near interchanges, adjacent shared use paths (separate from roadway and outside ROW)
- Type of access control – full control of access
- Access management – interchange spacing (urban – one mile; non-urban – three miles); at interchanges on the intersecting roadway, full control of access for 1,000ft or for 350ft plus 650ft island or median; use of frontage roads, rear service roads
- Intersecting facilities – interchange or grade separation (no signals or at-grade intersections)
- Driveways – not allowed

##### **❖ Expressways**

- Functional purpose – high mobility, high volume, medium-high speed
- Posted speed – 45 to 60 mph
- Cross section – minimum four lanes with median
- Multi-modal elements – HOV lanes, busways, very wide paved shoulders (rural), shared use paths (separate from roadway but within ROW)
- Type of access control – limited or partial control of access;
- Access management – minimum interchange/intersection spacing 2,000ft; median breaks only at intersections with minor roadways or to permit U-turns; use of frontage roads, rear service roads; driveways limited in location and number; use of acceleration/deceleration or right turning lanes
- Intersecting facilities – interchange; at-grade intersection for minor roadways; right-in/right-out and/or left-over or grade separation (no signalization for through traffic)
- Driveways – right-in/right-out only; direct driveway access via service roads or other alternate connections

### ❖ **Boulevards**

- Functional purpose – moderate mobility; moderate access, moderate volume, medium speed
- Posted speed – 30 to 55 mph
- Cross section – two or more lanes with median (median breaks allowed for U-turns per current NCDOT *Driveway Manual*)
- Multi-modal elements – bus stops, bike lanes (urban) or wide paved shoulders (rural), sidewalks (urban - local government option)
- Type of access control – limited control of access, partial control of access, or no control of access
- Access management – two lane facilities may have medians with crossovers, medians with turning pockets or turning lanes; use of acceleration/deceleration or right turning lanes is optional; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
- Intersecting facilities – at grade intersections and driveways; interchanges at special locations with high volumes
- Driveways – primarily right-in/right-out, some right-in/right-out in combination with median leftovers; major driveways may be full movement when access is not possible using an alternate roadway

### ❖ **Other Major Thoroughfares**

- Functional purpose – balanced mobility and access, moderate volume, low to medium speed
- Posted speed – 25 to 55 mph
- Cross section – four or more lanes without median (*US and NC routes may have less than four lanes*)
- Multi-modal elements – bus stops, bike lanes/wide outer lane (urban) or wide paved shoulder (rural), sidewalks (urban)
- Type of access control – no control of access
- Access management – continuous left turn lanes; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
- Intersecting facilities – intersections and driveways
- Driveways – full movement on two lane roadway with center turn lane as permitted by the current NCDOT *Driveway Manual*

### ❖ **Minor Thoroughfares**

- Functional purpose – balanced mobility and access, moderate volume, low to medium speed
- Posted speed – 25 to 55 mph
- Cross section – ultimately three lanes (no more than one lane per direction) or less without median
- Multi-modal elements – bus stops, bike lanes/wide outer lane (urban) or wide paved shoulder (rural), sidewalks (urban)
- ROW – no control of access

- Access management – continuous left turn lanes; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
- Intersecting facilities – intersections and driveways
- Driveways – full movement on two lane with center turn lane as permitted by the current NCDOT *Driveway Manual*

#### Other Highway Map Definitions

- ❖ **Existing** – Roadway facilities that are not recommended to be improved.
- ❖ **Needs Improvement** – Roadway facilities that need to be improved for capacity, safety, operations, or system continuity. The improvement to the facility may be widening, increasing the level of access control along the facility, operational strategies (including but not limited to traffic control and enforcement, incident and emergency management, and deployment of Intelligent Transportation Systems (ITS) technologies), or a combination of improvements and strategies. “Needs improvement” does not refer to the maintenance needs of existing facilities or the replacement or rehab of structures.
- ❖ **Recommended** – Roadway facilities on new location that are needed in the future.
- ❖ **Interchange** – Through movement on intersecting roads is separated by a structure. Turning movement area accommodated by on/off ramps and loops.
- ❖ **Grade Separation** – Through movement on intersecting roads is separated by a structure. There is no direct access between the facilities.
- ❖ **Full Control of Access** – Connections to a facility provided only via ramps at interchanges. No private driveway connections allowed.
- ❖ **Limited Control of Access** – Connections to a facility provided only via ramps at interchanges (major crossings) and at-grade intersections (minor crossings and service roads). No private driveway connections allowed.
- ❖ **Partial Control of Access** – Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways. Private driveway connections shall be defined as a maximum of one connection per parcel. One connection is defined as one ingress and one egress point. These may be combined to form a two-way driveway (most common) or separated to allow for better traffic flow through the parcel. The use of shared or consolidated connections is highly encouraged.
- ❖ **No Control of Access** – Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways.

#### ***Public Transportation and Rail Map***

- ❖ **Bus Routes** – The primary fixed route bus system for the area. Does not include demand response systems.
- ❖ **Fixed Guideway** – Any transit service that uses exclusive or controlled rights-of-way or rails, entirely or in part. The term includes heavy rail, commuter rail, light rail,

monorail, trolleybus, aerial tramway, included plane, cable car, automated guideway transit, and ferryboats.

- ❖ **Operational Strategies** – Plans geared toward the non-single occupant vehicle. This includes but is not limited to HOV lanes or express bus service.
- ❖ **Rail Corridor** – Locations of railroad tracks that are either active or inactive tracks. These tracks were used for either freight or passenger service.
  - Active – rail service is currently provided in the corridor; may include freight and/or passenger service
  - Inactive – right of way exists; however, there is no service currently provided; tracks may or may not exist
  - Recommended – It is desirable for future rail to be considered to serve an area.
- ❖ **High Speed Rail Corridor** – Corridor designated by the U.S. Department of Transportation as a potential high speed rail corridor.
  - Existing – Corridor where higher-speed rail service (over 79 mph) is provided or a corridor that is officially designated by FRA to run higher speed trains in the future. There is currently one federally designated high-speed rail corridor in North Carolina - The Southeast High Speed Rail Corridor.
  - Recommended – Proposed corridor for higher speed rail service.
- ❖ **Rail Stop** – A railroad station or stop along the railroad tracks.
- ❖ **Multimodal Connector** - A location where more than one mode of transportation meet such as where light rail and a bus route come together in one location. (NOTE- intermodal refers to two or more modes that transfer the same cargo unit-like 40' shipping container from ship to train or truck); multimodal is the transfer of people/cargo between two or more modes and in NC is used in public transit settings i.e. Charlotte Multimodal Station)
- ❖ **Transit Center** – A location where there is enhanced bus accommodations, which could include space for multiple buses to park, an enhanced shelter structure or station, sidewalk connections and bathroom facilities. Some transit centers have park and ride lots. The term includes bus transfer centers and bus stations.
- ❖ **Park and Ride Lot** – A strategically located parking lot that provides commuters connections to transit or carpools.
- ❖ **Existing Grade Separation** – Locations where existing rail facilities are physically separated from existing highways or other transportation facilities. These may be bridges, culverts, or other structures.
- ❖ **Proposed Grade Separation** – Locations where rail facilities are recommended to be physically separated from existing or recommended highways or other transportation facilities. These may be bridges, culverts, or other structures.

### ***Bicycle and Pedestrian Map***

- ❖ **Bicycle On Road-Existing** – Conditions for bicycling on the highway facility are adequate to safely accommodate cyclists.



- ❖ **Bicycle On Road-Needs Improvement** – At the systems level, it is desirable for **an existing** highway facility to accommodate bicycle transportation; however, highway improvements are necessary to create safe travel conditions for the cyclists.
- ❖ **Bicycle On Road-Recommended** – At the systems level, it is desirable for **a recommended** highway facility to accommodate bicycle transportation. The highway should be designed and built to safely accommodate cyclists.
- ❖ **Bicycle Off Road-Existing** – A facility that accommodates only bicycle transportation and is physically separated from a highway facility either within the right-of-way or within an independent right-of-way.
- ❖ **Bicycle Off Road-Needs Improvement** – A facility that accommodates only bicycle transportation and is physically separated from a highway facility either within the right-of-way or within an independent right-of-way that will not adequately serve future bicycle needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), and improved horizontal or vertical alignment.
- ❖ **Bicycle Off Road-Recommended** – A facility needed to accommodate only bicycle transportation and is physically separated from a highway facility either within the right-of-way or within an independent right-of-way.
- ❖ **Pedestrian Off Road-Existing** – A facility that accommodates only pedestrian traffic and is physically separated from a highway facility usually within an independent right-of-way.
- ❖ **Pedestrian Off Road-Needs Improvement** – A facility that accommodates only pedestrian traffic and is physically separated from a highway facility usually within an independent right-of-way that will not adequately serve future pedestrian needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), improved horizontal or vertical alignment, and meeting ADA requirements.
- ❖ **Pedestrian Off Road-Recommended** – A facility needed to accommodate only pedestrian traffic and is physically separated from a highway facility usually within an independent right-of-way.
- ❖ **Multi-use Path-Existing** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.
- ❖ **Multi-use Path-Needs Improvement** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic that will not adequately serve future needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), and improved horizontal or vertical alignment. Sidewalks should not be designated as a multi-use path.

- ❖ **Multi-use Path-Recommended** – A facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that is needed to serve bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.
- ❖ **Existing Grade Separation** – Locations where existing “Off Road” facilities and “Multi-use Paths” are physically separated from existing highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.
- ❖ **Proposed Grade Separation** – Locations where “Off Road” facilities and “Multi-use Paths” are recommended to be physically separated from existing or recommended highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.

## Appendix C

### CTP Inventory and Recommendations

#### Bicycle – Pedestrian – Multiuse Paths: Assumptions/ Notes:

- ❖ **Local ID:** If a TIP (Transportation Improvement Program) project number exists it is listed as the ID. Otherwise, the following system is used to create a code for each recommended improvement: the first 4 letters of the county name is combined with a 4 digit unique numerical code followed by '-B' for bicycle, '-P' for pedestrian, and '-M' for multiuse path (including non-highway grade separations).
- ❖ **Facility/Route:** This is the name of the facility, which is often the name of the roadway on which the facility is located. Sometimes, there are multiple projects on the same roadway, in which case the Section information can be used to distinguish among those projects.
- ❖ **Section:** This identifies the termini of the study segment.
- ❖ **Status:** This indicates the long-range planning status of the facility: Existing, Needs Improvement, or Recommended. See Bicycle and Pedestrian Map definitions in Appendix B for more details.
- ❖ **Description:** Provides a more detailed description of the facility when needed.
- ❖ **Distance (mile):** This is the length of the facility in miles.
- ❖ **Jurisdiction:** This is the municipality or county in which the facility is located, and commonly the facility is designated in an adopted plan for that jurisdiction. Some projects are in multiple jurisdictions. DurCity = City of Durham; Dur = Durham County; CH = Town of Chapel Hill; Carr = Town of Carrboro; OR = Orange County; Hboro = Town of Hillsborough; and, Chat = Chatham County.

#### Tables

The remainder of this section presents the tables for the bicycle, off-road pedestrian, multiuse path and non-highway grade separation study segments, in that order. The on-road pedestrian study segments are not presented in a table. Appendix J, Existing Transportation Plans, lists all of the local plans for bicycle, pedestrian (including sidewalks) and multiuse path facilities that can provide more details.

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## Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

1) Locally-adopted plans have designated most of these proposed facilities. See those plans for more detailed descriptions.

BICYCLE						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
<b>CHATHAM COUNTY</b>						
--	Andrew's Store Rd	Man's Chapel Rd to US 15-501	Existing	Signage/shared road	3.3	Chat
--	Big Woods Rd	Jack Bennet Rd to Gallup Rd	Existing	Signage/shared road	2.2	Chat
CHAT0101-B	Farrington Mill Rd	Durham County line to Marthas Chapel Rd	Needs Improvement	Wide Paved Shoulder	5.6	Chat
--	Jack Bennet Rd	US 15-501 to Farrington Point Rd	Existing	Signage/shared road	4.1	Chat
--	Lystra Rd	Jack Bennet Rd to Farrington Point Rd	Existing	Signage/shared road	3.7	Chat
--	Manns Chapel Rd	Hamlets Chapel Rd to US 15-501	Existing	Signage/shared road	5.0	Chat
EB-5738	Mt Carmel Church Rd	Orange County line to Old Farrington Point Rd	Needs Improvement	Wide Paved Shoulder	1.2	Chat
CHAT0102-B	NC 751	Durham County line to Martha's Chapel Rd	Needs Improvement	Bicycle Lane	6.1	DurCity, Dur, Chat
CHAT0103-B	O Kelly Chapel Rd	NC 751 to Wake County line	Needs Improvement	Wide Paved Shoulder (from 751 to the ATT)	1.8	Chat
CHAT0104-B	Poythress Rd	Manns Chapel Rd to Lamont Norwood Rd	Needs Improvement	Wide Paved Shoulder	1.4	Chat
CHAT0105-B	US 15-501	Manns Ch Rd to Smith Level Rd	Needs Improvement	Bicycle Lane (Existing c&g and s/w)	1.1	Chat

<b>DURHAM COUNTY</b>						
--	Academy Rd/NC 751	Pinecrest Rd to Duke University Rd	Existing	Bicycle Lane	0.5	DurCity
DURH0001-B	Academy Rd/NC 751	University Dr to Pinecrest Rd	Needs Improvement	Bicycle Lane	1.2	DurCity
DURH0002-B	Adcock Rd	Ellis Chapel Rd to Range Rd	Needs Improvement	4' Paved Shoulder	0.9	Dur
DURH0003-B	Airport Rd	Page Rd to Wake County Line	Needs Improvement	Bicycle Lane	0.2	Dur
DURH0004-B	Albany St	Sprunt Ave to Drake Ave	Needs Improvement	Sharrow	0.3	DurCity
DURH0005-B	Alston Ave Extension	Alston Ave to Old Oxford/N Roxboro St	Recommended	Bicycle Lane on roadway extension	3.4	DurCity
DURH0006-B	Amber Pl	Pettigrew St to Humphrey St	Needs Improvement	Sharrow	0.1	DurCity
DURH0007-B	American Dr	Neal Rd to Morreene Rd	Needs Improvement	Sharrow	1.9	DurCity
--	Anderson St	Duke University Rd to Morehead Ave	Existing	Bicycle lane	0.3	DurCity
DURH0008-B	Anderson St	Morehead Ave to Morehead Ave	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0009-B	Anderson St	Campus Dr to Duke University Rd	Needs Improvement	Bicycle Lane	0.2	DurCity
--	Anderson St	Erwin Rd to Campus Dr	Existing	Bicycle Lane	0.4	DurCity
DURH0010-B	Anderson St	Vesson Ave to Chapel Hill Rd	Needs Improvement	Bicycle Lane	0.1	DurCity
--	Anderson St	Morehead Ave to Vesson Ave	Existing	Bicycle lane	0.6	DurCity
DURH0011-B	Anderson St	Cranford Rd to Morehead Ave	Needs Improvement	Bicycle Lane	0.0	DurCity
DURH0012-B	Andrews Chapel Rd	Leesville Rd to county line end	Needs Improvement	4' Paved Shoulder	1.0	Dur
DURH0013-B	Angier Ave Extension	US 70 to Northern Durham Pkwy	Recommended	Bicycle Lane on roadway extension	0.8	DurCity
DURH0014-B	Angier Ave	E Main St to HWY 70	Needs Improvement	Bicycle Lane	5.7	DurCity, Dur
DURH0015-B	Archdale Dr	MLK Blvd to Oak Ridge Blvd	Needs Improvement	Bicycle Lane	0.5	DurCity
DURH0016-B	Avondale Dr	N Roxboro St to E Geer St	Needs Improvement	Bicycle Lane	1.1	DurCity
DURH0017-B	Bacon Rd	Roxboro Rd to NC 57	Needs Improvement	4' Paved Shoulder	2.2	Dur, OR
DURH0018-B	Bacon St	Alston Ave to Lawson St	Needs Improvement	Bicycle Lane	1.1	DurCity
DURH0019-B	Bahama Rd	Roxboro Rd to Person County Line	Needs Improvement	4' Paved Shoulder	8.3	Dur
DURH0020-B	Ball Rd	John Jones Rd to Quail Roost Rd	Needs Improvement	4' Paved Shoulder	2.4	Dur
DURH0021-B	Baptist Rd	Wake Forest Hwy to Boyce Mill Rd	Needs Improvement	4' Paved Shoulder	4.1	DurCity, Dur
--	Barbee Chapel Rd	Downing Creek Pkwy to Finley Forest Dr	Existing	Bicycle Lane	0.5	DurCity, CH
DURH0022-B	Barbee Chapel Rd	Finley Forest Dr to NC 54	Needs Improvement	Bicycle Lane	0.2	CH
DURH0023-B	Barbee Rd	Fayetteville Rd to Herndon Rd	Needs Improvement	Bicycle Lane	2.8	DurCity
DURH0024-B	Bennett Memorial Rd	Hillsborough Rd to Neal Rd	Needs Improvement	Bicycle Lane	0.7	DurCity
DURH0025-B	Berini Dr	League Wy to Cole Mill Rd	Needs Improvement	Sharrow	1.1	DurCity
DURH0026-B	Bill Poole Rd	Roxboro Rd to Orange County Line	Needs Improvement	4' Paved Shoulder	3.2	Dur, OR
DURH0027-B	Bivens Rd	St Marys Rd to Ebenezer Ch Rd	Needs Improvement	Create connection to St Marys Rd	1.3	Dur, OR
DURH0028-B	Bivins Rd	Craig Rd to Umstead Rd	Needs Improvement	4' Paved Shoulder	2.2	DurCity, Dur
DURH0029-B	Blackwell St	Pettigrew St to Lakewood Ave	Needs Improvement	Sharrow	0.3	DurCity
--	Blackwell St	W Morehead Ave to Lakewood Ave	Existing	Bicycle Lane	0.2	DurCity
DURH0030-B	Bowen Rd	Moores Mill Rd to Person County Line	Needs Improvement	4' Paved Shoulder	0.9	Dur
DURH0031-B	Boyce Mill Rd	Wake Forest Hwy to Old Creedmor Rd	Needs Improvement	4' Paved Shoulder	0.7	Dur
DURH0032-B	Briggs Ave Extension	Pettigrew St to Angier Av	Recommended	Bicycle Lane on roadway extension	0.2	DurCity
DURH0033-B	Broad St	Stadium Dr to Main St	Needs Improvement	Bicycle Lane	2.2	DurCity
DURH0034-B	Broad St	Carver St to Stadium Dr	Needs Improvement	Bicycle Lane	0.3	DurCity
DURH0035-B	Bryant Bridge Trail	NC 147 to Sima Ave	Needs Improvement	Sharrow	0.5	DurCity
DURH0036-B	Burton Rd	Interworth to Cheek Rd	Needs Improvement	4' Paved Shoulder	1.6	Dur
DURH0037-B	Camden Ave	E Club Blvd to Avondale Dr	Needs Improvement	Bicycle Lane	2.0	DurCity

Note: All bicycle segments are on road.

# Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

BICYCLE						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
DURH0038-B	Cameron Blvd	Duke University Dr to Constitution Dr	Needs Improvement	Bicycle Lane	2.0	DurCity, Dur
DURH0039-B	Cammie St	Hillandale Rd to Preston Ave	Needs Improvement	Bicycle Lane	0.5	DurCity
--	Campus Dr	Campus Dr to Chapel St	Existing	Bicycle Lane	1.1	DurCity
DURH0040-B	Campus Dr	Pettigrew St to Main St	Needs Improvement	Bicycle Lane	0.3	DurCity
DURH0041-B	Campus Walk Ave	Morreene Rd to LaSalle St	Needs Improvement	Bicycle Lane	0.3	DurCity
DURH0042-B	Capps St	S Alston Ave to Bacon St	Needs Improvement	Bicycle Lane	0.3	DurCity
DURH0043-B	Carolina Cir	Compton Pl to Beverly Dr	Needs Improvement	Sharrow	0.1	DurCity
DURH0044-B	Carpenter Fletcher Rd	S Alston Ave to E Woodcroft Pkwy	Needs Improvement	Bicycle Lane	0.8	DurCity
DURH0045-B	Carpenter Fletcher Rd	Barbee Rd to Woodcroft Parkway	Needs Improvement	Bicycle Lane	0.8	DurCity
DURH0046-B	Carpenter Pond Rd	Leesville Rd to Wake County Line	Needs Improvement	4' Paved Shoulder	4.7	Dur
DURH0047-B	Carpenter Rd	Ferrel Rd to Cheek Rd	Needs Improvement	4' Paved Shoulder	1.1	DurCity, Dur
DURH0048-B	Carver Rd	Red Mountain Rd to Person County Line	Needs Improvement	4' Paved Shoulder	0.6	Dur
DURH0049-B	Carver St Extension	Danube Ln to Old Oxford Rd	Recommended	Bike lanes on Carver St extension	1.0	DurCity
DURH0050-B	Cassam Rd	Old Oxford Rd to Range Rd	Needs Improvement	4' Paved Shoulder	3.8	Dur
DURH0051-B	Cecil St	Fayetteville St to HWY 55	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0052-B	Chambers Rd	Bill Poole Rd to Roxboro Rd	Needs Improvement	4' Paved Shoulder	1.9	Dur
DURH0053-B	Chandler Rd	Clayton Rd to Holloway St	Needs Improvement	Bicycle Lane	1.0	DurCity
DURH0054-B	Chapel Dr	Duke University Rd to End	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0055-B	Chapel Hill Rd	Chapel Hill St to Cornwallis Rd	Needs Improvement	Bicycle Lane	1.0	DurCity
DURH0056-B	Chapel Hill Rd	W Cornwallis Rd to University Dr	Needs Improvement	Bicycle Lane	0.5	DurCity
DURH0057-B	Chapel Hill Rd	Pickett Rd to Cornwallis Rd	Needs Improvement	Bicycle Lane	0.1	DurCity
--	Chapel Hill Rd	Anderson St to Pickett Rd	Existing	Bicycle lane	0.4	DurCity
DURH0058-B	Chapel Hill Rd	Anderson St to Huron St	Needs Improvement	Bicycle Lane	0.1	DurCity
--	Chapel Hill Rd	Huron St to Prince St	Existing	Bicycle lane	0.2	DurCity
DURH0059-B	Cheek Rd	Geer St to Fish Dam Rd	Needs Improvement	Bicycle Lane	8.2	DurCity, Dur
DURH0060-B	Chin Page Rd	Miami Blvd to Page Rd	Needs Improvement	Bicycle Lane	1.6	DurCity, Dur
DURH0061-B	Circuit Dr	Research Dr to Towerview Rd	Needs Improvement	Bicycle Lane	0.5	DurCity
DURH0062-B	Clayton Rd	Cheek Rd to Holloway St	Needs Improvement	Bicycle Lane	1.8	DurCity, Dur
DURH0063-B	Clermont Rd	Grandale Dr to End	Needs Improvement	Bicycle Lane	0.8	DurCity
DURH0064-B	Cole Mill Rd	Hillsborough Rd to Rose of Sharon Rd	Needs Improvement	Bicycle Lane	1.4	DurCity
DURH0065-B	Cole Mill Rd	Rose of Sharon Rd to Orange County Line	Needs Improvement	Bicycle Lane	3.2	DurCity, Dur, OR
DURH0066-B	Coley Rd	Wake Forest Hwy to Carpenter Pond Rd	Needs Improvement	4' Paved Shoulder	3.7	Dur
DURH0067-B	Colonial St	Camden Ave to Markham Ave	Needs Improvement	Sharrow	0.1	DurCity
DURH0068-B	Compton Pl	Forest Hills Blvd to Carolina Cir	Needs Improvement	Sharrow	0.1	DurCity
DURH0069-B	Constitution Dr	American Dr to NC 751	Needs Improvement	Bicycle Lane	0.6	DurCity, Dur
DURH0070-B	Cook Rd	Cornwallis Rd to Juliette Dr	Needs Improvement	Bicycle Lane	1.7	DurCity
DURH0071-B	Cooksbury Dr	E Geer St to End	Needs Improvement	4' Paved Shoulder	0.6	Dur
DURH0072-B	Craig Rd	Bivins Rd to Umstead Rd	Needs Improvement	4' Paved Shoulder	2.2	Dur, OR
DURH0073-B	Cranford Rd	Anderson St to NC 751	Needs Improvement	Sharrow	0.4	DurCity
DURH0074-B	Creech Rd	Cheek Rd to Redwood Rd	Needs Improvement	4' Paved Shoulder	0.9	Dur
DURH0075-B	Croasdaile Farm Parkway	Carver St to Hillandale Rd	Needs Improvement	Bicycle Lane	1.3	DurCity
DURH0076-B	Danube Ln	Hebron Rd to Old Oxford Rd	Needs Improvement	Bicycle Lane	1.6	DurCity, Dur
DURH0077-B	Davis Dr	Cornwallis Rd to Wake County Line	Needs Improvement	Bicycle Lane	2.8	DurCity, Dur
DURH0078-B	Dearborn Dr	Old Oxford Rd to Club Blvd	Needs Improvement	Bicycle Lane	1.6	DurCity
--	Del Webb Arbors Dr	Leesville Rd to Wake County border	Existing	Bicycle Lane	1.4	DurCity
DURH0079-B	Denfield St	Hebron Rd to Roxboro St	Needs Improvement	Bicycle Lane	0.7	DurCity
DURH0080-B	Dixon Rd	University Dr to Martin Luther King Jr Pkwy	Needs Improvement	Bicycle Lane	0.7	DurCity
DURH0081-B	Doc Nichols Rd	Olive Branch Rd to Leesville Rd	Needs Improvement	4' Paved Shoulder	1.9	Dur
--	Downing Creek Pkwy	NC 54 to Barbee Chapel Rd	Existing	Bicycle Lane	0.9	DurCity
DURH0082-B	Drew St	Miami Blvd to N Alston Ave	Needs Improvement	Bicycle Lane	0.5	DurCity
DURH0083-B	Duke Homestead Rd	Guess Rd to Duke St	Needs Improvement	Bicycle Lane	1.6	DurCity
--	Duke University Rd	Swift Ave to Academy Rd	Existing	Bicycle Lane	1.1	DurCity
DURH0084-B	Dunnegan Rd	St Mary's Rd to End	Needs Improvement	4' Paved Shoulder	0.4	Dur
DURH0085-B	Dunwoody Rd	Bahama Rd to Hampton Rd	Needs Improvement	4' Paved Shoulder	1.8	Dur
--	Durham-Chapel Hill Blvd/US 15-501 Bus	Nation Ave to James St	Existing	Buffered Bicycle Lane	0.7	DurCity
DURH0086-B	Durham-Chapel Hill Blvd/US 15-501 Bus	James St to University Dr	Needs Improvement	Bicycle Lane	0.0	DurCity
DURH0087-B	Durham-Chapel Hill Blvd/US 15-501 Bus	Chapel Hill Rd to Nation Ave	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0088-B	Durham-Chapel Hill Blvd/US 15-501 Bus	Westgate Dr to Shannon Rd	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0089-B	E Barbee Chapel Rd	Farrington Rd to Easement Trail	Needs Improvement	Bicycle Lane	0.7	Dur
DURH0090-B	E Carver St	Ben Franklin Blvd to Danube Ln	Needs Improvement	Bicycle Lane	0.6	DurCity, Dur

Note: All bicycle segments are on road.



# Bicycle-Pedestrian-Multiuse (1)

BICYCLE						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
DURH0091-B	E Club Blvd	Hillandale Rd to Roxboro St	Needs Improvement	Bicycle Lane	2.7	DurCity, Dur
--	E Cornwallis Rd	Fayetteville St to Miami Blvd	Existing	Bicycle lane	4.5	DurCity, Dur
DURH0092-B	E Forest Hills Blvd	Oak Dr to Compton Pl	Needs Improvement	Sharrow	0.4	DurCity
DURH0093-B	E Geer St	Washington St to Junction Rd	Needs Improvement	Bicycle Lane	4.1	DurCity, Dur
DURH0094-B	E Geer St	Junction Rd to north of Redwood Rd	Needs Improvement	4' Paved Shoulder	4.1	Dur
DURH0095-B	E Lakewood Ave	S Mangum St to Fayetteville St	Needs Improvement	Bicycle Lane	0.3	DurCity
--	E Lawson St	Bacon St to S Briggs Ave	Existing	Bicycle Lane	0.5	DurCity
DURH0096-B	E Lawson St	S Roxboro St to Bacon St	Needs Improvement	Bicycle Lane	1.3	DurCity
DURH0097-B	E Main St	Roxboro St to Miami Blvd	Needs Improvement	Bicycle Lane	2.1	DurCity
DURH0098-B	E Pettigrew St	Chapel Hill St to Harnett St	Needs Improvement	Bicycle Lane	2.1	DurCity
DURH0099-B	E Pettigrew St	Duane St to Ellis Rd	Needs Improvement	Bicycle Lane	0.1	DurCity
--	E Pettigrew St	Harnett St to Duane St	Existing	Striped Shoulder	0.7	DurCity
DURH0100-B	E Trinity Ave	Roxboro St to End	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0101-B	E Woodcroft Pkwy	Fayetteville Rd to Carpenter Fletcher Rd	Needs Improvement	Bicycle Lane	1.8	DurCity
DURH0102-B	East End Ave	Angier Ave to Rowena Ave	Needs Improvement	Bicycle Lane	0.5	DurCity
DURH0103-B	Ebenezer Church Rd	Bivins Rd to Pleasant Green Rd	Needs Improvement	4' Paved Shoulder	1.2	Dur, OR
DURH0104-B	Ed Cook Rd	So-Hi Dr to Ellis Rd	Needs Improvement	Bicycle Lane	0.9	DurCity
DURH0105-B	Ellis Chapel Rd	Bahama Rd to Granville County Line	Needs Improvement	4' Paved Shoulder	2.5	Dur
DURH0106-B	Ellis Rd	Miami Blvd to Angier Ave	Needs Improvement	Bicycle Lane	4.1	DurCity, Dur
DURH0107-B	Emperor Blvd	Miami Blvd to Page Rd	Needs Improvement	Bicycle Lane	1.2	DurCity
DURH0108-B	Ephesus Church Rd	Farrington Rd to Pope Rd	Needs Improvement	Bicycle Lane	0.6	DurCity, Dur
DURH0109-B	Ephesus Church/Pope Rd	Fordham to Old Durham-Chapel Hill Rd	Needs Improvement	Bicycle Lane	2.5	DurCity, Dur, CH
DURH0110-B	Erwin Rd	Cameron Blvd to Anderson St	Needs Improvement	Bicycle Lane	1.8	DurCity
DURH0111-B	Erwin Rd	NC 751 to Orange County Line	Needs Improvement	Bicycle Lane	3.1	DurCity, Dur, OR
--	Erwin Rd	Anderson St to W Pettigrew	Existing	Bicycle lane	0.4	DurCity
DURH0112-B	Erwin Rd	W Pettigrew St to 9th Street	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0113-B	Falkirk Dr	Heather Glen Rd to Quincemore Rd	Needs Improvement	Sharrow	0.1	Dur
DURH0114-B	Farrington Mill Rd	Farrington Rd to Orange County Line	Needs Improvement	4' Paved Shoulder	2.0	Dur
DURH0115-B	Farrington Rd	Barbee Chapel Rd to Old Chapel Hill Rd	Needs Improvement	Bicycle Lane	4.5	DurCity, Dur
DURH0116-B	Farrington Rd Realignment	NC 54 to Farrington Rd	Recommended	Bicycle Lane on roadway extension	0.9	DurCity, Dur
DURH0117-B	Fayetteville Rd	Scott King Rd to Hwy 751	Needs Improvement	Make Connection	0.1	Dur
DURH0118-B	Fayetteville St	Woodcroft Pkwy to Massey Chapel Rd	Needs Improvement	Bicycle Lane	2.1	DurCity, Dur
DURH0119-B	Fayetteville St	Main St to Pilot	Needs Improvement	Bicycle Lane	2.2	DurCity
U-6021, DURH0120-B	FayettevilleA2	Woodcroft to MLK	Needs Improvement	Bicycle Lane	1.6	DurCity
DURH0121-B	FayettevilleA3	MLK to Buxton	Needs Improvement	Bicycle Lane	0.7	DurCity
DURH0122-B	FayettevilleA4	Buxton to Pilot	Needs Improvement	Bicycle Lane	1.1	DurCity
DURH0123-B	Fayettville Rd	Scott King Rd to Massey Chapel Rd	Needs Improvement	Bicycle Lane	1.4	DurCity, Dur
DURH0124-B	Fenwick Pkwy	Herndon Rd to Lyon Farm Rd	Needs Improvement	Bicycle Lane	0.5	DurCity, Dur
DURH0125-B	Ferrand Rd	Rocky Springs Rd to Cohnwood Dr	Needs Improvement	Sharrow	0.2	DurCity
DURH0126-B	Ferrell Rd	E Club Blvd to E Geer St	Needs Improvement	4' Paved Shoulder	1.4	Dur
--	Fifteenth St	Main St to Hillsborough Rd	Existing	Bicycle Lane	0.2	DurCity
DURH0127-B	Fletchers Chapel Rd	Cheek Rd to Mineral Springs Rd	Needs Improvement	4' Paved Shoulder	1.6	Dur
DURH0128-B	Flowers Dr	Erwin Rd to Campus Dr	Needs Improvement	Bicycle Lane	0.7	DurCity
DURH0129-B	Foster St	Trinity Ave to Chapel Hill St	Needs Improvement	Bicycle Lane	0.6	DurCity
DURH0130-B	Foster St	Monmouth Ave to Trinity Ave	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0131-B	Fountain Ridge Rd	Pope Road to Orange County Line	Needs Improvement	Sharrow	0.7	Dur, CH
DURH0132-B	Freeman Rd	Clayton Rd to Mineral Springs Rd	Needs Improvement	Bicycle Lane	0.9	DurCity, Dur
DURH0133-B	Front St	Hillandale Rd to Carver St	Needs Improvement	Bicycle Lane	0.6	DurCity
DURH0134-B	Fulton St	Erwin Rd to NC 147	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0135-B	Garrett Rd	Pickett Rd to Hope Valley Rd	Needs Improvement	Bicycle Lane	4.1	DurCity
DURH0136-B	Gibson Rd	Lynn Rd to Mineral Springs Rd	Needs Improvement	Bicycle Lane	0.8	DurCity, Dur
DURH0137-B	Glendale Ave	Club Blvd to Leon St	Needs Improvement	Sharrow	0.7	DurCity
DURH0138-B	Glenn Rd	Club Blvd to Red Mill Rd	Needs Improvement	4' Paved Shoulder	3.7	DurCity, Dur
DURH0139-B	Glenn School Rd	Geer St to Glenn Rd	Needs Improvement	4' Paved Shoulder	0.8	DurCity, Dur
DURH0140-B	Glover Rd	Ellis Rd to Angier Ave	Needs Improvement	Bicycle Lane	1.2	DurCity, Dur
DURH0141-B	Glover Rd Extension	Angier Av to US 70	Recommended	Bicycle Lane on roadway extension	0.6	DurCity
DURH0142-B	Goodwin Rd	Roxboro Rd to Infinity Rd	Needs Improvement	4' Paved Shoulder	2.3	DurCity, Dur
DURH0143-B	Grandale Dr	Barbee Rd to Orange County Line	Needs Improvement	Bicycle Lane	2.9	DurCity, Dur, Chat
DURH0144-B	Gray Ave	Roxboro St to Hanover St	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0145-B	Greenhaven Dr	Baptist Rd to End	Needs Improvement	4' Paved Shoulder	0.1	Dur

Note: All bicycle segments are on road.

## Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

BICYCLE						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
DURH0146-B	Guess Rd	Club Blvd to Umstead Rd	Needs Improvement	Bicycle Lane	7.1	DurCity, Dur, OR
DURH0147-B	Guess Rd	Umstead Rd to Orange County Line	Needs Improvement	Bicycle Lane	5.1	DurCity
DURH0148-B	Guess Rd	Guess Rd to Club	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0149-B	Gurley St	Dowd St to E Geer St	Needs Improvement	Sharrow	0.2	DurCity
DURH0150-B	Hale St	Knox St to Knox St	Needs Improvement	Sharrow	0.0	DurCity
DURH0151-B	Hall Rd	Bahama Rd to Dunwiddy Rd	Needs Improvement	4' Paved Shoulder	1.5	Dur
DURH0152-B	Hamilton Way	Sedwick Rd to End	Needs Improvement	Bicycle Lane	0.1	Dur
DURH0153-B	Hamlin Rd	Old Oxford Rd to End	Needs Improvement	4' Paved Shoulder	4.8	DurCity, Dur
DURH0154-B	Hampton Rd	Range Rd to Red Mountain Rd	Needs Improvement	4' Paved Shoulder	4.5	Dur
DURH0155-B	Hanover St	Gray Ave to Juniper St	Needs Improvement	Bicycle Lane	0.0	DurCity
DURH0156-B	Hardee St	Geer St to Liberty St	Needs Improvement	Bicycle Lane	1.4	DurCity
DURH0157-B	Haverford St	Leon St to Broad St	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0158-B	Heather Glen Rd	Russell Rd to Falkirk Dr	Needs Improvement	Sharrow	0.2	Dur
DURH0159-B	Hebron Rd	Denfield Rd to Old Oxford Rd	Needs Improvement	Bicycle Lane	1.6	DurCity, Dur
DURH0160-B	Hebron Rd Extension	Hebron Rd to US 501 (N Roxboro Rd)	Recommended	Bicycle Lane on roadway extension	0.5	DurCity
DURH0161-B	Hereford Rd	Redwood Rd to Cheek Rd	Needs Improvement	4' Paved Shoulder	0.6	Dur
DURH0162-B	Herndon Rd	Fayetteville Rd to Scott King Rd	Needs Improvement	Bicycle Lane	2.6	DurCity, Dur
DURH0163-B	Highgate Dr	Woodcroft Parkway to NC 54	Needs Improvement	Bicycle Lane	0.7	DurCity
DURH0164-B	Hillandale Rd	Rose of Sharon Rd to Carver St	Needs Improvement	Bicycle Lane	2.0	DurCity
--	Hillandale Rd	Carver St to Front St	Existing	Bicycle Lane	0.5	DurCity
DURH0165-B	Hillandale Rd	Front St to Fulton St	Needs Improvement	Bicycle Lane	1.2	DurCity
DURH0166-B	Hillsborough Rd	9th St to Sparger Rd	Needs Improvement	Bicycle Lane	3.9	DurCity
DURH0167-B	Hillsborough Rd	Sparger Rd to Orange County Line	Needs Improvement	Bicycle Lane	0.5	DurCity, OR
DURH0168-B	Holder Rd	S Mineral Springs Rd to Sherron Rd	Needs Improvement	Bicycle Lane	1.5	Dur
DURH0169-B	Holloway St	Roxboro Rd to Ganyard Farm Way	Needs Improvement	Bicycle Lane	3.6	DurCity, Dur
DURH0170-B	Hope Valley Rd	Hope Valley Rd to Durham Chapel Hill Blvd	Needs Improvement	Bicycle Lane	4.3	DurCity
DURH0171-B	Hopkins Rd	Bill Poole Rd to South Lowell Rd	Needs Improvement	4' Paved Shoulder	3.5	Dur, OR
DURH0172-B	Hopson Rd	Triangle Expressway to S Miami Blvd	Needs Improvement	Bicycle Lane	0.9	DurCity, Dur
DURH0173-B	Hopson Rd	S Alston Ave to Hopson Rd	Needs Improvement	Bicycle Lane	0.4	Dur
DURH0174-B	Hopson Rd	NC 55 to NC 147	Needs Improvement	Bicycle Lane	1.5	Dur
DURH0175-B	Hopson Rd Extension	NC 55 to Grandale Dr	Recommended	Bicycle Lane on roadway extension	1.4	Dur
DURH0176-B	Horton Rd	Hillandale Rd to Roxboro St	Needs Improvement	Bicycle Lane	2.0	DurCity
DURH0177-B	Humphrey St	Amber Pl to Sowell St	Needs Improvement	Sharrow	0.0	DurCity
DURH0178-B	Hurley Rd	Cheek Rd to End	Needs Improvement	4' Paved Shoulder	0.2	Dur
DURH0179-B	Hwy 501	Monk Rd to Durham/Person County line	Needs Improvement	Bicycle Lane	13.2	DurCity, Dur
DURH0180-B	Hwy 55	Wake County Line to S Alston Ave	Needs Improvement	Bicycle Lane	7.3	DurCity, Dur
DURH0181-B	Hwy 751	Constitution Dr to Hillsborough Rd	Needs Improvement	Bicycle Lane	2.2	Dur, OR
DURH0182-B	Hwy 751	Fayetteville Rd to Stagecoach Rd	Needs Improvement	Bicycle Lane	2.1	DurCity, Dur
--	Hwy 751	Stagecoach Rd to NC 54	Existing	Bicycle lane	1.0	Dur
DURH0183-B	Indian Trl	Hillandale Rd to Albany St	Needs Improvement	Sharrow	0.4	DurCity
DURH0184-B	Infinity Rd	Snow Hill Rd to Roxboro St	Needs Improvement	4' Paved Shoulder	2.8	DurCity, Dur
DURH0185-B	Isham Chambers Rd	Range Rd to 6063 Isham Chambers Rd	Needs Improvement	4' Paved Shoulder	1.3	Dur
DURH0186-B	Jackie Robinson Dr	Blackwell St to Julian Carr St	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0187-B	James St	Lakewood Ave to University Dr	Needs Improvement	Bicycle Lane	0.9	DurCity
DURH0188-B	Jeffries Rd	Glen Rd to Intercross Rd	Needs Improvement	4' Paved Shoulder	1.2	DurCity, Dur
DURH0189-B	Jock Rd	Old Oxford Rd to Joe Ellis Rd	Needs Improvement	4' Paved Shoulder	1.8	Dur
DURH0190-B	Joe Ellis Rd	Jock Rd to Wiley Mangum Rd	Needs Improvement	4' Paved Shoulder	0.8	Dur
DURH0191-B	John Jones Rd	Roxboro Rd to Stagville Rd	Needs Improvement	4' Paved Shoulder	2.4	Dur
DURH0192-B	Johnson Mill Rd	South Lowell Rd to Mason Rd	Needs Improvement	4' Paved Shoulder	4.3	Dur
--	Juliette Dr	Kissimee Ct to American Tobacco Trail	Existing	Bicycle Lane	0.7	DurCity
DURH0193-B	Juliette Dr	American Tobacco Trail to Fayetteville Rd	Needs Improvement	Bicycle Lane	0.0	DurCity
DURH0194-B	Juliette Dr	S Roxboro St to Kissimee Ct	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0195-B	Junction Rd	Geer St to Holloway St	Needs Improvement	Bicycle Lane	2.9	DurCity, Dur
DURH0196-B	Juniper St	Miami Blvd to Gray Ave	Needs Improvement	Bicycle Lane	0.7	DurCity
DURH0197-B	Kelvin Dr	Bivins Rd to Russell Rd	Needs Improvement	4' Paved Shoulder	0.5	Dur
DURH0198-B	Kemp Rd	Wake Forest Hwy to Carpenter Pond Rd	Needs Improvement	4' Paved Shoulder	3.2	Dur
DURH0199-B	Kenan Rd	Duke Homestead Rd to Carver St	Needs Improvement	Sharrow	0.4	DurCity
DURH0200-B	Kenmore Rd	Duke Homestead Rd to Stadium Dr	Needs Improvement	Bicycle Lane	0.2	DurCity
DURH0201-B	Kent St	Chapel Hill St to University Dr	Needs Improvement	Bicycle Lane	1.4	DurCity
DURH0202-B	Kerley Rd	Erwin Rd to NC 751	Needs Improvement	Bicycle Lane	2.5	Dur, OR
DURH0203-B	Kirkwood Dr	Guess Rd to Stadium Dr	Needs Improvement	Bicycle Lane	0.7	DurCity
DURH0204-B	Kit Creek Rd	Alston Ave to Wake County Line	Needs Improvement	Bicycle Lane	0.3	Dur
DURH0205-B	Laboratory Dr	Davis Dr to End of Laboratory Dr	Needs Improvement	Sharrow	0.5	Dur

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## Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

BICYCLE						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
DURH0206-B	Lakewood Ave	Chapel Hill Rd to University Dr	Needs Improvement	Bicycle Lane	1.0	DurCity
DURH0207-B	Latta Rd	Roxboro St to Guess Rd	Needs Improvement	Bicycle Lane	1.2	DurCity
DURH0208-B	League Way	Clarion Dr to Berini Dr	Needs Improvement	Sharrow	0.1	DurCity
DURH0209-B	Leesville Rd	HWY 70 to Wake County Line	Needs Improvement	Bicycle Lane	3.8	DurCity, Dur
DURH0210-B	Leesville Rd realignment	Leesville Rd to US 70	Recommended	Bicycle Lane on realignment	0.8	DurCity
--	Leon St	Haverford St to US 501 (N Duke St)	Existing	Bicycle Lane	0.5	DurCity
DURH0211-B	Leon St	N Duke St to Glendale Ave	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0212-B	Leon St	Haverford St to Broad St	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0213-B	Liberty St	Chapel Hill St to Miami Blvd	Needs Improvement	Bicycle Lane	2.1	DurCity
DURH0214-B	Louis Stephens Dr	Little Dr to Hopson Rd	Needs Improvement	Bicycle Lane	0.6	Dur
DURH0215-B	Lumley Rd	Miami Blvd to TW Alexander Dr	Needs Improvement	Bicycle Lane	2.2	DurCity, Dur
DURH0216-B	Lynn Rd	Gibson Rd to Holloway St	Needs Improvement	Bicycle Lane	0.9	DurCity
DURH0217-B	Lynn Rd Extension	US 70 to Lynn Rd/Gibson Rd	Recommended	Bicycle Lane on roadway extension	1.1	DurCity
DURH0218-B	Madden Ave	Milton Rd to Roxboro Rd	Needs Improvement	4' Paved Shoulder	0.3	Dur
DURH0219-B	Mangum-Roxboro Connector	S Mangum St to E Lakewood Ave	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0220-B	Market St	Main St to Chapel Hill St	Needs Improvement	Sharrow	0.1	DurCity
--	Martin Luther King Jr Pkwy	NC55 to University Dr	Existing	Bicycle Lane	4.9	DurCity
DURH0221-B	Maryland Ave	Club Blvd to Guess Rd	Needs Improvement	Sharrow	0.6	DurCity
DURH0222-B	Mason Rd	Guess Rd to Roxboro Rd	Needs Improvement	4' Paved Shoulder	2.5	Dur
DURH0223-B	Massey Chapel Rd	Fayetteville Rd to Herndon Rd	Needs Improvement	Bicycle Lane	0.9	DurCity, Dur
DURH0224-B	Massey Chapel Rd	Hope Valley Rd to Fayetteville Rd	Needs Improvement	Bicycle Lane	0.9	DurCity, Dur
DURH0225-B	Maughan Dr	TW Alexander to Maughan Dr	Needs Improvement	Sharrow	0.3	Dur
--	Maxwell Ave	Campus Dr to S Buchanan Blvd	Existing	Bicycle Lane	0.3	DurCity
DURH0226-B	Medford Rd	Cole Mill Rd to Front St	Needs Improvement	Bicycle Lane	1.0	DurCity
DURH0226-B	Midland Ter	Club Blvd to Faucett Ave	Needs Improvement	Bicycle Lane	1.4	DurCity
DURH0227-B	Midland Terrace	Faucette Ave to Cheek Rd	Needs Improvement	Bicycle Lane	0.3	DurCity
DURH0228-B	Midland Terrace Extension	Geer St to NC 98 (Hollway St)	Recommended	Bicycle Lane on roadway extension	2.4	DurCity
DURH0229-B	Milton Rd	Guess Rd to Roxboro Rd	Needs Improvement	Bicycle Lane	2.5	DurCity, Dur
DURH0230-B	MLK Pkwy Extension	NC 55 to Cornwallis Rd	Recommended	Bicycle Lane on roadway extension	0.3	DurCity
DURH0231-B	Moores Mill Rd	Roxboro Rd to Person County Line	Needs Improvement	4' Paved Shoulder	3.0	Dur
DURH0232-B	Morehead Ave	Chapel Hill Rd to Blackwell St	Needs Improvement	Bicycle Lane	0.9	DurCity
--	Morehead Ave	Anderson St to Chapel Hill Rd	Existing	Bicycle Lane	0.6	DurCity
DURH0233-B	Moriah Rd	Red Mountain Rd to Person County Line	Needs Improvement	4' Paved Shoulder	0.4	Dur
DURH0234-B	Morning Glory Ave	Plum St to Hyde Park Ave	Needs Improvement	Sharrow	0.1	DurCity
DURH0235-B	Morreene Rd	Erwin Rd to Neal Rd	Needs Improvement	Bicycle Lane	1.5	DurCity
DURH0236-B	Morris St	Corporation St to Morgan St	Needs Improvement	Bicycle Lane	0.3	DurCity
DURH0237-B	Morris St	Morgan St to Chapel Hill St	Needs Improvement	Sharrow	0.1	DurCity
DURH0238-B	Mt Moriah Rd	Old Chapel Hill Rd to Orange County Line	Needs Improvement	Bicycle Lane	2.0	DurCity, Dur, OR
DURH0239-B	Mt Sinai Rd	Erwin Rd to Orange County Line	Needs Improvement	4' Paved Shoulder	0.3	Dur, OR
DURH0240-B	Murray Ave	Broad St to Roxboro Rd	Needs Improvement	Bicycle Lane	1.3	DurCity
DURH0241-B	N Buchanan Blvd	W Club Blvd to W Chapel Hill St	Needs Improvement	Bicycle Lane	1.4	DurCity
DURH0242-B	N Church St	Liberty St to Main St	Needs Improvement	Sharrow	0.1	DurCity
DURH0243-B	N Corcoran St	E Chapel Hill St to W Pettigrew St	Needs Improvement	Sharrow	0.2	DurCity
DURH0244-B	N Driver St	Juniper St to Liberty St	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0245-B	N Driver St	Liberty St St to Pettigrew St	Needs Improvement	Bicycle Lane	0.9	DurCity
DURH0246-B	N Elizabeth St	Trinity Ave to Carlton Av	Needs Improvement	Bicycle Lane	0.7	DurCity
--	N Elizabth St	Main St to Carlton Av	Existing	Bicycle Lane	0.4	DurCity
DURH0247-B	N Great Jones St	W Morgan St to W Chapel Hill St	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0248-B	N Gregson St	Jackson St to Duke St	Needs Improvement	Bicycle Lane	1.8	DurCity
DURH0249-B	N Hyde Park Ave	Drew St to Morning Glory Ave	Needs Improvement	Sharrow	1.0	DurCity
DURH0250-B	N Lasalle St	Sprunt Ave to Circuit Dr	Needs Improvement	Bicycle Lane	1.3	DurCity
DURH0251-B	N Mangum St	Lakewood Ave to Markham Ave	Needs Improvement	Bicycle Lane	1.7	DurCity
DURH0252-B	N Miami Blvd	Geer St to US 70	Needs Improvement	US 70 to be frwy; Sep. multiuse adjacent to frwy	1.9	DurCity, Dur
DURH0253-B	N Mineral Springs Rd	Sherron Rd to Stallings Rd	Needs Improvement	Bicycle Lane	4.4	DurCity, Dur
DURH0254-B	N Roxboro St	E Main Street to Monk Rd	Needs Improvement	Bicycle Lane	4.9	DurCity
DURH0255-B	Neal Rd	Bennett Memorial Rd to Hillsborough Rd	Needs Improvement	Bicycle Lane	1.2	DurCity
--	Nichols Farm Dr	Holder Rd to Chartwell Ct	Existing	Bicycle Lane	1.2	DurCity, Dur
DURH0256-B	Nichols Farm Dr	NC 98 to Chartwell Ct	Needs Improvement	Bicycle Lane	0.1	DurCity, Dur

Note: All bicycle segments are on road.

## Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

BICYCLE						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
DURH0257-B	Ninth St	W Club Blvd to W Pettigrew St	Needs Improvement	Bicycle Lane	0.8	DurCity
DURH0258-B	North Pointe Dr	Broad St to Guess Rd	Needs Improvement	Bicycle Lane	0.5	DurCity
--	North Pointe Dr	Guess Rd to Broad St	Existing	Bicycle Lane	0.3	DurCity
DURH0259-B	Northeast Creek Pkwy	Cornwallis Rd to So Hi Dr	Needs Improvement	Bicycle Lane	0.9	DurCity, Dur
DURH0260-B	Northlake Dr	Nichols Farm Dr to End	Needs Improvement	Sharrow	0.4	DurCity
--	Oak Grove Parkway	NC 98 to Stallings Rd	Existing	Bicycle Lane	1.2	DurCity, Dur
DURH0261-B	Oakland Ave	Sprunt Ave to Green St	Needs Improvement	Sharrow	0.7	DurCity
EB-4707B	Old Chapel Hill Rd	Garrett Rd to Mt Moriah	Needs Improvement	Bicycle Lane	1.5	DurCity
DURH0263-B	Old Chapel Hill Rd	University Dr to Martin Luther King Blvd	Needs Improvement	Bicycle Lane	1.3	DurCity
DURH0264-B	Old Chapel Hill Rd	University Dr to Martin Luther King Blvd	Needs Improvement	Bicycle Lane	0.6	DurCity
DURH0265-B	Old Oxford Hwy	Hebron Rd to Granville County Line	Needs Improvement	4' Paved Shoulder	7.5	Dur
DURH0266-B	Old Oxford Hwy	Roxboro Rd to Hebron Rd	Needs Improvement	Bicycle Lane	2.2	DurCity, Dur
DURH0267-B	Old Oxford Hwy	Roxboro Rd to Hebron Rd	Needs Improvement	Bicycle Lane	2.2	DurCity, Dur
DURH0268-B	Old Oxford Rd Connector	Dearborn Dr to Thompson Rd	Recommended	Bicycle Lane on connector road	1.0	DurCity
DURH0269-B	Olive Branch Rd	Wake Forest Hwy to Leesville Rd	Needs Improvement	4' Paved Shoulder	3.8	DurCity, Dur
DURH0270-B	Olympic Ave	Stadium Dr to Roxboro Rd	Needs Improvement	Bicycle Lane	0.3	DurCity
DURH0271-B	Orange Factory Rd	Roxboro Rd to Stagville Rd	Needs Improvement	4' Paved Shoulder	3.0	DurCity, Dur
DURH0272-B	Page Rd	Miami Blvd to US 70	Needs Improvement	Bicycle Lane	4.9	DurCity, Dur
DURH0273-B	Pat Tilley Rd	Ellis Chapel Rd to End	Needs Improvement	4' Paved Shoulder	1.0	Dur
DURH0274-B	Patrick Rd	Johnson Mill Rd to Roxboro Rd	Needs Improvement	4' Paved Shoulder	1.0	Dur
DURH0275-B	Patterson Rd	Wake Forest Hwy to Cheek Rd	Needs Improvement	4' Paved Shoulder	3.5	DurCity, Dur
DURH0276-B	Pervis Rd	Junction Rd to Cheek Rd	Needs Improvement	4' Paved Shoulder	0.5	Dur
DURH0277-B	Pickett Rd	Chapel Hill Rd to Erwin Rd	Needs Improvement	Bicycle Lane. Multiuse if unpaved section closed.	3.8	DurCity, Dur, OR
DURH0278-B	Pleasant Dr	Angier Ave to Mineral Springs Dr	Needs Improvement	4' Paved Shoulder	1.3	DurCity, Dur
DURH0279-B	Preston Andrews Rd	Johnson Mill Rd to Roxboro Rd	Needs Improvement	4' Paved Shoulder	0.9	Dur
DURH0280-B	Preston Ave	Carver St to Kirkwood Dr	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0281-B	Quail Roost Rd	Roxboro Rd to Bahama Rd	Needs Improvement	4' Paved Shoulder	2.5	Dur
DURH0282-B	Quincemoore Rd	Falkirk Dr to Heather Ridge Rd	Needs Improvement	Sharrow	0.6	Dur
DURH0283-B	Randolph Rd	Erwin Rd to Pickett Rd	Needs Improvement	Bicycle Lane	0.7	DurCity, Dur
DURH0284-B	Range Rd	Person County Line to Granville County Line	Needs Improvement	4' Paved Shoulder	5.0	Dur
DURH0285-B	Red Mill Rd	Geer St to Teknika Pkwy	Needs Improvement	4' Paved Shoulder	3.9	Dur
DURH0286-B	Red Mill realignment	Red Mill Rd to Old Oxford Rd	Recommended	Bicycle Lane on realignment	0.5	Dur
DURH0287-B	Red Mountain Rd	Roxboro Rd to Bahama Rd	Needs Improvement	4' Paved Shoulder	5.9	Dur
DURH0288-B	Redpine Rd	St Mary's Rd to Hardwood Ln	Needs Improvement	4' Paved Shoulder	0.2	Dur
DURH0289-B	Redwood Rd	Tom Clark Rd to Cheek Rd	Needs Improvement	4' Paved Shoulder	4.8	Dur
DURH0290-B	Renaissance Pkwy	NC 751 to Fayetteville St	Needs Improvement	Existing Sidepath	1.2	DurCity
DURH0291-B	Research Dr	Erwin Rd to Circuit Dr	Needs Improvement	Bicycle Lane	0.2	DurCity
--	Revere Rd	Sedwick Dr to NC54	Existing	Bicycle lane	1.4	DurCity
DURH0292-B	Riddle Rd	Fayetteville St to Ellis Rd	Needs Improvement	Bicycle Lane	1.9	DurCity
DURH0293-B	Riddle Rd Extension	Ellis Rd to Glover Rd	Recommended	Bicycle Lane on roadway extension	0.4	DurCity
DURH0294-B	Rigsbee Ave	Geer St to Morgan St	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0295-B	Rigsbee Ave	Morgan St to Chapel Hill St	Needs Improvement	Sharrow	0.1	DurCity
DURH0296-B	Rivermont Rd	Cole Mill Rd to Valley Spring Rd	Needs Improvement	4' Paved Shoulder	1.2	DurCity, Dur
DURH0297-B	Rocky Springs Rd	Sparger Rd to Ferrand Dr	Needs Improvement	Sharrow	0.4	DurCity
DURH0298-B	Rogers Rd	Fletchers Chapel Rd to Patterson Rd	Needs Improvement	4' Paved Shoulder	1.0	Dur
DURH0299-B	Rose Of Sharon Rd	Cole Mill Rd to Guess Rd	Needs Improvement	Bicycle Lane	2.5	DurCity
DURH0300-B	Ross Rd	Junction Rd to Chandler Rd	Needs Improvement	Bicycle Lane	1.0	DurCity
DURH0301-B	Rougemont Rd	Bill Poole Rd to South Lowell Rd	Needs Improvement	4' Paved Shoulder	2.7	Dur
DURH0302-B	Rowena Ave	Carter Ave to End	Needs Improvement	Bicycle Lane	0.6	DurCity
DURH0303-B	Russell Rd	Guess Rd to Umstead Rd	Needs Improvement	4' Paved Shoulder	3.8	Dur
U-3308, DURH0304-B	S Alston Ave	E Geer St to Wake County Line	Needs Improvement	Bicycle Lane	10.1	DurCity, Dur
DURH0305-B	S Briggs Ave	E Pettigrew St to Person St	Needs Improvement	Bicycle Lane	1.1	DurCity
--	S Briggs Ave	Person St to Riddle Rd	Existing	Bicycle Lane	0.4	DurCity
DURH0306-B	S Dillard St	Holloway St to Mangum St	Needs Improvement	Sharrow	0.7	DurCity
DURH0307-B	S Duke St	University Dr to N Roxboro St	Needs Improvement	Bicycle Lane	4.9	DurCity
DURH0308-B	S Lowell Rd	Guess Rd to Rougemont Rd	Needs Improvement	4' Paved Shoulder	2.2	Dur
DURH0309-B	S Miami Blvd	US 70 to Wake County Line	Needs Improvement	US 70 to be frwy; Sep. multiuse adjacent to frwy	5.7	DurCity, Dur
DURH0310-B	S Plum St	Morning Glory Ave to E Pettigrew St	Needs Improvement	Sharrow	0.4	DurCity
DURH0311-B	S Roxboro St	Cornwallis Rd to E Umstead St	Needs Improvement	Bicycle Lane	1.6	DurCity

Note: All bicycle segments are on road.

## Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

BICYCLE						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
DURH0312-B	S Roxboro St	Hope Valley Rd to Martin Luther King Jr Pkwy	Needs Improvement	Bicycle Lane	1.6	DurCity
DURH0313-B	S Roxboro St	Martin Luther King Jr Pkwy to Cornwallis Rd	Needs Improvement	Bicycle Lane	0.5	DurCity
--	S Roxboro St	Juliette Dr to Martin Luther King Jr Pkwy	Existing	Bicycle lane	1.0	DurCity
DURH0314-B	S Roxboro St	Hillside Ave to E Main Street	Needs Improvement	Bicycle Lane	0.5	DurCity
--	S Roxboro St	E Umstead St to Hillside Ave	Existing	Bicycle lane	0.3	DurCity
DURH0315-B	S Roxboro St Extension	Cornwallis Rd to MLK Pkwy	Recommended	Bicycle Lane on roadway extension	1.2	DurCity
DURH0316-B	Safeway St	Hillsborough Rd to 9th St	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0317-B	Saint Marys Rd	Guess Rd to Bivens Rd	Needs Improvement	4' Paved Shoulder	1.9	Dur, OR
DURH0318-B	Scarlett Dr	Old Durham Rd to Legion Rd	Needs Improvement	Bicycle Lane	0.1	CH
DURH0319-B	Science Dr	Cameron Blvd to End	Needs Improvement	Bicycle Lane	0.7	DurCity
DURH0320-B	Scott King Rd	Fayetteville Rd to Grandale Dr	Needs Improvement	Bicycle Lane	2.0	DurCity, Dur
DURH0321-B	Sedwick Rd	Revere Rd to Alston Ave	Needs Improvement	Bicycle Lane	1.2	DurCity
DURH0322-B	Sedwick Rd	Hamilton Way to Dedmon Ct	Needs Improvement	Bicycle Lane	0.3	DurCity, Dur
--	Sedwick Rd	Dedmon Ct to Revere Rd	Existing	Bicycle lane	0.4	DurCity
DURH0323-B	Shady Grove Rd	Carpenter Pond Rd to Wake County Line	Needs Improvement	4' Paved Shoulder	1.1	Dur
DURH0324-B	Shannon Rd	Martin Luther King Jr Pkwy to Durham-Chapel Hill Blvd	Needs Improvement	Bicycle Lane	0.7	DurCity
DURH0325-B	Shannon Rd	Old Chapel Hill Rd to Martin Luther King Blvd	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0326-B	Sherron Rd	Miami Blvd to Wake Forest Hwy	Needs Improvement	Bicycle Lane	3.3	DurCity, Dur
DURH0327-B	Slater Rd	Miami Blvd to Emporer Blvd	Needs Improvement	Bicycle Lane	0.7	DurCity
DURH0328-B	Snow Hill Rd	Roxboro Rd to Old Oxford Hwy	Needs Improvement	4' Paved Shoulder	4.5	DurCity, Dur
DURH0329-B	So Hi Dr	NE Creek Pkwy to Ellis Rd	Needs Improvement	Bicycle Lane	0.7	DurCity, Dur
DURH0330-B	South Lowell Rd	Johnson Mill Rd to Roxboro Rd	Needs Improvement	4' Paved Shoulder	1.9	Dur
DURH0331-B	South St	Roxboro St to Lakewood Ave	Needs Improvement	Bicycle Lane	0.8	DurCity
DURH0332-B	Southpark Dr/Highgate Dr	Highgate Dr-Southpark Dr-Highgate Dr	Needs Improvement	Bicycle Lane	0.5	DurCity
DURH0333-B	Southview Rd	Baptist Rd to Kemp Rd	Needs Improvement	4' Paved Shoulder	2.4	Dur
DURH0334-B	Southwest Durham Dr	Witherspoon Rd to Durham-Chapel Hill Blvd	Needs Improvement	Bicycle Lane	1.0	DurCity
DURH0335-B	Southwest Durham Dr	US 15-501 to Mt Moriah Rd	Recommended	Bicycle Lane on roadway extension	0.4	DurCity
DURH0336-B	Southwest Durham Dr	I-40 to NC 54	Recommended	Bicycle Lane on new alignment	2.0	DurCity, Dur
DURH0337-B	Sowell St	Humphrey St to Pettigrew St	Needs Improvement	Sharrow	0.1	DurCity
DURH0338-B	Sparger Rd	Bennett Memorial Rd to Cole Mill Rd	Needs Improvement	Bicycle Lane	1.8	DurCity
DURH0339-B	Sprunt Ave	Albany St to Clarendon St	Needs Improvement	Sharrow	0.6	DurCity
DURH0340-B	Sprunt Ave	Hillandale Rd to N LaSalle St	Needs Improvement	Sharrow	0.5	DurCity
DURH0341-B	Stadium Dr	Woodgreen Dr to Olympic Ave	Needs Improvement	Bicycle Lane	2.7	DurCity
DURH0342-B	Stagecoach Rd	Farrington Rd to NC 751	Needs Improvement	Bicycle Lane	1.6	Dur
DURH0343-B	Stagville Rd	Bahama Rd to Old Oxford Rd	Needs Improvement	4' Paved Shoulder	3.8	Dur
DURH0344-B	Stallings Rd	Patterson to Mineral Springs Rd	Needs Improvement	4' Paved Shoulder	1.9	DurCity, Dur
DURH0345-B	State Forest Rd	Moores Mill Rd to Wilkins Rd	Needs Improvement	4' Paved Shoulder	2.2	Dur
DURH0346-B	Summit St	Roxboro St to University Dr	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0347-B	Swarthmore Rd	Garrett Rd to Hope Valley Rd	Needs Improvement	Bicycle Lane	0.6	DurCity
DURH0348-B	Swift Ave	Main St to Duke University Dr	Needs Improvement	Bicycle Lane	0.7	DurCity
DURH0349-B	Swing Rd	Hamlin Rd to Glenn Rd	Needs Improvement	4' Paved Shoulder	0.1	Dur
DURH0350-B	T W Alexander Dr	NC 147 to US 70	Needs Improvement	Bicycle Lane	2.2	DurCity
DURH0351-B	T W Alexander Dr	NC 55 to E Cornwallis Rd	Needs Improvement	Bicycle Lane	3.0	DurCity, Dur
--	T W Alexander Dr	E Cornwallis Rd to NC 147	Existing	Bicycle lane	1.9	DurCity, Dur
DURH0352-B	Tavistock Dr	Heather Ridge Ct to Split Rail Pl	Needs Improvement	Sharrow	0.2	Dur
DURH0353-B	Taylor St	Elizabeth St to End	Needs Improvement	Bicycle Lane	1.3	DurCity
DURH0354-B	Teknika Pkwy	Old Oxford Rd to Red Mill Rd	Needs Improvement	4' Paved Shoulder	0.7	Dur
DURH0355-B	Tom Clark Rd	Morgan Rd to Redwood Rd	Needs Improvement	4' Paved Shoulder	0.7	Dur
DURH0356-B	Tom Wilkinson Rd	Milton Rd to Roxboro Rd	Needs Improvement	Bicycle Lane	0.2	DurCity
DURH0357-B	Tower Blvd	Pickett Rd to Durham-Chapel Hill Blvd.	Needs Improvement	Bicycle Lane	0.3	DurCity
DURH0358-B	Towerview Rd	Erwin Rd to Duke University Rd	Needs Improvement	Bicycle Lane	1.0	DurCity
DURH0359-B	Trent Dr	Main St to Green St	Needs Improvement	Sharrow	0.2	DurCity
DURH0360-B	Umstead Rd	Cole Mill Rd to Guess Rd	Needs Improvement	Bicycle Lane	3.4	DurCity, Dur
DURH0361-B	UNC TV Dr	TW Alexander to UNC TV Bldg	Needs Improvement	Sharrow	0.2	Dur
EB-5514	University Dr	Lakewood Ave to Garrett Rd.	Needs Improvement	Bicycle Lane	2.5	DurCity
EB-5514	University Dr	W Cornwallis Rd to Garrett Rd.	Needs Improvement	Bicycle Lane	0.7	DurCity
--	University Dr	James St to W Cornwallis Rd	Existing	Bicycle lane	0.3	DurCity
DURH0362-B	University Dr	Lakewood Ave to Kent St	Needs Improvement	Bicycle Lane	0.2	DurCity

Note: All bicycle segments are on road.

## Bicycle-Pedestrian-Multiuse (1)

BICYCLE						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
DURH0363-B	University Dr	Summit St to Kent St	Needs Improvement	Bicycle Lane, Westbound only	0.2	DurCity
DURH0364-B	University Dr	Starlight Dr to Summit St	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0365-B	University Dr	W Forest Hills Blvd to Starlight Dr	Needs Improvement	Bicycle Lane, Westbound lane only	0.2	DurCity
DURH0366-B	University Dr	W Forest Hills Blvd to W Forest Hills Blvd	Needs Improvement	Bicycle Lane	0.1	DurCity
--	University Dr	Hermitage Ct Dr to W Forest Hills Blvd	Existing	Bicycle lane	0.2	DurCity
DURH0367-B	University Dr	Vickers Ave to Shepherd St	Needs Improvement	Bicycle Lane	0.1	DurCity
--	University Dr	S Duke St to Vickers Ave	Existing	Bicycle lane	0.2	DurCity
DURH0368-B	Valley Springs Rd	Rose of Sharon Rd to Rivermont Rd	Needs Improvement	4' Paved Shoulder	0.4	DurCity
DURH0369-B	Vickers Ave	Jackson St to University Dr	Needs Improvement	Bicycle Lane	0.8	DurCity
DURH0370-B	Virgil Rd	Kemp Rd to Carpenter Pond Rd	Needs Improvement	4' Paved Shoulder	2.4	Dur
DURH0371-B	W Carver St	Daile Ct to Ben Franklin Blvd	Needs Improvement	Bicycle Lane	3.7	DurCity
DURH0372-B	W Chapel Hill St	Pettigrew St to Morgan St	Needs Improvement	Sharrow	0.5	DurCity
DURH0373-B	W Chapel Hill St	Kent St to William Vickers Ave	Needs Improvement	Bicycle Lane	0.3	DurCity
--	W Chapel Hill St	Swift Ave to Kent St	Existing	Bicycle Lane	0.4	DurCity
--	W Chapel Hill St	Maplewood Ave to W Pettigrew St	Existing	Bicycle lane	0.3	DurCity
DURH0374-B	W Club Blvd	Roxboro St to Geer St	Needs Improvement	Bicycle Lane	2.6	DurCity
DURH0375-B	W Cornwallis Rd	Fayetteville St to Erwin Rd	Needs Improvement	Bicycle Lane	4.3	DurCity
DURH0376-B	W Corporation St	N Duke St to Gurley St	Needs Improvement	Bicycle Lane	0.8	DurCity
DURH0377-B	W Enterprise St	Overhill Terrace to Roxboro St	Needs Improvement	Sharrow	0.4	DurCity
DURH0378-B	W Hwy 54	Orange County Line to S Miami Blvd	Needs Improvement	Bicycle Lane	9.4	DurCity, Dur
DURH0379-B	W Knox St	Hale St to Roxboro St	Needs Improvement	Sharrow	2.1	DurCity
DURH0380-B	W Lakewood Ave	University Dr to S Mangum St	Needs Improvement	Bicycle Lane	0.3	DurCity
--	W Main St	15th St to W Morgan St	Existing	Bicycle Lane	1.1	DurCity
DURH0381-B	W Main St	Great Jones St to Roxboro St	Needs Improvement	Sharrow	0.5	DurCity
DURH0382-B	W Main St	Hillsborough Rd to 15th St	Needs Improvement	Bicycle Lane	0.6	DurCity
DURH0383-B	W Main St	W Morgan St to Great Jones St	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0384-B	W Markham Ave	Broad St to Avondale Dr	Needs Improvement	Bicycle Lane	2.0	DurCity
DURH0385-B	W Morgan St	Cleveland St to Morris St	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0386-B	W Morgan St	Morris St to Main St	Needs Improvement	Bicycle Lane	0.5	DurCity
DURH0387-B	W Parrish St	Market St to Roxboro Rd	Needs Improvement	Sharrow	0.3	DurCity
DURH0388-B	W Ramseur St	Chapel Hill St to Roxboro St	Needs Improvement	Bicycle Lane	0.6	DurCity
DURH0389-B	W Trinity Ave	Buchanan Blvd to Roxboro St	Needs Improvement	Bicycle Lane	1.1	DurCity
DURH0390-B	Wake Forest Hwy	Patterson Rd to Wake County Line	Needs Improvement	Bicycle Lane	4.8	DurCity, Dur
DURH0391-B	Wake Forest Hwy	Ganyard Farm Way to Patterson Rd	Needs Improvement	Bicycle Lane	2.4	DurCity, Dur
DURH0392-B	Ward St	Chapel Hill Rd to Forest Hills Blvd	Needs Improvement	Sharrow	0.8	DurCity
--	Washington St	Monmouth Ave to Ruby St	Existing	Bicycle lane	1.1	DurCity
DURH0393-B	Washington St	Corporation St to Monmouth Ave	Needs Improvement	Bicycle Lane	0.3	DurCity
DURH0394-B	Washington St	Ruby St to Glendale St	Needs Improvement	Bicycle Lane	0.1	DurCity
DURH0395-B	West Cornwallis Rd	Orange County Line to Erwin Rd	Needs Improvement	Bicycle Lane	1.5	Dur
DURH0396-B	Westgate Dr	Durham-Chapel Hill Blvd. to University Dr	Needs Improvement	Bicycle Lane	0.4	DurCity
DURH0397-B	Wiley Mangum Rd	Stagville Rd to Joe Ellis Rd	Needs Improvement	4' Paved Shoulder	1.4	Dur
DURH0398-B	Wilkins Rd	Hampton Rd to Bahama Rd	Needs Improvement	4' Paved Shoulder	3.0	Dur
DURH0399-B	Willard St	Julian Carr St to Jackson St	Needs Improvement	Bicycle Lane	0.3	DurCity
DURH0400-B	Winterberry Ridge Drive	W Woodcroft Pkwy to multiuse path	Needs Improvement	Bicycle facility to connect 3rd Fork Cr to ATT	0.1	DurCity
DURH0401-B	Woodcroft Pkwy	Hope Valley Rd to Fayetteville Rd	Needs Improvement	Bicycle Lane on roadway extension	1.9	DurCity
DURH0402-B	Woodcroft Pkwy Extension	Garrett Rd to NC 751 (Hope Valley Rd)	Recommended	Bicycle Lane on roadway extension	0.2	DurCity
DURH0403-B	Yates Store Rd	O'Kelly Ch Rd to Grandale Dr/Wake Rd	Recommended	Wide outside lanes on roadway extension	1.4	Cary, Chat

ORANGE COUNTY						
--	Autumn Dr	Cates Farm Rd to Stratford Dr	Existing	Bicycle Lane	0.1	Carr
ORAN0101-B	Baldwin Rd	Baldwin Rd to New Sharron Church Rd	Needs Improvement	4' Paved Shoulder	1.5	OR
ORAN0102-B	Baldwin Rd	Miller Rd to Walker Rd	Needs Improvement	Connect Miller Rd and Walker Rd facilities	1.4	OR
ORAN0103-B	Barbee Chapel Rd	Downing Creek Pkwy to Easement Trail	Needs Improvement	Bicycle Lane	0.1	DurCity
--	Barbee Chapel Rd	NC 54 to NC 54	Existing	Bicycle Lane	0.9	CH
ORAN0104-B	Ben Johnston Rd	I-85 Connector to Dimmocks Mill Rd	Needs Improvement	4' Paved Shoulder	1.7	OR
ORAN0105-B	Bennett Rd	15-501 to Mt Carmel Church	Needs Improvement	Bicycle Lane	0.3	CH
--	Berry Hill Dr	S Old Fayetteville Rd to Westbrook Dr	Existing	Bicycle Lane	0.2	Carr
--	Booker Creek Rd	Booker Creek Trail to Honeysuckle Rd	Existing	Signed Route	0.3	CH
--	Bpw Club Rd	Smith Level Rd to Tar Hill Dr	Existing	Bicycle Lane	0.5	Carr

Note: All bicycle segments are on road.

# Bicycle-Pedestrian-Multiuse (1)

BICYCLE						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
--	Brewer Lane	Libba Cotton St to Eugene St	Existing	ROW Sharrow	0.1	Carr
--	Brewer Lane	Libba Cotton to E Main St	Existing	ROW Sharrow	0.1	CH, Carr
ORAN0106-B	Brookhollow Rd	E Lebanon Rd to Southern Dr	Needs Improvement	4' Paved Shoulder	1.7	OR
ORAN0107-B	Buckhorn Rd	W Ten Rd to Orange Grove Rd	Needs Improvement	4' Paved Shoulder	2.3	OR
ORAN0108-B	Burning Tree/Pinehurst Dr	NC 54 to Ephesus Church Rd	Needs Improvement	Bicycle Lane	2.2	CH
ORAN0109-B	C2C Connector	Estes Drive to Libba Cotton Bike Path	Needs Improvement	On Road/MUP	0.6	Carr
--	Calvin/S Occoneechee St	W Margaret Ln to Nash St	Existing	Signed Route	0.2	Hboro
ORAN0110-B	Cameron Ave	Pittsboro St to Raleigh St	Needs Improvement	Bicycle Lane	0.5	CH
ORAN0111-B	Cameron Ave	Merritt Mill to Columbia St	Needs Improvement	Bicycle Lane	0.6	CH
--	Cameron St/Corbin St	N Churton St to Burnside Dr	Existing	Signed Route	0.9	Hboro
--	Carol St	Old Fayetteville Rd to Lorraine St	Existing	Sharrow	0.6	Carr
ORAN0112-B	Carr St	Maple Av to End	Needs Improvement	Bicycle Lane on one side	0.2	Carr
--	Carrboro High School	Tar Hill Dr to Rock Haven Rd	Existing	Bicycle Lane	0.2	Carr
--	Cates Farm Rd	Hillsborough Rd to Pathway Dr	Existing	Bicycle Lane	0.5	Carr
--	Cedar Hills	Piney Mountain to Weaver Dairy Rd	Existing	Signed Route	0.6	CH
--	Chapel Watch Connector	Eubanks Rd to Kousa Trail	Existing	Signed Route	0.2	CH
--	Chapel Watch Connector	Old Larkspur to Weaver Dairy Rd	Existing	Signed Route	0.6	CH
--	Church Street	Franklin Street to Caldwell St	Existing	Green Sharrow Boxes	0.4	CH
ORAN0113-B	Cleland Dr	15-501/Fordham to Burning Tree Dr	Needs Improvement	Bicycle Lane	0.8	CH
ORAN0114-B	Coleman Loop	NC Hwy 86 to NC Hwy 86	Needs Improvement	4' Paved Shoulder	2.6	OR
ORAN0115-B	Columbia St	Rosemary St to South Rd	Needs Improvement	Sharrow	0.4	CH
ORAN0116-B	Country Club Rd	Raleigh Rd to Cameron Ave	Needs Improvement	Climbing Lane/Sharrow	0.4	CH
ORAN0117-B	Culbreth Rd/Mt Carmel Church Rd	Smith Level Rd to Town Limits	Needs Improvement	Bicycle Lane	2.0	CH, Carr
ORAN0118-B	Dairyland Rd	MPO Boundary to Union Grove Church Rd	Needs Improvement	4' Paved Shoulder	4.4	OR
ORAN0119-B	Dairyland Rd	Union Grove Church Rd to NC 86	Needs Improvement	4' Paved Shoulder	0.6	OR
ORAN0120-B	Dairyland Rd	NC 86 to Past Clermont Greenway Crossing	Needs Improvement	4' Paved Shoulder	1.5	OR, Carr
ORAN0121-B	Davie Rd	Jones Ferry Rd. to Main St.	Needs Improvement	Bicycle Lane on one side	0.6	Carr
ORAN0122-B	Dimmock Mill Rd	I-40 to Orange Grove Rd	Needs Improvement	4' Paved Shoulder	2.1	OR
--	Dimmocks Mill Rd/S Nash St	Nash St to I40	Existing	Signed Route	1.9	OR, Hboro
--	Dobbins Dr	Eastowne Dr to Franklin St	Existing	Signed Route	1.3	CH
ORAN0123-B	Dodsons Crossroads	Orange Grove Rd to NC 54	Needs Improvement	4' Paved Shoulder	5.1	OR
--	Eastgate Shopping Center	US 15-501 to E Franklin St	Existing	Signed Route	0.2	CH
ORAN0124-B	Eastowne Dr	Dobbins Dr to Old Durham Chapel Hill	Needs Improvement	Bicycle Lane	0.9	CH
--	Elizabeth St	E Franklin St to Bolin Creek Trail	Existing	Signed Route	0.2	CH
ORAN0125-B	Elliott Rd	Franklin St to Fordham	Needs Improvement	Cycle Track	0.5	CH
ORAN0126-B	Elliott Rd Extension	15-501/Fordham to Ephesus Church Rd	Needs Improvement	Cycle Track	0.2	CH
ORAN0127-B	Elliott Rd/Curtis Rd	Estes Dr to Franklin St	Needs Improvement	Bicycle Lane	0.9	CH
ORAN0128-B	Erwin Rd	Fordham Blvd to Durham Border	Needs Improvement	Bicycle Lane	2.5	CH, OR
EB-5886	Estes Dr Ext	N. Greensboro St. to Town Limits	Needs Improvement	Bicycle Lane	0.4	CH, Carr
EB-5886	Estes Dr	NC 86 to Carrboro Border	Needs Improvement	Bicycle Lane	1.3	CH
--	Estes Drive	Caswell to Fordham	Existing	Wide Outside Lane	1.2	CH
C-5179, ORAN0129-B	Estes Drive	NC 86 to 15-501/Fordham	Needs Improvement	Wide Outside Lane	0.7	CH
ORAN0130-B	Eubanks Rd	Old NC 86 to NC 86	Needs Improvement	Bicycle Lane	2.6	CH, OR
ORAN0131-B	Europa Dr	Legion Rd to Erwin Rd/US 15-501	Needs Improvement	Bicycle Lane	0.3	CH
--	Farm House Dr	Hillsborough Rd to Buckeye Ln	Existing	Bicycle Lane	0.2	OR, Carr
ORAN0132-B	Farm House Dr	End to Future connection to Tramore	Needs Improvement	Bicycle Lane	0.1	OR, Carr
ORAN0133-B	Faucette Mill Rd	Frank Perry Rd to Odie St	Needs Improvement	4' Paved Shoulder	1.4	OR
--	Faucette Mill Rd	Thompson Ct to Cornelius St	Existing	Signed Route	0.6	OR, Hboro
--	Fidelity St	West Main St to Davie Rd	Existing	Bicycle Lane	0.4	Carr
ORAN0134-B	Frank Perry Rd	Coleman Loop to Faucette Mill Rd	Needs Improvement	4' Paved Shoulder	1.3	OR
--	Franklin St	Estes Dr to Roosevelt	Existing	Wide Outside Lane	0.7	CH
ORAN0135-B	Franklin St	Merritt Mill Rd to Fordham Blvd	Needs Improvement	Buffered bike lanes (Merritt Mill Rd through downtown CH); bike lane/ climbing lane (downtown CH - south of Fordham Blvd). (3)	3.1	CH
ORAN0136-B	Hamilton Rd	US 15-501 to NC 54	Needs Improvement	Bicycle Lane	0.9	CH

Note: All bicycle segments are on road.



## Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

BICYCLE						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
--	Haynes Rd	Cleland Rd to US 15-501	Existing	Signed Route	0.9	CH
--	Hickory Dr	Willow Dr to S Estes Dr	Existing	Signed Route	0.4	CH
ORAN0137-B	Highland Farm Rd	Efland-Cedar Grove Rd to Coleman Loop	Needs Improvement	4' Paved Shoulder	1.3	OR
--	Hillsborough Rd	Old Fayetteville Rd to W Main St	Existing	Bicycle Lane	1.9	OR, Carr
ORAN0138-B	Hillsborough St	NC 86 to South Rd	Needs Improvement	Climbing Lane/Sharrows	1.2	CH
--	Hogan Hills	Hogan Hills Rd to Recommended Twin Jones Creek Trail	Existing	Bicycle Lane	0.1	Carr
ORAN0139-B	Homestead Rd	NC 86 to Rogers Rd	Needs Improvement	Bicycle Lane (2)	1.3	CH, OR
--	Homestead Rd	Rogers Rd to Winmore Path	Existing	Bicycle Lane	0.6	OR, Carr
ORAN0140-B	I-85 Connector	Ben Johnston Rd to Cornelius St	Needs Improvement	4' Paved Shoulder	1.3	OR
ORAN0141-B	I-85 Connector	W Ten Rd to Ben Johnston Rd	Needs Improvement	4' Paved Shoulder	0.3	OR
ORAN0142-B	James St	Main St to Hillsborough Rd	Needs Improvement	Bicycle Lane	0.6	Carr
ORAN0143-B	Jones Ferry Rd	Edmister Ln to MPO Boundary	Needs Improvement	4' Paved Shoulder	3.2	OR
--	Jones Ferry Rd	Stone St to NC 54	Existing	Bicycle Lane	0.7	Carr
ORAN0144-B	Jones Ferry Rd	NC 54 to Edminster Lane	Needs Improvement	Bicycle Lane	1.0	OR, Carr
--	Kingston Dr	Weaver Dairy Rd to Timberlyne Rd	Existing	Bicycle Lane	0.3	CH
--	Lake Hogan Farm	Old NC 86 to Homestead Rd	Existing	Bicycle Lane	1.4	OR, Carr
ORAN0145-B	Lake Hogan Farm Trail	Lake Hogan Farms Rd. End to Tramore Dr	Recommended	Bicycle Lane	0.3	OR
ORAN0146-B	Lancaster Dr	Pinehurst Dr to Little Creek Trail	Needs Improvement	Bicycle Facility	0.4	CH
--	Laurel Hill Rd	Raleigh Rd to Fern Ln	Existing	Signed Route	1.0	CH
ORAN0147-B	Lawrence Rd	Old NC 10 to St Mary's Rd	Needs Improvement	4' Paved Shoulder	2.8	OR
ORAN0148-B	Lebanon Rd	Brook Hollow Rd to Saddle Club Rd	Needs Improvement	4' Paved Shoulder	4.0	OR
--	Legion Rd	Ephesus Church Rd to Europa Dr	Existing	Bicycle Lane	0.4	CH
ORAN0149-B	Legion Rd	Scarlett Dr to Jackie Robinson St	Needs Improvement	Bicycle Lane	0.2	CH
--	Legion Rd	Jackie Robinson St to Europa Dr	Existing	Bicycle Lane	0.2	CH
--	W Main St	N Greensboro St to Hillsborough Rd	Existing	Bicycle Lane	1.2	Carr
ORAN0150-B	W Main St	Weaver St. to Jones Ferry Rd.	Needs Improvement	Bicycle Lane on one side	0.1	Carr
ORAN0151-B	E Main St	Chapel Hill border to Lloyd St	Needs Improvement	Bicycle Lane	0.2	Carr
--	Mallette St	Cameron to Franklin St	Existing	Green Sharrow Boxes	0.2	CH
ORAN0152-B	Manning Dr	Pittsboro St to Fordham Blvd	Needs Improvement	Climbing lane and sharrows	1.2	CH
ORAN0153-B	Mason Farm Rd	UNC Hospital to 15-501/54 Sidepath	Needs Improvement	Bicycle Lane/Sharrow	0.8	CH
ORAN0154-B	McCauley St	Ransom St to S Columbia St	Needs Improvement	Sharrow	0.3	CH
--	McMasters St/Church St	Tanyard Branch Trail to Caldwell St	Existing	Signed Route	0.3	CH
--	Meadowmont Lane	Park Bluff to NC 54	Existing	Bicycle Lane	1.0	CH
ORAN0155-B	S Merritt Mill Rd	Cameron to Smith Level	Needs Improvement	Climbing Lane/Bicycle Lane/Sharrow	0.7	CH, Carr
--	Michaux Rd	Elliot Rd to multiuse path	Existing	Signed Route	0.2	CH
--	Michaux Rd	Michaux Rd to Chapel Hill Library	Existing	Signed Route	0.1	CH
ORAN0156-B	Miller Rd	Baldwin Rd to Orange High School Rd	Needs Improvement	4' Paved Shoulder	1.4	OR
--	Miller Rd	St Mary's Rd to Orange High School Rd	Existing	Signed Route	0.8	OR
--	Millhouse Rd	Eubanks to CH Public Works	Existing	Bicycle Lane	0.6	OR
--	Morgan Creek Route	Morgan Cr Trail to Manning Dr	Existing	Signed Route	1.0	CH
ORAN0157-B	Mt Carmel Church Rd	Town Limits to Chatham County Line	Needs Improvement	4' Paved Shoulder	1.9	CH, OR
ORAN0158-B	Mt Hernon Church Rd	Old NC 10 to US 70	Needs Improvement	4' Paved Shoulder	0.9	OR
ORAN0159-B	Mt Sinai Rd	NC 86 to Kerley Rd	Needs Improvement	4' Paved Shoulder	4.8	OR
ORAN0160-B	Mt Willig Rd	Brookhollow Rd to W Ten Rd	Needs Improvement	4' Paved Shoulder	1.0	OR
ORAN0161-B	Muirhead Lane	Fordham Blvd to Hamilton Rd	Needs Improvement	Bicycle Lane	0.1	CH
ORAN0162-B	N Churton St	Corbin St to US 70 Bypass	Needs Improvement	Bicycle Lane	0.3	Hboro
--	N Greensboro St	Parker St to Hillsborough Rd	Existing	Bicycle Lane	1.1	Carr
--	Nash Street/Revere Rd	Cornelius St to Calvin St	Existing	Signed Route	1.0	Hboro
R-5821	NC 54	Reeves Rd to Dobsons Crossroads	Needs Improvement	4' Paved Shoulder	2.5	OR
--	NC 54	Reeves Rd to Jones Ferry Rd	Existing	Wide Outside Lane	3.2	OR, Carr
--	NC 54	Jones Ferry Rd to Just east of Smith Level Rd	Existing	Wide Outside Lane	0.8	Carr
ORAN0163-B	NC 54 Sidepath	Anderson Park to James St	Recommended	Paved Greenway	0.7	Carr
--	NC 54/Fordham Blvd	Smith Level to 15-501 N	Existing	Wide Shoulder (1)(2)	5.1	CH, Carr
--	NC 86	Eubanks Rd to Homestead Rd	Existing	Bicycle Lane	1.4	CH, OR
ORAN0164-B	NC 86	Homestead Rd to Rosemary St	Needs Improvement	Bicycle Lane	2.5	CH
ORAN0165-B	NC 86	Coleman Loop to Rocky Ln	Needs Improvement	4' Paved Shoulder	0.6	OR
ORAN0166-B	NC 86	Phoebe Dr to Eubanks	Needs Improvement	4' Paved Shoulder	6.5	OR
--	NC 86 N	US 70 Bypass to Rocky Ln	Existing	Signed Route	1.1	OR, Hboro

Note: All bicycle segments are on road.

# Bicycle-Pedestrian-Multiuse (1)

BICYCLE						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
ORAN0167-B	NC 86 S NC 86 S	Elizabeth Brady Rd to Old NC 10	Needs Improvement	Bicycle Lane	0.9	OR, Hboro
ORAN0168-B	New Collector Rd	Orange Grove St to Becketts Ridge Dr	Recommended	4' Paved Shoulder	0.8	OR, Hboro
ORAN0169-B	New Hope Church Rd	Old NC 86 to Old NC 10	Needs Improvement	4' Paved Shoulder	4.1	OR
ORAN0170-B	New Sharon Ch Rd	Guess Rd to NC 57	Needs Improvement	Bicycle Facility	3.0	OR
ORAN0171-B	New Sharon Church Rd	St Mary's to Guess Rd	Needs Improvement	4' Paved Shoulder	7.0	OR
--	Oakdale Dr	Orange Grove Rd to Churton St	Existing	Signed Route	1.1	OR, Hboro
ORAN0172-B	Ode Turner Rd	Orange Grove Rd to Old Chapel Hill- Hillsborough Rd	Needs Improvement	4' Paved Shoulder	2.3	OR
EB-4707A	Old Durham Chapel Hill Rd	Scarlett Dr to Mt Moriah Rd	Needs Improvement	Bicycle Lane	1.1	DurCity, Dur, CH
--	Old Fayetteville Road	Hillsborough Rd to NC 54	Existing	Bicycle Lane	1.1	OR, Carr
--	Old Fayetteville Road	West Poplar to University Lake Rd	Existing	Bicycle Lane	0.7	Carr
--	Old Fayetteville Road	Carborro Plaza to Church off W Poplar St	Existing	Bicycle Lane	0.1	Carr
ORAN0173-B	Old Fayetteville Road	Jones Ferry Road to NC 54	Needs Improvement	Bicycle Lane	0.5	Carr
ORAN0174-B	Old Greensboro Rd	Jones Ferry Rd to MPO Boundary	Needs Improvement	4' Paved Shoulder	2.7	OR
ORAN0175-B	Old NC 10	NC 86 to US 70	Needs Improvement	4' Paved Shoulder	5.9	OR
ORAN0176-B	Old NC 86	Waterstone Dr to Aurthur Minus Rd	Needs Improvement	Bicylce Lane; consider multiuse path alt.	3.1	OR
ORAN0177-B	Old NC 86	Homestead Rd to New Hope Church Rd	Needs Improvement	Bicylce Lane; consider multiuse path alt.	4.0	OR
--	Old NC 86	Old Fayetteville Rd to Farm House Dr	Existing	Bicycle Lane	0.2	OR
ORAN0178-B	Old NC 86	Farmhouse Rd to Homestead Rd	Needs Improvement	Bicylce Lane	0.6	OR
--	Old Pittsboro Rd	S Greensboro St to S Greensboro St	Existing	No improvements; Alt. route to S Greensboro St	0.4	Carr
--	Old Sterling Dr	Eastowne to Sage	Existing	Bicycle Lane	0.5	CH
ORAN0179-B	Orange Grove Rd	Dobbsons Crossroads to 1-40	Needs Improvement	4' Paved Shoulder	2.4	OR
U-5848	Orange Grove Connector	S Churton St to NC 86	Recommended	4' Paved Shoulder	0.4	OR, Hboro
--	Orange Grove Rd	Orange Grove Rd to Churton St	Existing	Signed Route	1.4	OR, Hboro
--	Pathway Dr	Cates Farm Rd to recommended route to Seawell School	Existing	Bicycle Lane	1.2	OR, Carr
--	Piney Mountain Connector	Piney Mountain Rd to Erwin Rd/Elliott Rd	Existing	Signed Route	2.9	CH
--	Piney Mountain Connector	Kingston Dr to NC 86	Existing	Signed Route	2.0	CH
ORAN0180-B	Pleasant Green Rd	US 70 to New Sharon Church Rd	Needs Improvement	4' Paved Shoulder	7.6	OR
	W Poplar Ave	W Main St to Old Fayetteville Rd	Existing	Bicycle Lane	0.9	Carr
ORAN0181-B	Quail Roost Dr	Schools Greenway to Hillsborough Rd	Needs Improvement	Bicycle Lane	0.3	Carr
ORAN0182-B	Raleigh Rd	Fordham to Country Club	Needs Improvement	Uphill Climbing Lane/Downhill Sharrow	0.7	CH
ORAN0183-B	Ransom St	Cameron Ave to S Columbia St	Needs Improvement	Sharrow	0.4	CH
--	Rock Haven Rd	Smith Level Rd to Tar Hill Dr	Existing	Bicycle Lane	0.3	Carr
ORAN0184-B	Rosemary St	Boundary St to Columbia St	Needs Improvement	Sharrow/Bicycle Lane	0.6	CH
ORAN0185-B	Rosemary St	Columbia St to Carrboro Border	Needs Improvement (Complete)	Buffered Bicycle Lanes (Complete)	0.6	CH, Carr
--	S Christopher Rd	Raleigh Rd (NC 54) to Laurel Hill Rd	Existing	Signed Route	0.7	CH
ORAN0186-B	S Churton St	E Margaret Lan to NC 86	Needs Improvement	4' Paved Shoulder	0.3	OR, Hboro
ORAN0187-B	S Churton St	US 70 A to Waterstone Dr	Needs Improvement	Bicycle Lane	2.2	OR, Hboro
--	S Columbia/NC 86	NC 54 to Cameron Ave	Existing	Bicycle Lane	1.3	CH
--	S Columbia/NC 86	South Rd to Pittsboro St	Existing	Bicycle Lane	0.4	CH
ORAN0188-B	S Greensboro St	Merritt Mill Rd. to Rand Rd.	Needs Improvement	Bicycle Lane on one side	0.1	Carr
--	S Greensboro St	W Main St to Smith Level Rd	Existing	NC 2 Bike Hwy: Mtns to Sea; Bicycle lane	0.5	Carr
ORAN0189-B	S Lake Hogan Farm Rd	Farmhouse Rd to Tramore Rd	Recommended	Bicycle Lane	0.2	Carr
--	S Old Fayetteville Rd	Old Fayetteville Rd to Berry Hill Dr	Existing	Bicycle Lane	0.1	Carr
ORAN0190-B	Sage Rd	Weaver Dairy Rd to 15-501	Needs Improvement (Complete)	Buffered Bicycle Lanes (Complete)	0.6	CH
ORAN0191-B	Seawell School Rd	Smith Middle School to Estes Dr	Needs Improvement	Bicycle Lane	1.1	CH, Carr
ORAN0192-B	Seawell School Rd	High School Rd to Homestead Rd	Needs Improvement	Bicycle Lane	0.4	CH, Carr
--	Seawell School Rd	High School Rd to Smith Middle School	Existing	Bicycle Lane	0.4	CH
--	Shelton St	Ashe to N Greensboro	Existing	Sharrow	0.3	Carr
--	Smith Level Rd	NC 54 Bypass to Rock Haven Rd	Existing	Bicycle Lane	0.8	Carr
ORAN0193-B	South Rd	S Columbia St to Raleigh Rd	Needs Improvement	Sharrow	0.7	CH

Note: All bicycle segments are on road.

## Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

BICYCLE						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
--	Sprunt Street	Old Barn to Meadowmont Lane	Existing	Bicycle Lane	0.4	CH
ORAN0194-B	St Mary's Rd	US 70 to New Sharon Church Rd	Needs Improvement	4' Paved Shoulder	1.6	OR
ORAN0195-B	Stadium Dr	South Rd to Manning Dr	Needs Improvement	Climbing Lane/Sharrow	0.6	CH
ORAN0196-B	Stateside Dr/Homestead Park	Along Napa Valley Wy and Vintage Dr	Needs Improvement	Bicycle Facility	0.2	CH
ORAN0197-B	Stateside Dr/Homestead Park	Along water tower access road	Needs Improvement	Sharrows and Signage	0.2	CH
ORAN0198-B	Stateside Dr/Homestead Park	Stateside Dr to water tower access road	Recommended	No existing road, recommended connection	0.1	CH
ORAN0199-B	Stateside Dr/Homestead Park	Along Stateside Dr and New Stateside Dr	Needs Improvement	Sharrows and Signage	0.5	CH
ORAN0200-B	Stateside Dr/Homestead Park	Along Homestead Park access road	Needs Improvement	Bicycle Facility	0.1	CH
ORAN0201-B	Stateside Dr/Homestead Park	Along Homestead Aquatic Ctr access road	Needs Improvement	Bicycle Facility	0.1	CH
--	Stratford Dr	Autumn Dr to Homestead	Existing	Bicycle Lane	0.5	Carr
ORAN0202-B	Strowd Ln	Old Fayetteville Rd. to West side of Anderson Park	Needs Improvement	Bicycle Lane on one side	0.2	Carr
ORAN0203-B	Sweet Bay Pl	Carr St. to Roberson St.	Needs Improvement	Bicycle Lane on one side	0.0	Carr
--	Tarhill Dr	Carrboro High School to End of Tar Hill Dr	Existing	Bicycle Lane	0.2	Carr
ORAN0204-B	Terry Rd	New Sharon Ch Rd to St. Marys Rd	Needs Improvement	From Orange County Bicycle Routes Map	2.4	OR
ORAN0205-B	Terry Rd	New Sharon Ch Rd to St. Marys Rd	Needs Improvement	Bicycle Lane	2.4	OR
--	Tramore D	Stratford Dr to End	Existing	Bicycle Lane	0.1	OR, Carr
--	Tripp Farm Rd	Pathway Dr to End of Tripp Farm Rd	Existing	Bicycle Lane	0.1	Carr
--	Tripp Farm Rd	Pathway Dr to Recommended MLK Park Trail	Existing	Bicycle Lane	0.0	Carr
ORAN0206-B	Turkey Farm Rd	Mt. Sinai Rd to Whitfield Rd	Needs Improvement	From Orange County Bicycle Routes Map	2.0	OR
ORAN0207-B	Turkey Farm Rd	Whitfield Rd to Mt. Sinai Rd	Needs Improvement	Bicycle Lane	2.0	OR
ORAN0208-B	University Lake Rd	Old Fayetteville Rd. to future terminus of Morgan Creek Gre*	Needs Improvement	Bicycle Lane on one side	0.2	OR, Carr
ORAN0209-B	University Station Rd	Mt. Sinai Rd to US 70	Needs Improvement	From Orange County Bicycle Routes Map	3.6	OR
ORAN0210-B	University Station Rd	Mt. Sinai Rd to US 70	Needs Improvement	Bicycle Lane	3.6	OR
ORAN0211-B	US 15-501	Orange County Line to Dogwood Dr	Needs Improvement	Bicycle Lane	1.2	CH, OR
ORAN0212-B	US 15-501 S	Dogwood Acres to Culbreth	Needs Improvement	Buffered Bicycle Lane	1.4	CH
--	US 15-501 S	Market St to NC 54	Existing	Buffered Bicycle Lane	1.1	CH
ORAN0213-B	US 70	St Mary's Rd to Lawrence Rd	Needs Improvement	4' Paved Shoulder	1.3	OR
ORAN0214-B	US 70 A	Churton St to Meadowlands Dr	Needs Improvement	Bicycle Lane	2.0	OR, Hboro
ORAN0215-B	US 70/Cornelius St	West Hill Ave to St Mary's Rd	Needs Improvement	Bicycle Lane	3.5	OR, Hboro
ORAN0216-B	W Cornwallis Rd	Old NC 10 to Bay Meadows Ln	Needs Improvement	4' Paved Shoulder	3.8	OR
--	W Margaret Ln	S Cameron St to Occoneechee St	Existing	Signed Route	0.7	Hboro
ORAN0217-B	W Ten Rd	Rock Quarry Rd to 1-85 Connector	Needs Improvement	4' Paved Shoulder	3.7	OR
--	Waterstone Dr	S Churton St to NC 86	Existing	Bicycle Lane	1.0	OR, Hboro
--	Weaver Dairy Rd	Sage Rd to Homestead Rd	Existing	Bicycle Lane	4.0	CH
ORAN0218-B	Weaver Dairy Rd	Sage Rd to Erwin Rd	Needs Improvement	Bicycle Lane	0.4	CH
--	Weaver St	Elm St to N Greensboro St	Existing	Bicycle Lane	0.2	Carr
--	Weaver St	N Greensboro St to E Main St	Existing	ROW Sharrow	0.1	Carr
--	Westbrook Dr	NC 54 to Berry Hill Dr	Existing	Bicycle Lane	0.4	Carr
--	Westminster Dr	NC 86 to Edisto Ct	Existing	Bicycle Lane exists, Signage needed	0.3	CH
--	Westminster Dr	Along Butternut Dr and Pitch Pine Ln	Existing	Signed Route	0.4	CH
ORAN0219-B	Westminster Dr	Westminster to multiuse path	Needs Improvement	Signed Route	0.0	CH
ORAN0220-B	Whitfield Rd	NC 86 to Erwin Rd	Needs Improvement	4' Paved Shoulder	3.4	OR
ORAN0221-B	Willow Dr	Estes Dr to Long Leaf Dr	Needs Improvement	Bicycle Lane	0.8	CH

Note: All bicycle segments are on road.

# Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

## Off-Road Pedestrian

Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
<b>DURHAM COUNTY</b>						
--	Mountains to Sea Trail (MST)	Pleasant Green Rd to Wake County	Existing	Pedestrian trail	41.8	DurCity, Dur

<b>ORANGE COUNTY</b>						
ORAN0101-P	Bolin Creek Trail Extension	Lower Trading Path to Bolin Creek (Hogan Lake)	Recommended	Unpaved trail	2.0	OR
CHAT0102-P	Buck Branch Trail	Parallel to Mt Carmel Church Rd	Recommended	Unpaved trail	2.2	OR
CHAT0103-P	Buck Branch Trail Spur 1	Buck Branch Trail to Turnage Ridge Rd	Recommended	Unpaved trail	0.8	OR
--	Elizabeth Brady	US 70 Bus to Occoneechee Mtn Spdwy/MTS Trail	Existing	Pedestrian trail	0.5	OR, Hboro
--	Elizabeth Brady	US 70 Bus to the Eno River	Existing	Footpath	0.4	Hboro
CHAT0104-P	Eno River Trail	Mt. Willing Road to Halls Mill Rd	Recommended	Footpath	2.7	OR
CHAT0105-P	High Rock Rd	US 70 to Mill Creek Rd	Recommended	Footpath	5.5	OR
CHAT0106-P	Hillsborough Rural Connector	Crescent Ridge Dr to Moorefields Rd	Recommended	Footpath	3.9	OR
CHAT0107-P	Jones Ferry Road Parallel Trail	Morgan Creek (University Lake) to Deerfield Trl	Recommended	Unpaved trail	1.2	OR
--	Kings Highway Trails	Ben Johnston Rd to railroad and the Eno river	Existing	Pedestrian trail	0.8	OR
CHAT0108-P	Long Branch Trail	New Hope Crk Trl Spur 9 to Union Grove Church Rd	Recommended	Unpaved trail	1.1	OR
CHAT0109-P	Lower Trading Path	Dodsons Xrds to Eubanks Rd	Recommended	Footpath	3.4	OR
CHAT0110-P	Morgan Creek Trail	East of Dodsons Xrds to north of Jones Ferry Rd	Recommended	Unpaved trail	7.6	OR
CHAT0111-P	Morgan Creek Trail Spur 1	Morgan Creek Trail to Strowd Ln	Recommended	Unpaved trail	0.9	OR
CHAT0112-P	Morgan Creek Trail Spur 10	Parallel to and south of Dairyland Rd	Recommended	Unpaved trail	0.4	OR
CHAT0113-P	Morgan Creek Trail Spur 2	Morgan Crk Trl to E of Bethel Hickory Grove Ch Rd	Recommended	Unpaved trail	1.0	OR
CHAT0114-P	Morgan Creek Trail Spur 3	Morgan Creek Trail to west of Lassens Trl	Recommended	Unpaved trail	2.3	OR
CHAT0115-P	Morgan Creek Trail Spur 4	Morgan Creek Trail to Brights Way	Recommended	Unpaved trail	0.7	OR
CHAT0116-P	Morgan Creek Trail Spur 5	Dairyland Rd to west of Union Grove Church Rd	Recommended	Unpaved trail	0.8	OR
CHAT0117-P	Morgan Creek Trail Spur 6	Morgan Creek Trail to Spring Vista Ct	Recommended	Unpaved trail	0.6	OR
CHAT0118-P	Morgan Creek Trail Spur 7	Lower Trading Path to south of Riders Trl	Recommended	Unpaved trail	0.9	OR
CHAT0119-P	Morgan Creek Trail Spur 8	Morgan Creek Trail to north of Dairyland Rd	Recommended	Unpaved trail	0.7	OR
CHAT0120-P	Morgan Creek Trail Spur 9	Parallel to and north of Dairyland Rd	Recommended	Unpaved trail	0.7	OR
CHAT0121-P	Mountain Creek Tr	New Hope Crk Trl to east of Union Grove Church Rd	Recommended	Unpaved trail	2.8	OR
CHAT0122-P	Mountains to Sea Tr	Orange County Speedway to Durham County	Recommended	Paved and natural surface trail	10.3	Orange
CHAT0123-P	Mountains to Sea Tr	Alamance County to Hillsborough Riverwalk	Recommended	Paved and natural surface trail	1.7	Orange
--	Mountains to Sea Trail	Occoneechee Mountain Speedway to US 70	Existing	Pedestrian trail	0.8	OR, Hboro
CHAT0124-P	Mountains to Sea Trail	Hillsborough Riverwalk to Orange County Speedway	Recommended	Paved and natural surface trail	0.7	Orange
--	Mountains to Sea Trail	Hillsborough Riverwalk to Orange County Speedway	Existing	Paved and natural surface trail	0.1	OR
CHAT0125-P	Mountains to Sea Trail (MST)	Lawrence Rd to Pleasant Green Rd	Recommended	Planned Route	3.1	OR
--	Mountains to Sea Trail (MST)	Lawrence Rd to Pleasant Green Rd	Existing	Completed Trails	2.8	OR
CHAT0126-P	Mountains to Sea Trail (MST)	US 70 to Lawrence Rd	Recommended	Planned Route	1.1	OR
CHAT0127-P	Neville Creek Trail	Parallel to and north of Jones Ferry Rd	Recommended	Unpaved trail	2.8	OR
CHAT0128-P	Neville Creek Trail Spur 1	Neville Creek Trail to Damascus Church Rd	Recommended	Unpaved trail	1.5	OR
CHAT0129-P	Neville Creek Trail Spur 2	Neville Creek Trail to south of Old Greensboro Rd	Recommended	Unpaved trail	0.7	OR
CHAT0130-P	Neville Creek Trail Spur 3	Neville Creek Trail to Mell Oaks Trl	Recommended	Unpaved trail	0.7	OR
CHAT0131-P	Neville Creek Trail Spur 4	Neville Creek Trail to Ferguson Rd	Recommended	Unpaved trail	0.3	OR
CHAT0132-P	Neville Creek Trail Spur 5	Neville Creek Trail to Mell Oaks Dr	Recommended	Unpaved trail	0.4	OR
CHAT0133-P	Neville Creek Trail Spur 6	Neville Creek Trail to Holly Creek Ln	Recommended	Unpaved trail	0.7	OR
CHAT0134-P	New Hope Creek Trail	Turkey Farm Rd to Old NC 86	Recommended	Unpaved trail	5.9	OR
CHAT0135-P	New Hope Creek Trail Spur 1	New Hope Creek Trail to Green Hill Dr	Recommended	Unpaved trail	1.1	OR
CHAT0136-P	New Hope Creek Trail Spur 2	New Hope Creek Trail to railroad	Recommended	Unpaved trail	1.0	OR
CHAT0137-P	New Hope Creek Trail Spur 3	New Hope Creek Trail to New Hope Dr	Recommended	Unpaved trail	0.5	OR

## Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

Off-Road Pedestrian						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
CHAT0138-P	New Hope Creek Trail Spur 4	New Hope Creek Trail to Camp Cir	Recommended	Unpaved trail	0.9	OR
CHAT0139-P	New Hope Creek Trail Spur 5	Parallel to New Hope Church Rd	Recommended	Unpaved trail	1.6	OR
CHAT0140-P	New Hope Creek Trail Spur 6	New Hope Creek Trail Spur 5 to Stone Currie Dr	Recommended	Unpaved trail	0.4	OR
CHAT0141-P	New Hope Creek Trail Spur 7	New Hope Creek Trail Spur 5 to Old NC 86	Recommended	Unpaved trail	1.2	OR
CHAT0142-P	New Hope Creek Trail Spur 8	New Hope Creek Trail Spur 7 to Old NC 86	Recommended	Unpaved trail	0.7	OR
CHAT0143-P	New Hope Creek Trail Spur 9	South of Arthur Minnis Rd	Recommended	Unpaved trail	0.7	OR
--	Occoneechee Mountain Path	Occoneechee Mountain State Natural Area trails	Existing	Pedestrian trail	3.1	OR
--	Occoneechee Mountain Speedway	Elizabeth Brady Rd to the Eno River	Existing	Pedestrian trail	2.0	Hboro
CHAT0144-P	Old Field Creek Trail	I-40 to New Hope Creek Trail	Recommended	Unpaved trail	2.1	OR
CHAT0145-P	Old Field Creek Trail Spur 1	I-40 Sidepath to Old Field Creek Trail	Recommended	Unpaved trail	1.3	OR
CHAT0146-P	Old Field Creek Trail Spur 2	Parallel to NC 86	Recommended	Unpaved trail	0.5	OR
CHAT0147-P	Phils Creek Trail	Neville Creek Trail to McCauley Ln	Recommended	Unpaved trail	2.6	OR
CHAT0148-P	Phils Creek Trail Spur 1	Phils Creek Trail to east of Neville Rd	Recommended	Unpaved trail	0.2	OR
CHAT0149-P	Phils Creek Trail Spur 2	Phils Creek Trail to north of Old Greensboro Rd	Recommended	Unpaved trail	0.9	OR
CHAT0150-P	Phils Creek Trail Spur 3	Phils Creek Trail to Lloyd Farm Rd	Recommended	Unpaved trail	0.8	OR
CHAT0151-P	Piney Mountain Creek Trail	New Hope Creek to Murphy School Rd	Recommended	Unpaved trail	4.2	OR
CHAT0152-P	Piney Mountain Creek Trail Spur	Piney Mountain Creek Trail to Mt Sinai Rd	Recommended	Unpaved trail	0.8	OR
CHAT0153-P	Piney Mountain Creek Trail Spur	Piney Mountain Creek Trail to Friends School Rd	Recommended	Unpaved trail	0.4	OR
--	Poets Walk Trail	St Marys Rd to the Eno River	Existing	Pedestrian trail	1.0	OR, Hboro
CHAT0154-P	Pritchard's Mill Creek Trail	Morgan Creek (University Lake) to Wolfs Trl	Recommended	Unpaved trail	2.2	OR
CHAT0155-P	Pritchard's Mill Creek Trail Spur	Pritchard's Mill Creek Trail to Woodgate Dr	Recommended	Unpaved trail	0.9	OR
CHAT0156-P	Rainey Cut-Through	Rainey Ave to NC 86	Recommended	Connect recommended sidewalk facilities as per SRTS Plan	0.4	OR, Hboro
--	Riverwalk Trails	W Churton to S Cameron St	Existing	Paved greenway	0.4	Hboro
CHAT0157-P	Trading Path	Buckhorn Rd to Phelps Rd	Recommended	Footpath	10.0	OR
CHAT0158-P	Yanceyville/Danville Road Trail	920 Feet South of Coleman Loop to Phelps Rd	Recommended	Footpath	2.2	OR

## Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

1) Locally-adopted plans have designated most of these proposed facilities. See those plans for more detailed descriptions

Multiuse						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
<b>CHATHAM COUNTY</b>						
--	American Tob. Tr. (Chatham County)	Durham County line to Wake County line	Existing	Greenway - Paved	4.68	Chat, Cary
CHAT0101-M	Marsalis Way Street Side Trail	Pittard Sears Rd to Del Webb Ave	Recommended	Multiuse Path	0.49	Chat, Cary
CHAT0102-M	Montvale Greenway	Yates Store Rd to American Tobacco Trail	Recommended	Greenway	0.44	Chat, Cary
CHAT0103-M	Nancy Branch Greenway	Del Webb Ave to Yates Store Rd	Recommended	Greenway	0.12	Chat, Cary
CHAT0104-M	O Kelly Chapel Rd	NC 751 to Wake County line	Recommended	Side Street Path	0.98	Chat, Cary
CHAT0105-M	Panther Creek Greenway	Yates Store Rd to American Tobacco Trail	Recommended	Side Street Path	0.45	Chat, Cary
CHAT0106-M	Pittard Sears Street Side Trail	Marsalis Way to American Tobacco Trail	Recommended	Side Street Path	0.49	Chat, Cary
CHAT0107-M	US 15-501	Orange County Line to Manns Chapel Rd	Needs Improvement	Bike Lane	1.16	Chat
CHAT0108-M	US 15-501	Manns Chapel Rd to Mt Gilead Church Rd	Recommended	Bike Lane	3.80	Chat

<b>DURHAM COUNTY</b>						
DURH0001-M	Alston Av Sidepath	Riddle Rd to North Prog Creek Trail	Recommended	Greenway - Paved	0.51	DurCity
--	American Tobacco Trail	W Morehead Ave to Chatham county	Existing	Multiuse Path	11.04	DurCity, Dur
DURH0002-M	ATT Connector	High Gate Dr to I-40	Recommended	Greenway - Paved	0.52	DurCity
DURH0003-M	ATT to D&SC rail trail Connector	NC 751 to Amercian Tobacco Trail	Recommended	Multiuse path to connect future D&SC to ATT	0.28	DurCity
DURH0004-M	Audobon Lake Connector	Audubon Lake Dr to MTC Connector Trail	Recommended	Greenway - Paved	0.12	DurCity
DURH0005-M	Briar Creek Trail (incl. E. Fork Cr Tr)	West of Leesville Rd	Recommended	Greenway - Paved	1.18	DurCity, Dur
DURH0006-M	Briar Creek Trail (incl. E. Fork Cr Tr)	Lumley Rd to Page Rd	Recommended	Greenway - Paved	0.77	DurCity, Dur
DURH0007-M	Briar Creek Trail (incl. E. Fork Cr Tr)	Page Rd to Spur to US70	Recommended	Greenway - Paved	2.05	DurCity, Dur
DURH0008-M	Briar Creek Trail (incl. E. Fork Cr Tr)	Spur to US 70	Recommended	Greenway - Paved	0.23	DurCity, Dur
DURH0009-M	Briar Creek Trail (incl. E. Fork Cr Tr)	East of Leesville Rd	Recommended	Greenway - Paved	0.44	DurCity, Dur
DURH0010-M	Bryant Bridge Trail	Bacon St to Rocky Creek Greenway	Recommended	Greenway - Paved	1.20	DurCity
DURH0011-M	Bryant Bridge Trail	Lakeland St to Burton Park Trail	Recommended	Greenway - Paved	0.17	DurCity
DURH0012-M	Burdens Creek Trail	S Alston St to Northeast Creek Connector	Recommended	Greenway - Paved	1.13	DurCity, Dur
DURH0013-M	Cabin Branch Trail	Snow Hill Rd to Smith Dr	Recommended	Greenway - Paved	3.13	Dur
DURH0014-M	Cain Creek Trail	Redpine Rd to Kelvin Dr	Recommended	Greenway - Paved	2.33	Dur
DURH0015-M	Cain Creek Trail	Guess Rd to St Marys Rd	Recommended	Greenway - Paved	1.24	Dur
--	Campus Connector	Campus Drive to Gattis St	Existing	Multiuse Path	0.05	DurCity
DURH0016-M	Campus Hills Trail	Burton Park Trail to W of Briggs Ave	Recommended	Greenway - Paved	1.06	DurCity
DURH0017-M	Carrington School Trail	Along Milton Rd	Recommended	Greenway - Paved	0.21	DurCity
DURH0018-M	Carrington School Trail	Milton Rd to Crooked Creek Tr	Recommended	Greenway - Paved	0.66	DurCity
--	Central Park Trail	Hunt St to Roney St	Existing	Multiuse Path	0.13	DurCity
DURH0019-M	Cheek Rd to NC 98 Trail	Cheek Rd to NC 98	Recommended	Greenway Trail	4.12	DurCity, Dur
DURH0020-M	Chunky Pipe Creek Trail	E of Stallings Rd to Future Northern Durham Pkwy	Recommended	Greenway - Paved	1.69	DurCity, Dur
DURH0021-M	Chunky Pipe Creek Trail	Future Northern Durham Pkwy to Hurley Rd	Recommended	Greenway - Paved	0.78	DurCity, Dur
DURH0022-M	Chunky Pipe Creek Trail	Future Northern Durham Pkwy to Clayton Rd	Recommended	Greenway - Paved	0.58	DurCity, Dur
DURH0023-M	Cornwallis Connector	US 15-501 Greenway to Cassington Ln	Recommended	Greenway - Paved	0.68	DurCity
DURH0024-M	Crooked Creek Trail	Guess Rd to Willow Pond Trail	Recommended	Greenway - Paved	1.63	DurCity, Dur
DURH0025-M	Crooked Creek Trail	Carrington School Trail to Latta Rd	Recommended	Greenway - Paved	0.45	DurCity, Dur
DURH0026-M	Crooked Creek Trail	Latta Rd to W Point on the Eno Trail	Recommended	Greenway - Paved	0.57	DurCity, Dur
DURH0027-M	Crooked Creek Trail	Willow Pond Trail to Carrington School Trail	Recommended	Greenway - Paved	2.06	DurCity, Dur
DURH0028-M	Crystal Lake Trail (Croasdaile Trail)	Hillandale Rd to Stoney Brook Dr	Recommended	Greenway - Paved	0.57	DurCity
DURH0029-M	Cub Creek Trail	Danube Ln to Hebron Rd	Recommended	Greenway - Paved	1.20	DurCity, Dur
DURH0030-M	Dry Creek Trail	New Hope Commons to New Hope Creek Trail	Recommended	Greenway - Paved	1.15	DurCity, Dur
DURH0031-M	Duke Beltline	Blackwell to Avondale	Recommended	Greenway - Paved	2.01	DurCity
DURH0032-M	Duke Beltline	E Geer to Blackwell	Recommended	Greenway - Paved	1.94	DurCity
DURH0033-M	Duke Beltline	Sput to Roxboro Rail Trail	Recommended	Greenway - Paved	0.30	DurCity
DURH0034-M	Duke Beltline	Avondale to E Geer	Recommended	Greenway - Paved	0.46	DurCity
DURH0035-M	Duke Connector	US 15-501 Greenway to Duke University Rd	Recommended	Greenway - Paved	1.15	DurCity
DURH0036-M	Durham Chapel Hill Blvd	Mt Moriah Rd to Sandy Creek Trail	Recommended	Path - separate from US 15-501 (note recommended bicycle and pedestrian projects in same alignment)	1.60	DurCity

# Bicycle-Pedestrian-Multiuse (1)

Multiuse						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
DURH0037-M	Durham Chapel Hill Blvd	I-40 to Mt Moriah Rd	Recommended	Path - separate from US 15-501 (note recommended bicycle and pedestrian projects in same alignment)	0.28	DurCity
DURH0038-M	Durham-Chapel Hill Greenway	From New Hope Creek Trail, along NC 54	Recommended	Greenway - Paved	0.69	DurCity, Dur
DURH0039-M	Durham-Chapel Hill Greenway	NC 54 to Garrett Rd	Recommended	Greenway - Paved	0.64	DurCity, Dur
DURH0040-M	Durham-Orange Light Rail Multiuse Path	Friday Center Drive to Alston Avenue	Recommended	Multiuse Trail - separate from light rail	14.40	DurCity, Dur, CH
DURH0041-M	Eagle Spur Greenway	Stagecoach Rd to Jordan Lake	Recommended	Greenway - Paved	2.31	DurCity, Dur, Chat
DURH0042-M	Eagle Spur Greenway	Am Tob Tr to section south of Stagecoach Rd	Recommended	Greenway - Paved	0.73	DurCity, Dur, Chat
DURH0043-M	Eagle Spur Greenway	Fayetteville Rd to Am Tob Tr. spur near Nc 751	Recommended	Greenway - Paved	0.66	DurCity, Dur, Chat
DURH0044-M	Eagle Spur Greenway	Massey Chapel Rd to Stagecoach Rd	Recommended	Greenway - Paved	0.74	DurCity, Dur, Chat
DURH0045-M	East Coast Gwy to Mtns to Sea Tr	Snow Hill Rd to Roxboro Rail Trail	Recommended	Greenway - Paved	0.28	Dur
DURH0046-M	Ellerbee Creek Trail	Guess Rd to Stadium Dr	Recommended	Greenway - Paved	1.03	DurCity, Dur
DURH0047-M	Ellerbee Creek Trail	Avondale Dr to between Hamlin Rd and Glenn Rd	Recommended	Greenway - Paved	4.05	DurCity, Dur
DURH0048-M	Ellerbee Creek Trail	N Roxboro to I-85	Recommended	Greenway - Paved	0.19	DurCity, Dur
DURH0049-M	Ellerbee Creek Trail	Club Blvd to N Roxboro	Recommended	Greenway - Paved	0.38	DurCity, Dur
DURH0050-M	Eno Connector	Snow Hill Rd to Eno River	Recommended	Greenway - Paved	0.61	DurCity, Dur
DURH0051-M	Eno Connector	Eno River to Hebron Rd	Recommended	Greenway - Paved	1.49	DurCity, Dur
DURH0052-M	Eno River Greenway	N Roxboro St to Guess Rd	Recommended	Greenway - Paved	1.63	DurCity
DURH0053-M	Eno River Greenway	Spur through West Point On the Eno Park	Recommended	Greenway - Paved	0.45	DurCity
DURH0054-M	Falls Lake Rail with Trail	Railroad Trail to Granville County line	Recommended	Greenway - Paved	6.11	DurCity, Dur
DURH0055-M	Forest Hills - ATT Connector	American Tobacco Trail to Forest hills Trail	Recommended	Greenway - Paved	0.20	DurCity
DURH0056-M	Forest Hills Trail	E Forest Hills Blvd to Lyon Park Baseball Field	Recommended	Greenway - Paved	0.97	DurCity
DURH0057-M	Forest Hills/ATT Connect on Univ.	Forest Hills Blvd to American Tobacco Trail	Recommended	Greenway - Paved	0.28	DurCity
DURH0058-M	Goose Creek Trail	N Miami Blvd to Roxboro Rail Trail	Recommended	Greenway - Paved	1.64	DurCity
DURH0059-M	Goose Creek Trail	Roxboro Rail Trail to Liberty	Recommended	Greenway - Paved	1.37	DurCity
EB-5833	Goose Creek West Trail	Drew St to Durham Freeway	Recommended	Greenway - Paved	1.86	DurCity
DURH0060-M	Highgate Drive Connector	Winterberry Dr to Highgate Dr	Needs Improvement	Private path needs upgrade to connect 3rd Fork with ATT	0.31	DurCity
DURH0061-M	Hopson Rd side path	Louis Spephens Dr to Triangle Expressway	Recommended	Multiuse Path	0.90	Dur
DURH0062-M	Hopson Rd side path	Louis Stephens Drive to Experiment Dr	Recommended	Multiuse Trail	0.35	Dur
DURH0063-M	I-40 Multiuse Path	NC 751 to Durham-Orange Light Rail Transit trail	Recommended	Multiuse path - separate from I-40; fill gap	2.14	DurCity
DURH0064-M	I-40 Multiuse Path	Page Rd to SouthPointe	Recommended	Multiuse path - separate from I-40; fill gap	6.05	DurCity
DURH0065-M	I-85/Fall Lake	E Geer St to US 15 Service Road	Recommended	Multiuse Path - separate from I-85	0.88	Dur
DURH0066-M	Leigh Farm/TTA Tr. Connector Bridge	Over I-40 between light rail and Leigh Farm	Recommended	Greenway - Paved	0.32	Dur
DURH0067-M	Lick Creek Greenway	Wake Forest Hwy to creek fork near Hiddenbrook Dr	Recommended	Greenway - Paved	3.27	DurCity, Dur
DURH0068-M	Lick Creek Greenway	Fork (near Hiddenbrook Dr) to Northern Durham Pkwy	Recommended	Greenway - Paved	1.79	DurCity, Dur
DURH0069-M	Lick Creek Greenway	Fork (near Hiddenbrook Dr) to Pattersons Mill Rd	Recommended	Greenway - Paved	3.05	DurCity, Dur
DURH0070-M	Lick Creek Greenway	Fork to Copper Leaf Pkwy	Recommended	Greenway - Paved	0.19	DurCity, Dur
DURH0071-M	Lick Creek Greenway	Fork to Cherron Rd	Recommended	Greenway - Paved	0.46	DurCity, Dur
DURH0072-M	Little Cr Trail	Corps Property to Meadowmont Trail	Recommended	Multiuse Path	0.43	CH
DURH0073-M	Little Cr Trail	Spur to Lancaster Dr	Recommended	Multiuse Path	0.20	CH
DURH0074-M	Little Lick Creek Trail	Parallel to Mineral Springs Rd	Recommended	Multiuse Path	0.84	DurCity, Dur
DURH0075-M	Little Lick Creek Tributary	Parallel to Hursey St	Recommended	Multiuse Path	0.71	DurCity, Dur
DURH0076-M	Little Lick Tributary Trail	Wake Forest Hwy to Pleasant Dr	Recommended	Greenway - Paved	2.01	DurCity, Dur
DURH0077-M	Little Lick Tributary Trail	Section north of Angier Av	Recommended	Greenway - Paved	0.33	DurCity, Dur
DURH0078-M	Lumley Sidepath (Page Branch)	Page Branch Connector to Briar Creer Trl	Recommended	Greenway - Paved	0.83	DurCity
DURH0079-M	Lumley to Lick Cr. Connector (Page Branch)	Page Branch Creek Trl to Lumley Sidepath	Recommended	Greenway - Paved	0.47	DurCity
DURH0080-M	Main St to Duke University via NC 147 rail bridge	Main St. to Elba St, bridge over NC 147	Needs Improvement	Multiuse Path	0.17	DurCity
DURH0081-M	Martin Branch Creek Trail	Lick Creek Greenway to Carpenter Pond Rd	Recommended	Greenway - Paved	2.74	Dur



# Bicycle-Pedestrian-Multiuse (1)

Multiuse						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
DURH0082-M	MTC Connector Trail	I-40 pedestrian bridge to NC 54	Recommended	Paved Greenway - separate from I-40	0.43	DurCity
DURH0083-M	MTC Connector Trail	NC 751 to I-40 pedestrian bridge	Recommended	Paved Greenway - separate from I-40	0.97	DurCity
DURH0084-M	Mud Creek Trail	Waterbury Dr to creek fork west of Few Circle	Recommended	Footpath	0.99	DurCity, Dur
DURH0085-M	Mud Creek Trail	W Cornwallis to creek fork west of Few Circle	Recommended	Footpath	2.45	DurCity, Dur
DURH0086-M	Mud Creek Trail	Spur at creek fork	Recommended	Footpath	0.41	DurCity, Dur
DURH0087-M	Mud Sandy Connector Trail	Oak Creek Village Spur to Garrett Rd	Recommended	Greenway - Paved	0.91	DurCity
DURH0088-M	Mud Sandy Connector Trail	US 15-501 to Oak Creek Spur	Recommended	Greenway - Paved	0.25	DurCity
DURH0089-M	Mud Sandy Connector Trail	Spur to Oak Creek Village Shopping Ctr	Recommended	Greenway - Paved	0.13	DurCity
DURH0090-M	Mud Sandy Connector Trail	North of Waterbury Dr	Recommended	Greenway - Paved	0.21	DurCity
DURH0091-M	N Miami Blvd	US 70 Bus to Wake County Line	Recommended	US 70 to be frwy; Sep. multiuse adjacent to frwy	2.50	DurCity, Dur
DURH0092-M	NC 147 Multiuse Path	I-40/TW Alexander to CSX trail (Ellis Rd/NC 147)	Recommended	Multiuse Path	5.47	DurCity, Dur
DURH0093-M	NC 147 side path	NC 54 to MPO Boundary	Recommended	Paved Greenway - separate from Triangle Expressway	2.22	DurCity, Dur
DURH0094-M	NC 54 Greenway (north of NC 54)	Meadowmont Ln to New Hope Creek Trail	Recommended	Greenway - Paved	1.75	DurCity, Dur, CH
DURH0095-M	NC 54 Greenway (south of NC 54)	Meadowmont Ln to New Hope Creek Trail	Recommended	Greenway - Paved	1.60	DurCity, CH
DURH0096-M	NC 751 Connector	Third Fork Creek to Eagle Spur Greenway	Recommended	Greenway - Paved	1.45	DurCity, Dur
DURH0097-M	NC147 Greenway Bridge/Connector	Burton Park Trail to RTP to Downtown	Recommended	Greenway - Paved	0.17	DurCity
--	New Hope Creek Trail	New Hope Creek Preserve	Existing	Footpath	5.62	DurCity, Dur
DURH0098-M	New Hope Creek Trail	Orange County to Mud Sandy Connector	Recommended	Greenway - Paved	1.06	DurCity, Dur
DURH0099-M	New Hope Preserve Trail	SWDD Dr to Mud Sandy Connector	Recommended	Greenway - Paved	0.75	DurCity
DURH0100-M	North Prong Creek Trail	Riddle Rd to Meridian Pkwy	Recommended	Greenway - Paved	3.70	DurCity
DURH0101-M	North Prong Creek Trail	I-40 to Meridian Pkwy	Recommended	Greenway - Paved	0.57	DurCity
DURH0102-M	North Prong Creek Trail	Bryant Bridge Trail to S Alston Av	Recommended	Greenway - Paved	0.72	DurCity
DURH0103-M	North South Greenway Connector	North South Greenway to N Duke St	Recommended	Greenway - Paved	0.14	DurCity
DURH0104-M	Northeast Creek Connector	Burdens Creek Trail to Scott King Rd	Recommended	Greenway - Paved	1.51	DurCity, Dur
DURH0105-M	Northeast Creek Connector	Scott King Rd to WineBerry Dr	Recommended	Greenway - Paved	1.19	DurCity, Dur
DURH0106-M	Northeast Creek/ATT Connector	American Tobacco Trail to Pebble Creek Trail	Recommended	Greenway - Paved	1.70	DurCity
DURH0107-M	Oak Grove Trail	NC 98 to Oak Grove Pkwy	Recommended	Greenway - Paved	0.45	DurCity
DURH0108-M	Page Branch Creek Trail	Ellis Rd to Page Branch Connector	Recommended	Greenway - Paved	0.43	DurCity
DURH0109-M	Page Branch Trail	TW Alexander to Roche Dr	Recommended	Greenway - Paved	1.73	DurCity, Dur
DURH0110-M	Page Branch Trail	Along Roche Dr to TW Alexander	Recommended	Greenway - Paved	0.22	DurCity, Dur
DURH0111-M	Parkwood Greenway	Fenwick Pkwy to Hamilton Way	Recommended	Greenway - Paved	0.28	DurCity
DURH0112-M	Parkwood Greenway	American Tobacco Trail to Herndon Rd	Recommended	Greenway - Paved	0.26	DurCity, Dur
DURH0113-M	Patterson Place Greenway	From Danziger Dr to the south	Recommended	Greenway - Paved	0.34	DurCity
DURH0114-M	Patterson Place Greenway	Circumvent Danziger detention pond	Recommended	Greenway - Paved	0.38	DurCity
DURH0115-M	Patterson Place Greenway	SW Durham Parky to Mt Moriah Rd	Recommended	Greenway - Paved	0.19	DurCity
DURH0116-M	Patterson Preserve Trail	Stallings Rd to Wake Forest Hwy	Recommended	Greenway - Paved	0.81	DurCity, Dur
DURH0117-M	Patterson Preserve Trail	Chunky Pipe Trail to Stallings Rd	Recommended	Greenway - Paved	1.18	DurCity, Dur
DURH0118-M	Pearsontown Connector	S Roxboro St to Pearsontown Trail	Recommended	Greenway - Paved	0.46	DurCity
DURH0119-M	Pearsontown Trail	Nelson St to E Umstead St	Recommended	Greenway - Paved	1.19	DurCity
DURH0120-M	Pearsontown Trail Extension	Old Fayetteville St to Pearstown Trail	Recommended	Multiuse Path - Paved	1.34	DurCity
DURH0121-M	Pebble Creek Trail	Exchange Pl to E End of Forest Ridge Dr	Recommended	Greenway - Paved	0.75	DurCity
DURH0122-M	Pineywood Trail	E Woodcroft Pkwy	Recommended	Footpath	0.94	DurCity
--	R Kelly Bryant Bridge	S Alston to Lakeland St	Existing	Multiuse Path	0.19	DurCity
DURH0123-M	Railroad Trail	Junction Rd to Falls Lake	Recommended	Greenway - Paved	5.26	DurCity, Dur
DURH0124-M	Railroad Trail	E Pettigrew St to Junction Rd	Recommended	Greenway - Paved	3.10	DurCity, Dur
DURH0125-M	Riddle Road ATT Spur	Briggs Ave to RTP Downtown Rail with Trail	Recommended	Greenway - Paved	0.14	DurCity
--	Riddle Road Spur Trail	S Briggs to ATT	Existing	Multiuse Path	1.49	DurCity
DURH0126-M	Rockwood Trail	Ward St to Third Fork Creek Connector	Recommended	Greenway - Paved	1.23	DurCity
--	Rocky Creek Greenway	ATT to NC 55	Existing	Multiuse Path	0.74	DurCity
--	Rocky Creek Greenway Ext	Rocky Creek Greenway to Nelson St	Existing	Multiuse Path	0.94	DurCity
DURH0127-M	Rocky Creek Park Trail	W Corporation to East Geer St	Recommended	Greenway - Paved	0.89	DurCity
DURH0128-M	Roxboro Rail Trail	Person County line to Goose Creek Trail	Recommended	Greenway - Paved	17.71	DurCity, Dur
DURH0129-M	Roxboro to US 70	Ellerbee Cr Tr to Falls Lake Rail with Trail	Recommended	Greenway - Paved	1.72	DurCity, Dur
DURH0130-M	Roxboro to US 70	Falls Lake Rail with Trail to Ferrell Rd	Recommended	Greenway - Paved	0.39	DurCity, Dur
DURH0131-M	Roxboro to US 70	Chunky Pipe Cr Tr to US 70	Recommended	Greenway - Paved	5.71	DurCity, Dur
DURH0132-M	Roxboro to US 70	Chunky Pipe Cr Tr to Railroad Tr	Recommended	Greenway - Paved	1.06	DurCity, Dur
DURH0133-M	Roxboro to US 70	Railroad Tr to Ferrell Rd	Recommended	Greenway - Paved	0.68	DurCity, Dur
DURH0134-M	Roxboro to US 70	N Roxboro to Old Oxford Rd	Recommended	Greenway - Paved	4.46	DurCity, Dur
DURH0135-M	Roxboro to US 70	Old Oxford Rd to Ellerbee Cr Tr	Recommended	Greenway - Paved	2.27	DurCity, Dur

# Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

Multiuse						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
DURH0136-M	RTP East Greenway	Briar Creek Trl to TW Alexander Connector	Recommended	Greenway - Paved	1.15	DurCity, Dur
DURH0137-M	RTP Greenway	Page Branch Trail to Burdens Creek Trail	Recommended	Greenway - Paved	4.18	DurCity, Dur
DURH0138-M	RTP North Greenway	E Cornwallis Rd to North Prong Cr Tr	Recommended	Greenway - Paved	1.52	DurCity, Dur
DURH0139-M	RTP North Greenway	Spur to Maughan Dr	Recommended	Greenway - Paved	0.12	DurCity, Dur
DURH0140-M	RTP North Greenway	E Cornwallis to west of TW Alexander Dr	Recommended	Greenway - Paved	0.86	DurCity, Dur
DURH0141-M	RTP North Greenway	So Hi Dr to E Cornwallis Rd	Recommended	Greenway - Paved	1.54	DurCity, Dur
DURH0142-M	RTP North Greenway	Connector west of 68 TW Alexander Dr	Recommended	Greenway - Paved	0.21	DurCity, Dur
DURH0143-M	RTP North Greenway	Connector east of Northeast Creek and salvage yard	Recommended	Greenway - Paved	0.14	DurCity, Dur
DURH0144-M	RTP North Greenway	North/South section, west of EMC	Recommended	Greenway - Paved	0.30	DurCity, Dur
DURH0145-M	RTP North Greenway	Spur between North/South section and TW Alexander	Recommended	Greenway - Paved	0.15	DurCity, Dur
DURH0146-M	RTP North Greenway	North/South section, parallel to TW Alexander	Recommended	Greenway - Paved	0.20	DurCity, Dur
DURH0147-M	RTP to Downtown Rail with Trail	Downtown Rail Loop to Wake County Line	Recommended	Greenway - Paved along light rail alignment	9.44	DurCity, Dur
--	Sandy Creek Park	Picket Rd to Sandy Creek Dr	Existing	Multiuse Path	0.54	DurCity
DURH0148-M	Sandy Creek Trail	Pickett Rd to Weston Bypass Rd	Recommended	Multiuse Trail, Paved	1.03	DurCity
DURH0149-M	Sevenmile Creek Trail	Tavistock Dr to north of Craig Rd	Recommended	Greenway - Paved	1.19	Dur, OR
DURH0150-M	Sevenmile Creek Trail	Bivins Rd to Dunnegan Rd	Recommended	Greenway - Paved	1.27	Dur, OR
DURH0151-M	Southpoint Connector	NC 54 to Northeast Creek/ATT Connector	Recommended	Paved Greenway - separate from I-40	0.57	DurCity
DURH0152-M	Southpoint Connector	Fayetteville Rd to I-40 pedestrian bridge	Recommended	Paved Greenway - separate from I-40	0.37	DurCity
DURH0153-M	Southpoint Connector	Spur to NC 751	Recommended	Paved Greenway - separate from I-40	0.59	DurCity
DURH0154-M	Southpoint Connector	NC 54 to Fayetteville Rd	Recommended	Paved Greenway - separate from I-40	0.47	DurCity
DURH0155-M	Stadium Road side path	Ellerbee Cr.Tr. to the North South Greenway	Recommended	Greenway - Paved	0.20	DurCity
--	Streets at Southpoint	NC 751 to Fayetteville Rd	Existing	Multiuse Path	1.19	DurCity
--	The North South Greenway	Horton To W Murray Av	Existing	Multiuse Path	2.81	DurCity
--	The North South Greenway	Olympic Av To Trinity	Existing	Multiuse Path	2.66	DurCity
--	The North South Greenway	Washington St to Acadia St	Existing	Multiuse Path	0.31	DurCity
DURH0156-M	Third Fork Creek Connector	Forrest Hills Blvd to Third Fork Creek	Recommended	Greenway - Paved	0.42	DurCity
EB-5837	Third Fork Creek Trail	Forrest Hills Blvd to E Weaver St	Recommended	Greenway - Paved	1.52	DurCity
EB-5837	Third Fork Creek Trail	E Weaver St to E Cornwallis St	Recommended	Greenway - Paved	0.31	DurCity
EB-5837	Third Fork Creek Trail	E Cornwallis Rd to Third Fork Creek	Recommended	Greenway - Paved	0.82	DurCity
--	Third Fork Greenway	Cardinal Dr to Third Fork Greenway	Existing	Third Fork Greenway	0.04	DurCity
--	Third Fork Greenway	Third Fork Rd to tennis courts on Garrett Rd	Existing	Third Fork Greenway	3.93	DurCity
DURH0157-M	Third Fork Tributary Trail	S Roxboro St to Tall Oaks Dr	Recommended	Greenway - Paved	1.46	DurCity
DURH0158-M	Third Fork/ATT Trail Connector	NC 54 to NC 751 Connector	Recommended	Greenway - Paved	0.62	DurCity
DURH0159-M	TW Alex.to Lumley Connector (Page Branch)	Tw Alexander Rd to Lumley Rd Sidepath	Recommended	Greenway - Paved	0.54	DurCity
DURH0160-M	TW Alexander Connector	Part of Page Branch Trail	Recommended	Greenway - Paved	0.75	DurCity
DURH0161-M	Twin Lakes Trail	Chandler Rd to Wake Forest Hwy	Recommended	Multiuse Path	1.34	DurCity, Dur
DURH0162-M	US 15-501 Greenway	W Cornwallis to West Ellerbee Creek Trail	Recommended	Paved Greenway - separate from US 15-501 & NC 147	3.9	DurCity, Dur
DURH0163-M	US 70 Freeway	Miami Blvd to Northern Durham Pkwy	Recommended	US 70 to be frwy; Sep. multiuse adjacent to frwy	2.5	DurCity, Dur
DURH0164-M	Warren Cr. Tr. to Eno River Connector	Eno River Greenway to Warren Creek Trail	Recommended	Footpath	0.49	DurCity
DURH0165-M	Warren Creek Trail	End of Peppertree St to Crystal Lake Trail	Recommended	Footpath	1.08	DurCity, Dur
DURH0166-M	Warren Creek Trail	Eno River to north/south run of Warren Creek	Recommended	Footpath	0.62	DurCity, Dur
DURH0167-M	Warren Creek Trail	North/south run of Warren Creek to Horton Rd	Recommended	Footpath	0.73	DurCity, Dur
--	West Ellerbee Creek Trail	IS 15-501 Greenway to Ellerbee Creek Trail	Existing	Multiuse Path	0.82	DurCity
DURH0168-M	Willow Pond Trail	spur of Crooked Creek	Recommended	Greenway - Paved	0.89	Dur
DURH0169-M	Woodcroft Greenway	Third Fork Creek Trl to 280 ft W of Fayetteville	Recommended	Greenway - Paved	0.45	DurCity
DURH0170-M	Woodcroft Pkwy (3rd Fork to Winterberry)	Third Fork Creek to Winterberry Ridge Dr	Needs Improvement	Improve multiuse path to connect 3rd Fork Cr to ATT	0.26	DurCity

ORANGE COUNTY						
ORAN0101-M	Ashe Place Bridge	Ashe Place to Arboretum Dr	Recommended	Multiuse Path	0.07	CH, OR
--	Ballentine Greenway	Hogan Hills Rd to Ballentine Greenway	Existing	Multiuse Path	0.24	Carr
--	Battle Branch Trail	Community Center Park to Indian Springs Rd	Existing	Multiuse Path	0.36	CH
ORAN0102-M	Bel Arbor Connector	Phipps St to Bel Arbor Ln	Recommended	Connect neighborhoods	0.10	Carr
--	Bolin Creek Trail	Community Ctr Park to NC 86	Existing	Multiuse Path	1.58	CH
ORAN0103-M	Bolin Creek Trail	NC 86 to Estes Dr	Recommended	Multiuse Path	1.01	CH

# Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

Multiuse						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
ORAN0104-M	Booker Creek Connection	Dobbins to Eastgate SC segment	Recommended	Multiuse Path	0.07	CH
ORAN0105-M	Booker Creek Connection	Dobbins and Booker Creek to Eastgate SC	Recommended	Multiuse Path	0.14	CH
ORAN0106-M	Booker Creek Connection	Booker Creek to Eastgate SC segment	Recommended	Multiuse Path	0.07	CH
--	Booker Creek Trail	Booker Creek Rd to Franklin St	Existing	Multiuse Path	0.85	CH
--	Booker Creek Trail	Franklin St to 15-501/Fordham	Existing	Multiuse Path	0.44	CH
ORAN0107-M	Booker/Fordham PedBridge	Lower Booker Cr to Ephesus Church Rd	Recommended	Multiuse Path	0.08	CH
ORAN0108-M	Booker/Fordham PedBridge	Pedestrian Bridge	Recommended	Multiuse Path	0.18	CH
ORAN0109-M	Booker/Fordham PedBridge	US 15-501 to Ephesus Church Rd	Recommended	Multiuse Path	0.11	CH
ORAN0110-M	Calvin St Trail	W Calvin St to Riverwalk Trails	Recommended	Greenway - Paved	0.07	Hboro
ORAN0111-M	Canterbury Trail	End of Public Works Dr. Greenway to Abbey Lane End	Recommended	Greenway - Paved	0.22	Carr
ORAN0112-M	Carolina Commons Trail	Lake Hogan Farms Rd to Andy's Ln	Recommended	Greenway - Paved	0.23	OR, Carr
ORAN0113-M	Carolina Commons Trail	Lake Hogan Farms Trl to Winmore	Recommended	Greenway - Paved	0.48	Carr
--	Carolina North Trail	Homestead Rd to Horace Wms Airport	Existing	Multiuse Path	1.05	CH
ORAN0114-M	Carolina North Trail	Municipal Dr to Estes Dr to Horace Wms Airport	Recommended	Multiuse Path	0.31	CH
ORAN0115-M	Carolina North Trail 2	Carolina North Trail 1 to NC 86	Recommended	Multiuse Path	2.57	CH, Carr
ORAN0116-M	Carolina North Trail 3	Carolina North Trail 1 to Estes Dr	Recommended	Multiuse Path	0.88	CH
ORAN0117-M	Carolina North Trail 4	Spur to Smith Middle School to High School Rd	Recommended	Multiuse Path	0.37	CH, Carr
ORAN0118-M	Carolina North Trail 4	Section south and west of Smith Middle School	Recommended	Multiuse Path	0.34	CH, Carr
ORAN0119-M	Carolina North Trail 4	Spur to Smith Middle School	Recommended	Multiuse Path	0.21	CH, Carr
ORAN0120-M	Cates Creek Greenway	Old NC 86 to US70A/NC86 South Intersection	Recommended	Multiuse Path	1.96	OR, Hboro
--	Chapel Hill East Connector	Telluride St to CH East High	Existing	Multiuse Path	0.08	CH
--	Chapel Hill Library Path	Michaux Rd to Chapel Hill Library	Existing	Multiuse path	0.13	CH
--	Chapel Watch Connector	Kousa Trail to Old Larkspur	Existing	Multiuse Path	0.22	CH
--	Claremont Trail	Jewel Dr to just W of Homstead Rd	Existing	Multiuse Path	0.19	Carr
--	Cobblestone Dr	Between Cobblestone Dr to Colfax Dr	Existing	Multiuse Path	0.03	Carr
ORAN0121-M	Coker Pinetum Trail	Fern Ln to Ridge Rd	Recommended	Multiuse Path	0.75	CH
--	Cole Spring Br	Neighborhood to Bolin Cr Trail	Existing	Unpaved Path	0.20	CH
ORAN0122-M	Downtown Connector	N Greensboro St to Lloyd St	Recommended	Connect to downtown	0.16	Carr
ORAN0123-M	Dry Creek Trail	Erwin Rd to I-40 crossing	Recommended	Multiuse Path	0.72	CH, OR
ORAN0124-M	Dry Creek Trail	Sunrise to San Juan	Recommended	Multiuse Path	0.62	CH, OR
ORAN0125-M	Dry Creek Trail	San Juan to Perry Creek	Recommended	Multiuse Path	0.55	CH, OR
ORAN0126-M	Dry Creek Trail	Spur to Providence Rd	Recommended	Multiuse Path	0.30	CH, OR
ORAN0127-M	Dry Creek Trail	Perry Cr to Duke Easement Tr #4	Recommended	Multiuse Path	0.23	CH, OR
ORAN0128-M	Dry Creek Trail	Parallel to Duke Easement Tr #4	Recommended	Multiuse Path	0.13	CH, OR
ORAN0129-M	Dry Creek Trail	I-40 sidepath to Duke Easement Tr #4	Recommended	Multiuse Path	0.23	CH, OR
ORAN0130-M	Duke Easement Trail 1	Duke Easement Trail 4 to Homestead Park	Recommended	Multiuse Path	1.06	CH, OR
ORAN0131-M	Duke Easement Trail 2	I-40 Sidepath to NC 86	Recommended	Multiuse Path	2.73	CH
ORAN0132-M	Duke Easement Trail 3	Merritt Mill Rd to Smith Level Rd	Recommended	Multiuse Path	1.12	CH, Carr
ORAN0133-M	Duke Easement Trail 4	Carboro Border to Weaver Dairy Rd	Recommended	Multiuse Path	4.66	CH, OR
ORAN0134-M	Durham-Orange Light Rail Multiuse Path	UNC Hospital to Friday Center Drive	Recommended	Multiuse Trail - separate from light rail	2.80	CH, OR
ORAN0135-M	Easement Trail	Old Mason Farm Rd to Barbee Chapel Rd	Recommended	Multiuse Path	1.63	DurCity, Dur, CH
ORAN0136-M	Elliott/Fordham Ped Bridge	S Elliott Rd to Elliott Rd Extension	Recommended	Multiuse Path	0.25	CH
ORAN0137-M	Eno St. Forrest St. Connection	Eno Street to Forrest Street	Recommended	Multiuse Trail, Paved	0.75	OR, Hboro
ORAN0138-M	Ephesus-Fordham Ped Bridge	US 15-501 Sidepath (East) to Eastgate Shop Ctr.	Recommended	Multiuse Path	0.26	CH
C-5179	Estes Dr side path	NC 86 to Caswell	Recommended	Multiuse Path	0.73	CH
ORAN0139-M	Estes Dr side path west	Estes Dr Ext to Broad	Recommended	Multiuse Path	0.55	CH, Carr
EB-5886	Estes Dr side path west	Nc 86 (MLK Blvd) to Village	Recommended	Multiuse Path	1.30	CH, Carr
--	Fan Branch Trail	Dogwood Acres Dr to Culbreth Dr	Existing	Multiuse Path	1.65	CH
ORAN0140-M	Fan Branch Trail	Merritt Dr to Existing Fan Branch Trail	Recommended	Multiuse Path	0.33	CH, OR
--	Fan Branch Trail Ext	Fan Branch Trail to Morgan Creek Trail	Existing	Multiuse Path	0.23	CH
ORAN0141-M	Finley Golf Course Path	NC 54 to Fordham/15-501	Recommended	Multiuse Path	1.38	CH
ORAN0142-M	Finley Golf Course Path	Fordham Blvd to Prestwick Rd	Recommended	Multiuse Path	0.62	CH
--	Frances Shetley Trail	N Greensboro St to Shelton St	Existing	Multiuse Path	0.27	Carr
ORAN0143-M	Glen Lenox Greenway	Hamilton Rd to Douglas	Recommended	Multiuse Path	0.27	CH
ORAN0144-M	Glen Lenox Greenway	Douglas Spur	Recommended	Multiuse Path	0.05	CH
ORAN0145-M	Glen Lenox Greenway	Douglas to NC 54	Recommended	Multiuse Path	0.39	CH
--	Gold Park Trail	Gold Park Trail	Existing	Greenway - Paved	0.44	Hboro
ORAN0146-M	Homestead Park Trail	Homestead Park to NC 86	Recommended	Multiuse Path	0.81	CH
--	Homestead Rd side path	260 ft south from Winmore	Existing	Multiuse Path	0.04	Carr
ORAN0147-M	Homestead Rd side path	NC 86 to Weaver Dairy Ext	Recommended	Multiuse Path	0.50	CH
ORAN0148-M	Homestead Rd to CHHS	End of Claremont Greenway to CHHS	Recommended	Greenway - Paved	0.34	OR, Carr
--	Horne Hollow	Autumn Drive to Access Rd	Existing	Multiuse Path	0.20	Carr
ORAN0149-M	HorneHollow Multiuse path	HorneHollow to Hillsborough Rd	Recommended	Multiuse path	0.16	Carr

# Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

Multiuse						
Local ID	Facility/ Route	Section (From - To)	Status	Description	Dist. (mile)	Jurisdiction
ORAN0150-M	I-40 Sidepath	Erwin Rd to Millhouse Rd	Recommended	Multiuse Path - separate from I-40	4.51	CH, OR
ORAN0151-M	Jones Creek Trail	Lake Hogan Farms Tr. to Lake Hogan Farms Rd	Recommended	Greenway - Paved	0.53	Carr
ORAN0152-M	Jones Creek Trail	Jones Creek ext	Recommended	Greenway - Paved	0.07	Carr
ORAN0153-M	King's Highway Park Connector	King's Highway Park to King Street	Recommended	Multiuse Trail, Paved	0.37	OR, Hboro
--	Lake Hogan Farm Trail	Lake Hogan Farms Rd to Shadow Ridge Pl	Existing	Multiuse Path	0.59	Carr
--	Lake Hogan Farm Trail	Lake Hogan Farms Rd to Carolina Commons	Existing	Multiuse Path	0.49	Carr
ORAN0154-M	Lake Hogan Farm Trail	Lake Hogan Farms Rd. End to Tramore Dr	Recommended	Greenway - Paved	0.28	OR
ORAN0155-M	Latimer Street Connection	Latimer Street to Latimer Street	Recommended	Multiuse Trail, Paved	0.05	OR, Hboro
--	Libba Cotten Bikeway	S Merritt Mill Rd to Roberson St	Existing	Multiuse Path	0.40	Carr
--	Library Dr Path	Estes Dr to Chapel Hill Public Library	Existing	Multiuse Path	0.19	CH
ORAN0156-M	Little Cr Trail	Lower Booker/Lower Bolin to Pinehurst St	Recommended	Multiuse Path	0.53	CH
ORAN0157-M	Lower Bolin Cr Trail	Community Park to Little Creek Trail	Recommended	Multiuse Path	0.84	CH
ORAN0158-M	Lower Booker Creek Trail	Elliott Rd to Little Creek Trail	Recommended	Multiuse Path	0.87	CH
--	McDougle School Trail	Old Fayetteville Rd to Quail Roost Dr	Existing	Multiuse Path	0.23	Carr
--	Meadowmont Trail	Rashkis Elementary to NC 54 Sidepath	Existing	Multiuse Path	0.99	CH
--	Morgan Creek Trail	Morgan Creek to Merritt's Pasture	Existing	Multiuse Path	0.83	CH, OR
ORAN0159-M	Morgan Creek Trail	Smith Level Rd. to University Lake Rd.	Recommended	Greenway - Paved	1.55	OR, Carr
ORAN0160-M	Morgan Creek Trail Ext	Morgan Creek Trail to Smith Level Rd	Recommended	Multiuse Path	0.57	CH, Carr
ORAN0161-M	Morgan Creek Trail Spur	Morgan Creek Greenway to BPW Club Rd.	Recommended	Greenway - Paved	0.23	Carr
ORAN0162-M	Morgan Creek Trail Spur	Morgan Creek Greenway to Berryhill Dr.	Recommended	Greenway - Paved	0.12	OR, Carr
ORAN0163-M	Morgan Creek Trail Spur	Across Morgan Creek	Recommended	Greenway - Paved	0.03	Carr
ORAN0164-M	Morgan Creek Train Ext	Merritt's Pasture to Morgan Creek Rd	Recommended	Multiuse Path	0.46	CH, OR
ORAN0165-M	Mountains to Sea Trail	King's Highway Park to Riverwalk	Recommended	Multiuse Trail, Paved	1.17	OR, Hboro
--	NC 54 side path (North)	Burning Tree Dr to Barbee Chapel Rd	Existing	Multiuse Path	0.80	CH
ORAN0166-M	NC 54 side path (North)	NC 54 Interchange to NC 54 Sidepath (existing)	Recommended	Multiuse Path	0.59	CH
--	NC 54 side path (South)	Hamilton Rd to Barbee Chapel Rd	Existing	Multiuse Path	1.01	CH
--	NC 86	Estes Dr to Chapel Hill YMCA	Existing	Bike Lane	0.24	CH
ORAN0167-M	Old Field Cr Trail	Homestead Rd to I-40 (trail)	Recommended	Multiuse Path	1.91	CH, OR
ORAN0168-M	Proposed trail	Dry Creek Trail to US 15-501	Recommended	Multiuse Path	1.05	CH, OR
--	PTA	Jones Ferry Rd to W Carver St	Existing	Multiuse Path	0.08	Carr
ORAN0169-M	Public Works Dr	Smith Level Rd. to End of Canterbury Greenway	Recommended	Greenway - Paved	0.03	Carr
--	Rainbow Soccer Trail	Estes Dr to Cleland Dr	Existing	Multiuse Path - separate from US 15-501	0.30	CH
--	Raleigh Rd side path	Country Club to NC 54 Interchange	Existing	Multiuse Path	0.75	CH
ORAN0170-M	Riverwalk Connector	Riverwalk to Dimmock's Mill Road	Recommended	Multiuse Trail, Paved	0.17	OR, Hboro
--	Riverwalk Trails	W Churton to W Calvin St	Existing	Greenway - Paved	1.02	Hboro
--	Roberson Place	Eugene St to Rand Rd	Existing	Multiuse Path	0.32	Carr
--	Roberson Place	Roberson Pl to S Greensboro St	Existing	Greenway - Paved	0.13	Carr
--	Sedgefield Rd Connector	Weaver Dairy Rd to Sedgefield Rd	Existing	Multiuse Path	0.21	CH
--	Sherwood Path	Franklin St to Chapel Hill Public Library	Existing	Multiuse Path	0.13	CH
--	Sunset Creek Trail	Barrington Hill Rd to Sunset Creek Cir	Existing	Multiuse Path	0.05	Carr
--	Tanyard Branch Trail	Cotton St to McMasters St	Existing	Multiuse Path	0.13	CH
ORAN0171-M	Tanyard Branch Trail	McMasters to Jay	Recommended	Multiuse Path	0.11	CH
ORAN0172-M	Tanyard Branch Trail	McMasters to Broad	Recommended	Multiuse Path	0.17	CH
ORAN0173-M	Tanyard Branch Trail	McMasters to Umstead	Recommended	Multiuse Path	0.36	CH
ORAN0174-M	Tripp Farm Connection	Hillsborough Rd. to Tripp Farm Rd.	Recommended	Pathway to Hillsboro Rd	0.24	Carr
--	Twin Creeks Trail	Lake Hogan Farm to Morris Grove Elementary School	Existing	Multiuse Path	0.68	OR
ORAN0175-M	Twin/Jones Creeks	Twin Creeks Trl to Lake Hogan Farms Rd	Recommended	Greenway - Paved	0.13	OR, Carr
ORAN0176-M	Under Smith Level Rd	Pubic Works Dr to Morga Creek Ext	Recommended	Greenway - Paved	0.04	Carr
--	Upper Booker Trail	NC 86 to Homestead Park	Existing	Multiuse Path	0.62	CH
ORAN0177-M	US 15-501 Sidepath (East)	Rainbow Soccer Path to Old Durham Chapel Hill	Recommended	Multiuse Path - separate from US 15-501	1.65	CH
ORAN0178-M	US 15-501 Sidepath (West)	Estes Dr to Ephesus Church Rd	Recommended	Multiuse Path	0.80	CH
--	Westminster Dr	Edisto Ct to Pitch Pine Ln	Existing	Multiuse path connects cul de sac	0.06	CH
--	Wilson Park	Estes Dr to Wilson Park	Existing	Multiuse Path	0.31	Carr
--	Winmore Trail	Jewell Dr to End of N Camellia St	Existing	Multiuse Path	0.40	Carr
--	Winmore Trail	Homestead Rd to Jewel Dr	Existing	Multiuse Path	0.18	Carr
--	Winmore Trail	Homestead Rd to Jewell Dr, along Winmore	Existing	Multiuse Path	0.22	Carr

## Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

1) Locally-adopted plans have designated most of these proposed facilities. See those plans for more detailed descriptions.

Grade Separations				
Local ID	Facility/ Route	Status	Description	Jurisdiction
<b>CHATHAM COUNTY</b>				
CHAT0109-M	O'Kelly Chapel Rd/American Tobacco Trail	Recommended	Grade separate road and multiuse trail. Submitted by Chatham Planning	Chat

<b>DURHAM COUNTY</b>				
DURH0172-M	Avondale Dr/Duke Beltline	Recommended	Duke Beltline pass under existing Avondale Dr bridge	DurCity
DURH0173-M	Camden Av/Roxboro Rail Trail	Recommended	Roxboro Rail Trail pass under existing Camden Av bridge	DurCity
DURH0174-M	E Geer St/Duke Beltline	Recommended	Duke Beltline pass under existing E Geer St bridge	DurCity
DURH0175-M	E Geer St/Roxboro Rail Trail	Recommended	Roxboro Rail Trail pass under existing E Geer St bridge	DurCity
--	Fayetteville Rd/American Tobacco Trail	Existing	ATT tunnel under Fayetteville Rd	DurCity
--	I-40/American Tobacco Trail	Existing	ATT bridge crosses over I-40 near SouthPointe Mall	DurCity
DURH0176-M	I-40/Central RTP Trail	Recommended	Grade sep. I-40 and Central RTP Tr. (Page Branch to Burdens Creek Tr.)	Dur, RTP
DURH0177-M	I-40/CSX Rail trail	Recommended	Grade separate I-40 and CSX rail trail	DurCity
DURH0178-M	I-40/Herndon Creek Trail	Recommended	Grade separate I-40 and Herndon Creek Trail	DurCity
DURH0179-M	I-40/Leigh Farm and ATT trail connector	Recommended	Grade separate I-40 and Leigh Farm Trail and ATT trail connector	DurCity, Dur
DURH0180-M	I-40/Light Rail Transit	Recommended	Bike-Ped crossing, follows LRT alignment, from CH Planning	DurCity, CH
DURH0181-M	I-40/NC 54 Greenway	Recommended	Grade separate I-40 and Nc 54 Greenway	DurCity
DURH0182-M	I-40/Old Durham-Chapel Hill Rd	Needs Improvement	Bridge upgrade to accommodate bike/ped facilities on Old D-CH Rd	DurCity, CH
--	I-85/Ellerbee Creek Trail	Existing	Ellerbee Creek Trail tunnel under I-85	DurCity
--	I-85/Falls Lake Rail Trail	Existing	Falls Lake Rail Trail will pass under I-85 using existing roadway bridge	Dur
DURH0183-M	I-85/Roxboro Rail Trail	Recommended	Roxboro Rail Trail pass under existing I-85 bridge	DurCity
--	Lakewood Av/American Tobacco Trail	Existing	ATT bridge crosses over Lakewood Av	DurCity
--	MLK Parkway/Third Fork Creek Trail	Existing	Third Fork Creek Trail tunnel under MLK Parkway	DurCity
DURH0184-M	N Mangum St/Duke Beltline	Recommended	Duke Beltline pass under existing N Mangum St bridge	DurCity
DURH0185-M	NC 147/Downtown Rail Loop	Needs Improvement	Railroad passes under NC 147	DurCity
--	NC 147/R Kelly Bryant Bridge	Existing	Trail on R Kelly Bryant Bridge crosses over NC 147 (Durham Freeway)	DurCity
DURH0186-M	NC 54/American Tobacco Trail	Recommended	Grade separate NC 54 and American Tobacco Trail	DurCity
DURH0187-M	NC 54/Herndon Creek Trail	Recommended	Grade separate NC 54 and Herndon Creek Trail	DurCity
DURH0188-M	NC 54/Stancell Dr	Recommended	Bike-Ped crossing NC 54, from CH Planning	CH
DURH0189-M	NC 54/Third Fork Creek	Recommended	Grade separate NC 54 and Third Fork Creek	DurCity
DURH0190-M	NC 55/Rocky Creek Trail	Recommended	Grade separate NC 55 and Rocky Creek Trail	DurCity
DURH0191-M	Roxboro Rail Trail/Eno River	Recommended	Roxboro Rail Trail pass over Eno River - existing bridge dilapidated	Dur
DURH0192-M	Roxboro Rail Trail/Little River	Recommended	Roxboro Rail Trail pass over Little River - existing bridge dilapidated	Dur
DURH0193-M	S Miami Blvd/Railroad Trail	Needs Improvement	Railroad passes over S Miami Blvd using existing bridge	DurCity
--	S Roxboro St/American Tobacco Trail	Existing	ATT bridge crosses over S Roxboro St	DurCity
DURH0194-M	Triangle Expressway/Central RTP Trail	Recommended	Grade sep. Tri Exwy and Central RTP Tr. (Page Branch to Burdens Creek Tr.)	Dur, RTP
DURH0195-M	Trinity Av/Duke Beltline	Needs Improvement	Existing railroad bridge will need upgrading	DurCity
DURH0196-M	US 15-501/New Hope Creek	Recommended	Grade separate US 15-501 and New Hope Creek	DurCity
DURH0197-M	US 70/Briar Creek Trail	Recommended	Grade separate Briar Creek Trail and US 70	DurCity, Dur
DURH0198-M	US 70/Railroad Trail	Needs Improvement	Railroad passes over US 70 using existing bridge	DurCity
--	West Point on the Eno Trail/Eno River	Existing	Trail from West Point on the Eno City Park passes over Eno River (bridge)	DurCity

## Bicycle-Pedestrian-Multiuse <sup>(1)</sup>

Grade Separations				
Local ID	Facility/ Route	Status	Description	Jurisdiction
<b>ORANGE COUNTY</b>				
--	Culbreth Rd/Fan Branch Trail to Morgan Creek	Existing	Bike-Ped tunnel under Culbreth Rd	CH
ORAN0178-M	E Franklin St at Ephesus-Fordham	Recommended	Bike-Ped crossing E Franklin St at Eastowne Shopping Ctr, from CH Planning	CH
--	E Franklin St/Bolin Creek Trail	Existing	Bike-ped tunnel under E Franklin St	CH
--	Exchange Park Ln/Riverwalk	Existing	Exchange Park Ln bridge passes over Riverwalk	Hboro
ORAN0179-M	Fordham Blvd (15-501) at Eastowne Dr	Recommended	Bike-Ped crossing, Fordham and Eastowne, from CH Planning	CH
ORAN0180-M	Fordham Blvd (15-501)/Ephesus Church Rd	Recommended	Bike-Ped bridge crossing US 15-501 at Ephesus Ch. from CH Planning	CH
ORAN0181-M	Homestead Rd/Chapel Hill H.S. multiuse path	Recommended	Chapel Hill High School multiuse path tunnel under Homestead Rd	Carr
ORAN0182-M	I-40/Dry Creek Trail	Recommended	Dry Cr Tr pass under I-40 using culvert near Eastown and New Hope Commons	DurCity CH, OR
ORAN0183-M	I-40/New Hillborough collector road	Recommended	Bicycle/pedestrian bridge over I-85	OR, Hboro
ORAN0184-M	I-40/Orange Grove Rd	Recommended	Grade separate bike/ped path from I-40	OR
ORAN0185-M	I-85/Cates Creek Greenway	Recommended	Bridge to separate I-85 and Cates Creek Greenway. From H'boro Planning	Hboro
ORAN0186-M	MLK Boulevard/Umstead Dr/Bolin Creek Trail	Recommended	Below grade crossing of Bolin Creek Trail at MLK Blvd., from CH Planning	CH
ORAN0187-M	NC 54/Duke Easement Trail	Recommended	Grade separate NC 54 (Chapel Hill bypass) and Duke Easement Trail 3	CH
--	NC 54/Meadowmont	Existing	Bike-Ped tunnel under NC 54 at Meadowmont	CH
--	Riverwalk/Mainline railroad	Existing	Riverwalk passes under railroad bridge	Hboro
--	S Churton St/Riverwalk	Existing	S. Churton St bridge passes over Riverwalk	Hboro
ORAN0188-M	Smith Level Rd/Morgan Creek Greenway	Recommended	Morgan Creek Greenway under existing Smith Level Rd bridge	Carr
--	US 15-501/Morgan Creek to Merritt Pasture Trail	Existing	Bike-Ped tunnel under US 15-501	CH
ORAN0189-M	US 15-501/Obey Creek development	Recommended	Bike-Ped bridge crossing US 15-501 at Obey Cr. dev't., from CH Planning	CH

## Appendix C

### CTP Inventory and Recommendations

#### Highway: Assumptions/ Notes:

- ❖ **Local ID:** If a TIP (Transportation Improvement Program) project number exists it is listed as the ID. If there is no TIP number, the Metropolitan Transportation Plan (MTP) ID is used. If there is no TIP or MTP ID, the following system is used to create a code for each recommended improvement: the first 4 letters of the county name is combined with a unique 4-digit numerical code followed by '-H' for highway.
- ❖ **Facility:** This is the name of the roadway. Note that interstates, US highways and North Carolina signed route names are used first in the facility name, i.e., before the local roadway. For example, Fordham Boulevard is shown as "US 15-501 (Fordham Blvd)." The order of listing is interstates, US highways, NC routes and then other roadways, and each of these sections is in alphabetical order.
- ❖ **Segment:** This indicates the two extents for the segment of the roadway that is being referenced.
- ❖ **Jurisdiction:** This lists the local county and/or jurisdiction, and might include multiple jurisdictions in the cases where the segment crosses boundaries. DurCity = City of Durham; Dur = Durham County; CH = Town of Chapel Hill; Carr = Town of Carrboro; OR = Orange County; Hboro = Town of Hillsborough; and, Chat = Chatham County.
- ❖ **Dist:** This is the length of the roadway segment in miles.
- ❖ **2015 Existing System:** This section has the critical data for understanding the roadway capacity and current condition.
  - **Lanes:** The number of travel lanes, e.g., excluding occasional turn lanes.
  - **ROW:** The right-of-way width in feet. The data is not available for many roadway segments.
  - **Width:** The width of the roadway surface, e.g., pavement, in feet. This data is not available for many roadway segments.
  - **Existing Capacity:** The predominant LOS D capacity. These capacity estimates were developed based on the 2000 Highway Capacity Manual using the Transportation Planning Branch's LOS D Standards for Systems Level Planning.
  - **2011 Volume:** Most of these values are the 2011 Average Annual Daily Trips (AADT) from the NCDOT, which were closer volumes to the Triangle Regional Model base year of 2010. More recent counts, 2013 and 2014, were used for road segments without 2011 AADT available. Counts were not available and not collected for some roadway segments. Chapter 1 provides additional information on the development of volume and capacity values.
- ❖ **2040 Proposed System:** This section has the forecasted traffic volume and any proposed improvements to the roadway segment.
  - **2040 Volume E+C:** The 2040 Volume E+C is an estimate of the volume in 2040 with only existing plus committed projects assumed to be operational, where committed is defined as projects programmed for construction by 2018 in the FY



2012-2018 Transportation Improvement Program (TIP). This is often referred to as the “no build” alternative.

- **2040 V/C:** This is the traffic volume divided by the current LOS D capacity. A value greater than 1 indicates that the volume exceeds the capacity.
- **Status:** This indicates the CTP recommendation for the roadway: Ex = Existing = no planned improvements; NI = Needs Improvement = planned improvements, which most commonly includes the addition of travel lanes; Rec = Recommended = planned new roadway alignment.
- **Cross Section:** The CTP recommended cross-sections are listed by code and the number value indicates the number of travel lanes. Refer to Appendix D for graphics depicting these cross-sections. An entry of ‘ADQ’ indicates the existing facility is adequate and there are no improvements recommended for the given mode as part of the CTP.
- ❖ **CTP Class:** This is the roadway classification: Frwy = Freeway; Exwy = Expressway; Blvd = Boulevard; Maj = Other Major Thoroughfare; Min = Minor Thoroughfare. The CTP classification is listed as shown on the adopted CTP Maps (see Figure 1). See Appendix B for definitions of the roadway classification.
- ❖ **Problem Statement:** Problem statements are available for the most important roadway improvements, e.g., interstates and US highways, and those that are likely to occur before 2030. This column indicates the type of problem statement available for this roadway segment: None = no problem statement needed; Ref = the development of this project has advanced to a point at which a problem or needs statement has already been developed, and can be obtained from the NCDOT/PDEA office by referencing the TIP ID; Minimum = summarized statement; Full = comprehensive statement; UAD = the reasons for not requiring roadway improvements on a segment in which the V/C exceeds “1” can be found in the Unaddressed Needs table.

Table 20

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section		
Interstates																
--	I-40 /I-85	Buckhorn Rd	Mt. Willing Rd.	OR	2.9	8	260	140	125,800	89,000	120,400	0.96	Ex	ADQ	Fwy	None
--	I-40 /I-85	I-85/US 70 Connector	Mt. Willing Rd.	OR	0.6	8	300	130	125,800	94,000	183,600	1.46	Ex	ADQ	Fwy	UAD
--	I-40 /I-85	I-40	I-85/US 70 connector	OR	1.9	8	260-300	140	125,800	92,000	184,000	1.46	Ex	ADQ	Fwy	UAD
I-3306 A, FS-1205 A	I-40	I-85	Old NC 86	OR	2.5	4	280	48	59,900	58,000	71,300	1.19	NI	6B	Fwy	Full
I-3306 A, FS-1205 A	I-40	New Hope Church Rd.	Old NC 86	OR	2.1	4	280	76	59,900	63,000	72,500	1.21	NI	6B	Fwy	Full
I-3306 A, FS-1205 A	I-40	NC 86	New Hope Church Rd.	OR	3.0	4	280	76	59,900	66,000	81,800	1.36	NI	6B	Fwy	Full
I-3306 A, FS-1205 A	I-40	NC 86	US 15-501	CH, OR	4.1	4	280	76	59,900	72,000	94,300	1.57	NI	6D	Fwy (ML)	Full
I-3306 A, I-5702 A, FS-1205 A	I-40	NC 54	US 15-501	DurCity	2.8	6	320	72-88	90,700	85,000	117,700	1.30	NI	8D	Fwy (ML)	Full
I-3306 B, I-5702 A, FS-1205 A	I-40	NC 54	NC 751	DurCity	1.5	6	320	72	90,700	110,000	135,100	1.49	NI	10B	Fwy (ML)	Full
I-3306 B, I-5702 A, FS-1205 A	I-40	Fayetteville Rd	NC 751	DurCity	1.4	6	320-350	72	90,700	109,000	135,000	1.49	NI	10B	Fwy (ML)	Full
I-3306 B, I-5702 A, FS-1205 A	I-40	Fayetteville Rd	NC 55	DurCity	2.3	6	350	72	90,700	117,000	140,600	1.55	NI	10B	Fwy (ML)	Full
I-3306 B, I-5702 A, I-5707	I-40	NC 147 (Durham Freeway)	NC 55	DurCity, Dur	1.2	6	320	72	90,700	122,000	145,900	1.61	NI	10B	Fwy (ML)	Full
I-5702 B, FS-1205 A	I-40	Davis Dr	NC 147 (Durham Freeway)	DurCity, Dur	1.0	8	300	96	121,900	157,000	196,900	1.61	NI	12A	Fwy (ML)	Full
I-5702 B, FS-1205 A	I-40	Davis Dr	S Miami Blvd	DurCity, Dur	0.7	8	300	96	121,900	160,000	198,600	1.63	NI	12A	Fwy (ML)	Full
I-5702 B, FS-1205 A	I-40	Page Rd	S Miami Blvd	DurCity	0.8	8	300-345	96-142	121,900	169,000	201,700	1.65	NI	12A	Fwy (ML)	Full
I-5702 B, FS-1205 A	I-40	Wake County Line	Page Rd	DurCity	1.0	8	300-345	96-142	121,900	174,000	211,000	1.73	NI	12A	Fwy (ML)	Full
DURH0001-H	I-540	I-40	Wake County Line	Dur	0.5	6	300	83	60,950	32,000	43,600	0.72	NI	8D	Fwy	None
DURH0001-H	I-540	Wake County Line	I-40	DurCity, Dur	0.7	6	300	73-83	45,400	76,000	78,400	1.73	NI	8D	Fwy	None
MTP-206	I-85/US 70 connector	I-40/85	US 70	OR	1.0	5	260	36-80	77,800	3,600	6,300	0.08	NI	4A	Blvd	Min
MTP-48	I-85	I-40	S Churton St	OR, Hboro	1.4	4	300	72-96	59,300	33,000	49,800	0.84	NI	6B	Fwy	Min
MTP-48	I-85	NC 86	S Churton St	OR, Hboro	1.3	4	300	48	59,300	37,000	51,600	0.87	NI	6B	Fwy	Min
MTP-48.1	I-85	NC 86	US 70	OR, Hboro	4.3	4	260	48	59,300	36,000	52,700	0.89	NI	6B	Fwy	Min
MTP-48.1	I-85/US 70	NC 147 (Durham Freeway)	US 70	OR	1.9	4	260	48-96	59,300	45,000	64,200	1.08	NI	6B	Fwy	Min

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-27

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section		
--	I-85/US 70 BYP	Cole Mill Rd	NC 147 (Durham Freeway)	DurCity	1.5	6	200-350	108-156	93,500	26,000	40,900	0.44	Ex	ADQ	Fwy	None
--	I-85/US 70 BYP	Cole Mill Rd	US 15 501	DurCity	0.5	6	200-360	72-144	93,500	31,000	44,900	0.48	Ex	ADQ	Fwy	None
--	I-85/US 15-501/US 70 BYP	Hillandale Rd	US 15 501	DurCity	0.5	8	276-360	164-180	145,000	88,000	140,300	0.97	Ex	ADQ	Fwy	None
--	I-85/US 15-501/US 70 BYP	Guess Rd	Hillandale Rd	DurCity	0.6	8	290-450	156-192	145,000	85,000	120,300	0.83	Ex	ADQ	Fwy	None
--	I-85/US 15-501/US 70 BYP	N Duke Street	Guess Rd	DurCity	1.3	8	265-500	94-156	145,000	76,000	122,600	0.85	Ex	ADQ	Fwy	None
--	I-85/US 15/US 70 BYP	Duke Street	N Roxboro St	DurCity	0.9	8	300-500	106-130	145,000	80,000	137,400	0.95	Ex	ADQ	Fwy	None
--	I-85/US 15/US 70 BYP	N Roxboro St	US 70	DurCity	1.2	8	243-500	83-175	145,000	79,000	137,000	0.94	Ex	ADQ	Fwy	None
MTP-49	I-85/US 15	E Club Blvd	US 70	DurCity	1.4	4	200-296	48-103	61,700	49,000	59,200	0.96	NI	6B	Fwy	Min
MTP-49	I-85/US 15	E Club Blvd	Glenn School Rd	Dur	0.7	4	200	48	59,300	47,000	71,300	1.20	NI	6B	Fwy	Min
MTP-49	I-85/US 15	Glenn School Rd	Red Mill Rd	Dur	1.7	4	200	48	59,300	45,000	66,700	1.13	NI	6B	Fwy	Min
DURH0002-H	I-85/US 15	Granville County Line	Red Mill Rd	Dur	2.8	4	200	48	59,300	42,000	62,600	1.06	NI	6B	Fwy	Min
U-0071	I-885 (East End Connector)	US 70	NC 147	DurCity	0.9	0	-	-	-	-	-	0.00	Rec	6A	Fwy	Ref
U.S. Highways																
CHAT0101-H	US 15-501	Manns Chapel Rd.	MPO Boundary	Chat	3.8	4	164-214	56-78	45,200	20,000	31,400	0.70	NI	4F	Blvd	Full
CHAT0101-H	US 15-501	Smith Level Rd	Manns Chapel Rd	Chat	1.1	4	164-214	56-68	45,200	22,000	34,100	0.75	NI	4F	Blvd	Full
--	US 15-501	Smith Level Rd	Market St	CH, OR	1.7	4	120	52-70	36,600	17,000	25,400	0.70	Ex	ADQ	Blvd	None
--	US 15-501	Market St	Bennett Rd	CH, OR	0.5	4	120	52-76	36,600	23,000	30,300	0.83	Ex	ADQ	Blvd	None
--	US 15-501	Bennett Rd	Culbreth Rd	CH	0.4	4	100-120	-	36,600	23,000	30,300	0.83	Ex	ADQ	Blvd	None
--	US 15-501	Culbreth Rd.	Fordham Blvd	CH	0.2	4	100	44-66	26,000	32,000	41,700	1.60	Ex	ADQ	Maj	UAD
MTP-113	US 15-501 (Durham Chapel Hill Blvd)	I-40	Garrett Rd	DurCity	1.4	6	150-260	92-147	55,000	44,000	65,800	1.20	NI	6A	Fwy	Full
MTP-113	US 15-501 (Durham Chapel Hill Blvd)	US 15-501 Bypass	Garrett Rd	DurCity	0.9	6	150-350	44-116	55,000	49,000	62,700	1.14	NI	6A	Fwy	Full
U-5304 D	US 15-501 (Fordham Blvd)	E Franklin St.	Raleigh Rd. (NC 54)	CH	2.1	4	-	-	36,600	28,000	37,100	1.01	NI	6F	Blvd	Full
U-5304 F	US 15-501 (Fordham Blvd)	E Franklin St.	I-40	CH	1.6	4	130-490	44-115	36,600	41,000	46,700	1.28	NI	4G	Blvd	Full
DURH0003-H	US 15-501 BUS (Durham Chapel Hill Blvd)	Academy Rd	US 15-501	DurCity	1.2	4	260	44-56	36,600	17,000	25,800	0.71	NI	4D	Blvd	None
DURH0003-H	US 15-501 BUS (Durham Chapel Hill Blvd)	Academy Rd	Chapel Hill Rd	DurCity	0.4	4	100-260	56	36,600	14,000	20,000	0.55	NI	4D	Blvd	None
DURH0003-H	US 15-501 BUS (Durham Chapel Hill Blvd)	Chapel Hill Rd	University Dr	DurCity	0.8	4	100	36-56	26,000	12,000	16,000	0.62	NI	4D	Blvd	None
--	US 15-501 BUS (Lakewood Ave)	S Roxboro St	Vickers Ave	DurCity	0.6	3	60	24-50	13,800	13,000	17,200	1.24	Ex	ADQ	Maj	UAD
--	US 15-501 BUS (Mangum St - North)	N Roxboro St	W Morgan St	DurCity	1.0	2	40-60	30-36	14,100	7,500	11,200	0.80	Ex	(5)	Maj	None
--	US 15-501 BUS (Mangum St)	W Morgan St	W Pettigrew St	DurCity	0.3	2	55-65	33	11,000	8,600	8,800	0.80	Ex	(5)	Maj	None
--	US 15-501 BUS (Mangum St - South)	W Pettigrew St	NC 147 (Durham Freeway)	DurCity	0.3	3	70-80	40-50	21,100	8,400	13,300	0.63	Ex	(5)	Maj	None
--	US 15-501 BUS (Mangum St - South)	NC 147 (Durham Freeway)	W Lakewood Ave	DurCity	0.2	2	45-60	30-50	12,700	3,400	5,200	0.41	Ex	(5)	Maj	None
--	US 15-501 BUS (Mangum-Roxboro conn)	S Mangum St	E Lakewood Ave	DurCity	0.1	2	-	-	11,600	-	7,600	0.66	Ex	ADQ	Min	None

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-28

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section		
--	US 15-501 BUS (Roxboro St - South)	E Lakewood Ave	NC 147 (Durham Freeway)	DurCity	0.1	4	60	60	21,100	6,500	11,600	0.55	Ex	(5)	Maj	None
--	US 15-501 BUS (Roxboro St - North)	US 70 BUS (Durham Downtown Loop)	NC 147 (Durham Freeway)	DurCity	0.3	3	60-70	30-33	21,100	9,600	14,500	0.69	Ex	(5)	Maj	None
DURH0073-H	US 15-501 BUS (Roxboro St - North)	Holloway St	US 70 BUS (Durham Downtown Loop)	DurCity	0.2	5	70-80	40-54	35,100	11,000	15,900	0.45	NI	(3)	Maj	None
--	US 15-501 BUS (Roxboro St - North)	E Geer St	Holloway St	DurCity	0.6	2	50-70	28-38	14,100	7,200	9,600	0.68	EX	(5)	Maj	None
--	US 15-501 BUS (Roxboro St - North)	E Geer St	Markham Ave	DurCity	0.5	2	60	28-34	12,900	5,100	6,400	0.49	EX	(5)	Maj	None
--	US 15-501 BUS (Roxboro St - North)	Markham Ave	I-85	DurCity	0.3	2	60-150	30-89	12,900	15,000	19,600	1.52	Ex	ADQ	Maj	UAD
--	US 15-501 BUS (University Dr)	Durham Chapel Hill Blvd	Vickers Ave	DurCity	0.9	2	60	30-36	12,900	16,000	19,000	1.47	Ex	ADQ	Maj	UAD
MTP-114	US 15-501 Bypass	W Cornwallis Rd	University Dr	DurCity	1.7	4	100-200	46-64	61,700	55,000	72,400	1.17	NI	6B	Fwy	Full
MTP-114	US 15-501 Bypass	Cameron Blvd	W Cornwallis Rd	DurCity	1.0	4	200	64	61,700	58,000	81,700	1.32	NI	6B	Fwy	Full
DURH0004-H	US 15-501 Bypass	Cameron Blvd	Morreene Rd	DurCity	0.9	4	200-260	64-144	61,700	55,000	80,300	1.30	NI	6B	Fwy	Full
DURH0004-H	US 15-501 Bypass	Hillsborough Rd	Morreene Rd	DurCity	0.7	4	260	144	61,700	58,000	85,000	1.38	NI	6B	Fwy	Full
DURH0004-H	US 15-501 Bypass	Hillsborough Rd	I-85	DurCity	0.5	4	305-320	70-144	61,700	58,000	82,900	1.34	NI	6B	Fwy	Full
U-5304 B	US 15-501/NC 54 (Fordham Blvd)	Manning Dr.	US 15-501	CH	1.2	4	-	-	36,600	41,000	43,500	1.19	NI	6F	Blvd	Full
U-5304 B	US 15-501/NC 54 (Fordham Blvd)	Manning Dr.	Raleigh Rd. (NC 54)	CH	0.9	4	-	-	36,600	51,000	57,800	1.58	NI	6F	Blvd	Full
DURH0005-H	US 501 (Duke St)	Stadium Dr	I-85	DurCity	0.9	5	100-167	60-102	26,000	34,000	42,900	1.65	NI	4GSS	Blvd	Min
DURH0005-H	US 501 (Duke St)	W Carver St	Stadium Dr	DurCity	0.5	5	100	60	26,800	29,000	37,900	1.41	NI	4GSS	Blvd	Min
DURH0005-H	US 501 (Duke St)	N Roxboro St	W Carver St	DurCity	1.1	5	80-100	58-70	26,800	29,000	36,800	1.37	NI	4GSS	Blvd	Min
MTP-92	US 501 (Roxboro Rd)	N Duke St	Infinity Rd	DurCity	1.6	5	80	57-80	36,600	35,000	47,700	1.30	NI	4GSS	Blvd	Min
MTP-92	US 501 (Roxboro Rd)	Infinity Rd	Milton Rd	DurCity	0.6	5	100	52	36,600	29,000	41,900	1.15	NI	4GSS	Blvd	Min
MTP-92	US 501 (Roxboro Rd)	Milton Rd	Sandlewood Dr	DurCity	1.2	4	100	52	36,600	19,000	27,900	0.76	NI	4GSS	Blvd	Min
--	US 501 (Roxboro Rd)	Sandlewood Dr	Snow Hill Rd	Dur	1.0	4	100	48-80	36,600	19,000	27,900	0.76	Ex	ADQ	Blvd	None
--	US 501 (Roxboro Rd)	Snow Hill Rd	S of Bill Poole Rd	Dur	8.1	4	100-340	48-104	36,600	16,000	22,500	0.61	Ex	ADQ	Blvd	None
--	US 501 (Roxboro Rd)	Snow Hill Rd	Person County Line	Dur	0.9	4	240	64-94	45,200	16,000	22,500	0.50	Ex	ADQ	Blvd	None
--	US 501 BUS (Roxboro St - North)	I-85	E Club Blvd	DurCity	0.3	5	100	44-89	23,500	31,000	42,500	1.81	Ex	ADQ	Maj	UAD
DURH0006-H	US 501 BUS (Roxboro St - North)	Old Oxford Rd	E Club Blvd	DurCity	1.1	4	70	44-65	22,200	28,000	42,800	1.93	NI	4G	Blvd	None
--	US 501 BUS (Roxboro St - North)	Old Oxford Rd	E Carver St	DurCity	0.6	5	70-100	60	28,100	23,000	30,700	1.09	Ex	ADQ	Maj	UAD
--	US 501 BUS (Roxboro St - North)	N Duke St	E Carver St	DurCity	1.1	5	100	60	28,100	17,000	26,500	0.94	Ex	ADQ	Maj	None
--	US 70	Efland Cedar Grove Rd	MPO Boundary	OR	2.6	2	60	22	12,400	6,700	11,200	0.90	Ex	ADQ	Maj	None
--	US 70	Efland Cedar Grove Rd	I-85/US 70 Connector	OR	1.4	2	60-150	22-46	12,400	4,400	9,200	0.74	Ex	ADQ	Maj	None
ORAN0101-H	US 70	I-85/US 70 Connector	West Hill Ave N	OR	1.1	2	150	36-46	12,400	8,800	17,200	1.38	NI	4G	Blvd	Min
ORAN0101-H	US 70	N Churton St	West Hill Ave N	OR, Hboro	1.6	2	150	36	12,700	9,800	19,700	1.55	NI	4G	Blvd	Min

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-29

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section		
ORAN0101-H	US 70	N Churton St	US 70A	OR, Hboro	3.8	2	150	22	12,400	12,000	22,200	1.79	NI	4G	Blvd	Min
ORAN0102-H	US 70	Mt Hermon Church Rd	US 70A	OR	2.1	2	150	22	12,400	12,000	19,800	1.59	NI	4A	Blvd	Min
U-5720 C	US 70	Wake County Line	Sherron Rd/Miami Blvd	DurCity, Dur	2.5	4	180-190	48	36,600	31,000	49,200	1.34	NI	6B	Fwy	Full
U-5720 A	US 70	Sherron Rd/Miami Blvd	Pleasant Dr	DurCity, Dur	1.2	4	100-180	48-96	36,600	37,000	63,700	2.21	NI	6B	Fwy	Full
U-0071, DURH0007-H	US 70	Pleasant Dr	I-885 (East End Connector)	DurCity	1.3	4	100-180	-	36,600	37,000	63,700	2.21	NI	6A	Fwy	Ref
--	US 70 / US 70 BUS	NC 751	Pleasant Green Rd	OR	1.6	2	150	22	29,700	6,800	17,400	0.59	Ex	ADQ	Maj	None
DURH0074-H	US 70 BUS (Durham Downtown Loop)	Holloway St	S Roxboro St	DurCity	1.1	2	-	-	12,700	5,200	7,700	0.60	NI	(4)	Maj	None
--	US 70 BUS (Hillsborough Rd)	Sparger Rd	NC 751	OR	0.4	2	100-150	22	12,700	8,500	12,300	0.97	Ex	ADQ	Maj	None
DURH0008-H	US 70 BUS (Hillsborough Rd)	Sparger Rd	Operations Dr	DurCity	0.7	2	100	22	12,700	8,700	14,700	1.29	NI	3C	Maj	None
--	US 70 BUS (Hillsborough Rd)	Neal Rd	Operations Dr	DurCity	1.1	2	90-100	48-64	14,000	9,600	16,300	1.17	Ex	ADQ	Maj	UAD
--	US 70 BUS (Hillsborough Rd)	Cole Mill Rd	Neal Rd	DurCity	0.1	3	100	64	31,600	16,000	22,100	0.70	Ex	ADQ	Maj	None
--	US 70 BUS (Hillsborough Rd)	Cole Mill Rd	US 15-501	DurCity	0.3	4	80-100	50-64	28,100	24,000	31,600	1.13	Ex	ADQ	Blvd	UAD
--	US 70 BUS (Hillsborough Rd)	Hillandale Rd	US 15-501	DurCity	0.8	4	60	30-45	26,000	20,000	22,400	0.86	Ex	ADQ	Maj	None
--	US 70 BUS (Hillsborough Rd)	Hillandale Rd	Broad St	DurCity	1.1	2	40-70	30	23,500	7,000	14,100	0.60	Ex	ADQ	Maj	None
--	US 70 BUS (Miami Blvd - North)	Harvard Ave	US 70 Bypass	DurCity	0.5	2	-	-	11,600	6,600	9,200	0.79	Ex	ADQ	Maj	None
--	US 70 BUS (Miami Blvd - North)	Holloway St	Harvard Ave	DurCity	0.5	4	-	-	23,500	7,100	9,300	0.39	Ex	ADQ	Maj	None
--	US 70 BUS (Ninth Street)	Hillsborough Rd	W Main St	DurCity	0.2	2	100	-	11,000	-	3,700	0.34	Ex	ADQ	Maj	None
--	US 70 BUS (W Main St)	Broad St	N Buchanan Blvd	DurCity	0.5	2	60-95	40-60	11,600	11,000	19,000	1.64	Ex	ADQ	Maj	UAD
--	US 70 BUS (W Main St)	N Buchanan Blvd	Great Jones St	DurCity	0.5	3	50-75	38-44	12,500	8,000	17,800	1.43	Ex	ADQ	Maj	UAD
--	US 70 BUS/NC 98 (Holloway St)	N. Miami Blvd.	N Roxboro St	DurCity	1.6	2	45-80	28-40	11,600	12,000	15,000	1.30	Ex	ADQ	Maj	UAD
DURH0009-H	US 70 BYP	NC 98 (Holloway St)	I-85	DurCity	1.0	4	100-260	61-119	59,100	46,000	96,200	1.63	NI	6B	Fwy	Full
U-0071	US 70 BYP	I-885 (East End Connector)	NC 98 (Holloway St)	DurCity	1.4	4	170-180	64-125	59,100	46,000	96,200	1.63	NI	6A	Fwy	Ref
--	US 70/NC86 (Churton St - North)	Cornelius St	W King St	Hboro	0.5	2	-	-	11,000	13,000	16,200	1.48	Ex	ADQ	Maj	UAD
--	US 70/NC86 (Churton St - North)	Cornelius St	W Corbin	Hboro	0.3	2	-	-	12,700	13,000	16,200	1.28	Ex	ADQ	Maj	UAD
--	US 70/NC86 (Churton St - South)	W King St	US 70A	Hboro	0.4	2	-	-	11,600	20,000	24,500	2.11	Ex	ADQ	Maj	UAD
--	US 70A	Lawrence Rd	Elizabeth Brady Rd	OR, Hboro	1.2	2	60	22	12,400	6,700	13,800	1.12	Ex	ADQ	Maj	UAD
--	US 70A	Lawrence Rd	US 70	OR	1.1	2	60	22	12,400	2,500	4,800	0.39	Ex	ADQ	Maj	None
--	US 70A/NC 86	Elizabeth Brady Rd	S Churton St	OR, Hboro	0.8	2	100	22	12,400	9,200	12,100	0.98	Ex	ADQ	Maj	None

## NC Routes

--	NC 147 (Triangle Parkway - toll)	Hopson Rd.	Wake County Line	DurCity, Dur	0.6	6	450-750	120	89,000	7,100	31,600	0.36	Ex	ADQ	Fwy (ML)	None
--	NC 147 (Triangle Parkway - toll)	Hopson Rd.	I-40	DurCity, Dur	1.8	6	100-750	68-135	89,000	13,000	53,400	0.60	Ex	ADQ	Fwy (ML)	None
U-5934	NC 147 (Durham Freeway)	E Cornwallis Rd	I-40	DurCity, Dur	0.9	6	320	56-88	90,700	68,000	76,700	0.93	NI	8D	Fwy (ML)	Full
U-5934	NC 147 (Durham Freeway)	E Cornwallis Rd	T. W. Alexander Dr	DurCity, Dur	0.9	4	320	68-76	90,700	62,000	92,400	1.49	NI	8D	Fwy (ML)	Full

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-30

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section		
U-5934	NC 147 (Durham Freeway)	Ellis Rd	T. W. Alexander Dr	DurCity, Dur	1.1	4	320	48-119	61,700	67,000	97,100	1.57	NI	8D	Fwy (ML)	Full
U-5934	NC 147 (Durham Freeway)	East End Connector	Ellis Rd	DurCity	1.9	4	250-320	70-118	61,700	59,000	77,000	1.25	NI	8D	Fwy (ML)	Full
DURH0010-H	NC 147 (Durham Freeway)	S Briggs Ave	East End Connector	DurCity	0.9	4	250-320	70-118	61,700	59,000	77,000	1.25	NI	6A	Fwy	Full
U-5937, DURH0010-H	NC 147 (Durham Freeway)	NC 55 (Alston Ave.)	S Briggs Ave	DurCity	0.9	4	250	72-96	61,700	67,000	86,900	1.41	NI	6A	Fwy	Full
U-5937	NC 147 (Durham Freeway)	NC 55 (Alston Ave.)	Fayetteville St	DurCity	0.5	4	230-250	64-112	61,700	79,000	86,800	1.41	NI	4A	Fwy	Full
U-5937	NC 147 (Durham Freeway)	Blackwell St	Fayetteville St	DurCity	0.5	4	230	72-103	61,700	71,000	84,200	1.37	NI	4A	Fwy	Full
U-5937	NC 147 (Durham Freeway)	Chapel Hill St	Blackwell St	DurCity	0.6	4	230	64-88	61,700	62,000	79,900	1.29	NI	4A	Fwy	Full
DURH0011-H	NC 147 (Durham Freeway)	Swift Ave	Chapel Hill St	DurCity	0.7	4	230-250	68-103	61,700	61,000	81,400	1.32	NI	4A	Fwy	Full
DURH0011-H	NC 147 (Durham Freeway)	Swift Ave	Anderson St	DurCity	0.5	4	250	73-135	61,700	57,000	71,800	1.16	NI	4A	Fwy	Full
DURH0011-H	NC 147 (Durham Freeway)	Anderson St	Elba St	DurCity	0.2	4	210-250	78-91	61,700	42,000	60,700	0.98	NI	4A	Fwy	Full
DURH0011-H	NC 147 (Durham Freeway)	Elba St	Hwy 15 501	DurCity	1.2	4	210-350	62-125	61,700	42,000	48,100	0.78	NI	4A	Fwy	Full
DURH0011-H	NC 147 (Durham Freeway)	Hwy 15 501	I-85 N	DurCity	2.1	4	175-350	30-149	61,700	19,000	29,200	0.47	NI	4A	Fwy	Full
--	NC 157 (Guess Rd)	W Carver St	I-85	DurCity	0.7	4	80-140	57-108	43,600	23,000	30,900	0.71	Ex	ADQ	Maj	None
--	NC 157 (Guess Rd)	Horton Rd	W Carver St	DurCity	1.4	4	100	67-79	43,600	22,000	26,400	0.61	Ex	ADQ	Maj	None
--	NC 157 (Guess Rd)	Horton Rd	Prison Camp	DurCity	0.4	5	50	34-42	28,100	20,000	28,600	1.02	Ex	ADQ	Maj	UAD
--	NC 157 (Guess Rd)	Prison Camp	Rose Of Sharon Rd	DurCity	0.2	4	50-100	42-76	36,600	19,000	26,200	0.72	Ex	ADQ	Blvd	None
--	NC 157 (Guess Rd)	Latta Rd	Rose Of Sharon Rd	DurCity	1.1	4	100	52-71	43,600	21,000	31,200	0.72	Ex	ADQ	Blvd	None
--	NC 157 (Guess Rd)	Latta Rd	Umstead Rd	DurCity	0.2	4	100	52-83	43,600	17,000	24,800	0.57	Ex	ADQ	Blvd	None
--	NC 157 (Guess Rd)	Milton Rd	Umstead Rd	DurCity, Dur	2.4	2	100	20-71	14,600	11,000	15,100	1.03	Ex	ADQ	Maj	UAD
--	NC 157 (Guess Rd)	Milton Rd	St Marys Rd	Dur	1.0	2	100	20	12,400	8,700	10,600	0.86	Ex	ADQ	Maj	None
--	NC 157 (Guess Rd)	New Sharon Church Rd	St Marys Rd	OR	3.7	2	-	-	12,400	5,400	5,800	0.47	Ex	ADQ	Maj	None
R-5821	NC 54	Old Fayetteville Rd	MPO Boundary	OR, Carr	2.6	2	120	24-48	12,400	15,000	24,900	2.01	NI	2A	Maj	Min
--	NC 54	Old Fayetteville Rd	Jones Ferry Rd	Carr	1.3	4	150	48	36,600	24,000	36,400	0.99	Ex	ADQ	Blvd	None
--	NC 54	Smith Level Rd	Jones Ferry Rd	Carr	0.8	4	150	48	36,600	30,000	34,500	0.94	Ex	ADQ	Blvd	None
--	NC 54	Smith Level Rd	US 15-501	CH, Carr	1.1	4	150	78	36,600	30,000	36,400	1.00	Ex	ADQ	Blvd	None
U-5774 B	NC 54	Fordham Blvd	Burning Tree Dr	CH	0.5	6	-	-	55,000	46,000	56,800	1.03	NI	6E	Blvd	Full
U-5774 B	NC 54	Burning Tree Dr	Friday Center Dr	CH	0.5	6	180	80	55,000	44,000	54,300	0.99	NI	6E	Blvd	Full
U-5774 C	NC 54	I-40	Friday Center Dr	DurCity, Dur, C	1.8	4	180-250	48	36,600	43,000	47,800	1.31	NI	6ESS	Blvd	Full
U-5774 G	NC 54	I-40	NC 751	DurCity	1.2	2	60-250	24-48	12,700	18,000	24,500	1.93	NI	4D	Blvd	Full
U-5774 H	NC 54	NC 751	Rollingwood	DurCity	1.4	2	60-90	23-36	13,800	16,000	19,800	1.43	NI	4D	Blvd	Full
U-5774 H	NC 54	Fayetteville Rd	Rollingwood	DurCity	0.3	4	60	23	36,600	23,000	29,000	0.79	Ex	ADQ	Maj	None
U-5774 I	NC 54	Barbee Road	Fayetteville Rd	DurCity	1.0	2	60	23	46,800	16,000	56,600	1.21	NI	4D	Blvd	Full
U-5774 J	NC 54	Barbee Road	NC 55	DurCity	1.3	2	60-100	23-64	12,700	21,000	28,100	2.21	NI	4D	Blvd	Full
--	NC 54	S Alston Ave	NC 55	DurCity	0.4	4	80	64	31,600	21,000	44,300	1.40	Ex	ADQ	Maj	UAD
--	NC 54	Davis Dr	S Alston Ave	DurCity, Dur	1.7	5	80-110	59-88	36,600	16,000	39,800	1.09	Ex	ADQ	Maj	UAD
--	NC 54	Davis Dr	S Miami Blvd	DurCity, Dur	0.9	4	120	59-108	43,600	7,900	26,800	0.61	Ex	ADQ	Blvd	None
--	NC 54 (Miami Blvd - South)	Hopson Rd.	Slater Rd	DurCity	0.4	4	60-100	24-34	45,200	21,000	52,700	1.17	Ex	ADQ	Maj	UAD
--	NC 54 (Miami Blvd - South)	Wake County Line	Page Rd	DurCity	0.7	4	100	24	45,200	21,000	55,600	1.23	Ex	ADQ	Maj	UAD
--	NC 55	Hopson Rd.	Wake County Line	Dur	0.4	4	150	48-72	43,600	17,000	25,500	0.59	Ex	ADQ	Blvd	None
--	NC 55	E NC 54 Hwy	Hopson Rd	DurCity	2.0	4	150	48-84	43,600	18,000	27,600	0.63	Ex	ADQ	Maj	None
--	NC 55	I-40	E NC 54 Hwy	DurCity	0.3	4	200	84	43,600	35,000	49,800	1.14	Ex	ADQ	Maj	UAD
--	NC 55	I-40	MLK Pkwy	DurCity	1.7	4	75-200	34-84	36,600	25,000	40,700	1.11	Ex	ADQ	Blvd	UAD
--	NC 55	E Cornwallis Rd	MLK Pkwy	DurCity	0.2	4	150	36-72	36,600	22,000	35,600	0.97	Ex	ADQ	Maj	None

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-31

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section		
--	NC 55	E Cornwallis Rd	Riddle Rd	DurCity	1.6	4	150	46-64	36,600	19,000	29,400	0.80	Ex	ADQ	Blvd	None
--	NC 55	S Alston Ave.	Riddle Rd	DurCity	1.1	4	150	55-64	36,600	22,000	30,300	0.83	Ex	ADQ	Maj	None
--	NC 55 (S Alston Ave.)	E Lawson St	Cecil St	DurCity	0.2	4	60	45-53	23,500	26,000	36,000	1.53	Ex	ADQ	Maj	UAD
--	NC 55 (S Alston Ave.)	E Lawson St	NC 147	DurCity	0.5	4	60	45-60	23,500	27,000	35,800	1.52	Ex	ADQ	Maj	UAD
U-3308	NC 55 (S Alston Ave.)	E Main St	NC 147	DurCity	0.4	2	60	35-60	12,200	20,000	25,000	2.05	NI	4G	Blvd	Ref
U-3308	NC 55 (N Alston Ave)	Holloway St	E Main St	DurCity	0.5	2	60	40	12,900	18,000	17,900	1.38	NI	4G	Blvd	Ref
--	NC 55 (N Alston Ave)	Avondale Dr	Holloway St	DurCity	0.8	2	60	40	12,900	14,000	16,000	1.24	Ex	ADQ	Maj	UAD
DURH0012-H	NC 55 (Avondale Dr)	E Geer St	I-85	DurCity	0.8	2	108-197	32-90	12,200	16,000	19,800	1.63	NI	4G	Blvd	None
--	NC 55 (Avondale Dr)	I-85	N Roxboro St	DurCity	0.3	4	101-110	44-91	38,400	20,000	30,600	0.80	Ex	ADQ	Maj	None
--	NC 57	NC 86	Phelps Rd	OR	3.2	2	100	22	12,700	6,600	11,600	0.91	Ex	ADQ	Maj	None
CHAT0102-H	NC 751	Marthas Chapel Rd	O'Kelly Chapel Rd	Chat	5.4	2	60-200	24	12,400	7,500	13,900	1.12	NI	4E	Blvd	Min
MTP-77.3	NC 751	Fayetteville Rd	O'Kelly Chapel Rd	DurCity, Dur	0.7	2	60	19	12,400	11,000	21,400	1.72	NI	4D	Blvd	None
MTP-77.3	NC 751	Fayetteville Rd	Stagecoach Rd	DurCity, Dur	1.0	2	60-90	19	12,700	9,400	17,800	1.40	NI	4D	Blvd	None
MTP-77.3	NC 751	Renaissance Pkwy	Stagecoach Rd	DurCity, Dur	0.9	2	60-90	19-24	12,700	12,000	18,800	1.48	NI	4D	Blvd	None
MTP-77.2	NC 751	I-40	Renaissance Pkwy	DurCity	0.2	6	60	24	42,200	26,700	41,500	0.98	Ex	ADQ	Maj	Min
MTP-77.2	NC 751	I-40	Southpoint Autopark Blvd	DurCity	0.2	4	60	24	36,600	15,000	30,600	0.84	Ex	ADQ	Blvd	None
MTP-77.2	NC 751	Southpoint Autopark Blvd	NC 54	DurCity	0.8	2	60	24	12,700	15,000	30,600	2.41	NI	4D	Blvd	None
MTP-77.1	NC 751	NC 54	Woodcroft Pkwy	DurCity	0.4	4	60-90	24	31,600	18,000	25,700	0.81	Ex	ADQ	Maj	None
MTP-77.1	NC 751	S Roxboro St	Woodcroft Pkwy	DurCity	0.3	2	60-90	24	11,600	15,000	22,800	1.96	NI	4D	Blvd	Min
--	NC 751 (Hope Valley Rd)	MLK Parkway	S Roxboro St	DurCity	2.5	2	55-90	24	11,600	9,300	15,400	1.33	Ex	ADQ	Maj	UAD
--	NC 751 (Hope Valley Rd)	University Dr	MLK Parkway	DurCity	0.9	2	60-80	24	11,600	9,500	12,100	1.04	Ex	ADQ	Maj	UAD
--	NC 751 (University Dr)	Hope Valley Rd	Academy Rd	DurCity	0.7	3	60	-	11,600	13,000	16,000	1.38	Ex	ADQ	Maj	UAD
--	NC 751 (Academy Rd)	Durham Chapel Hill B	University Dr	DurCity	0.3	2	60-75	24-52	12,900	6,600	11,800	0.91	Ex	ADQ	Maj	None
--	NC 751 (Academy Rd)	Duke University Rd	Durham Chapel Hill B	DurCity	1.4	2	60	18-30	11,600	9,900	16,400	1.42	Ex	ADQ	Maj	UAD
--	NC 751 (Academy Rd)	Duke University Rd	Erwin Rd	DurCity	0.8	4	60	48	23,500	9,200	14,900	0.63	Ex	ADQ	Maj	None
--	NC 751 (Academy Rd)	Erwin Rd	US 15-501	DurCity	0.3	4	100	48	23,500	15,000	19,600	0.83	Ex	ADQ	Maj	None
DURH0013-H	NC 751 Hwy	Erwin Rd	US 15-501	DurCity	0.3	2	60-100	-	12,400	13,000	23,500	1.90	NI	4D	Blvd	None
--	NC 751 Hwy	Erwin Rd.	Hillsborough Rd (US 70)	Dur, OR	2.9	2	60	-	12,400	4,800	12,400	1.00	Ex	ADQ	Maj	None
U-0624	NC 86 (S Columbia St)	Manning Dr.	US 15-501	CH	0.9	2	60-80	24-58	14,000	13,000	17,500	1.25	Ex	ADQ	Maj	UAD
--	NC 86 N (S Columbia St)	Manning Dr	South Rd	CH	0.3	3	60	44	21,100	8,500	12,400	0.59	Ex	ADQ	Maj	None
--	NC 86 N (S Columbia St)	NC 86 S (West Cameron Ave)	South Rd	CH	0.2	3	60	-	21,100	9,700	11,300	0.53	Ex	ADQ	Maj	None
--	NC 86 S (West Cameron Ave)	NC 86 (S Columbia St)	NC 86 S (Pittsboro St)	CH	0.1	2	-	-	11,600	16,000	17,000	1.47	Ex	ADQ	Min	UAD
ORAN0103-H	NC 86 S (Pittsboro St.)	NC 86 S (West Cameron Ave)	NC 86 (S Columbia St)	CH	0.4	2	25	-	12,700	9,100	11,100	0.88	NI	(1)	Maj	Min
--	NC 86 (S Columbia St)	W Cameron Ave	E Franklin St	CH	0.2	4	100	-	24,200	15,000	18,200	0.75	Ex	ADQ	Maj	None
--	NC 86 (MLK Jr Blvd)	E Franklin St.	Estes Dr.	CH	1.6	4	100	64	31,600	21,000	30,100	0.95	Ex	ADQ	Maj	None
--	NC 86 (MLK Jr Blvd)	Estes Dr.	Homestead Rd	CH	1.0	4	100	65-72	31,600	28,000	40,200	1.27	Ex	ADQ	Maj	UAD
--	NC 86 (MLK Jr Blvd)	Homestead Rd	Weaver Dairy Rd Ext	CH	1.0	4	60-100	72-90	31,600	24,000	33,300	1.05	Ex	ADQ	Blvd	UAD
--	NC 86 (MLK Jr Blvd)	Weaver Dairy Rd Ext	I-40	CH	0.5	4	70-100	64-96	31,600	28,000	41,200	1.30	Ex	ADQ	Maj	UAD
--	NC 86	I-40	Whitfield Rd	OR	0.1	4	60-100	64-72	36,600	-	16,700	0.46	Ex	ADQ	Maj	None
--	NC 86	Whitfield Rd	New Hope Church Rd.	OR	3.5	2	60	22	14,600	6,400	17,700	1.21	Ex	ADQ	Maj	UAD

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-32



Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System					Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section	CTP Class	
--	NC 86	New Hope Church Rd.	OLD NC 10	OR	2.7	3	100	24	12,400	10,000	29,700	2.40	Ex	ADQ	Maj	UAD
ORAN0104-H	NC 86	I-85	OLD NC 10	OR, Hboro	0.3	2	100	24	12,400	9,900	32,700	2.63	NI	4D	Blvd	Min
ORAN0104-H	NC 86	I-85	US 70A	Hboro	0.6	2	100	24-36	12,400	10,000	18,500	1.50	NI	4D	Blvd	Min
ORAN0105-H	NC 86 N	NC 57	Cornelius St	OR, Hboro	0.3	2	100	24	12,900	15,400	20,300	1.57	NI	4D	Maj	Min
--	NC 86 N	Coleman Loop (N)	NC 57	OR	2.9	2	100	24	12,700	10,000	12,100	0.95	Ex	ADQ	Maj	None
DURH0014-H	NC 98 (Holloway St)	US 70 E	N Miami Blvd	DurCity	0.4	4	60-70	44	23,500	16,800	31,500	1.34	NI	4G	Blvd	Ref
DURH0014-H	NC 98 (Holloway St)	Junction Rd	US 70 E	DurCity	0.3	5	31-89	37-75	26,000	24,000	39,300	1.51	NI	4G	Blvd	Ref
DURH0014-H	NC 98 (Holloway St)	Junction Rd	Lynn Rd Ext	DurCity	0.8	4	31-75	36-100	23,500	20,000	29,900	1.27	NI	4G	Blvd	Min
DURH0014-H	NC 98 (Holloway St)	Lynn Rd Ext	S Mineral Springs Rd	DurCity, Dur	1.3	4	60	36-46	23,500	16,000	24,600	1.05	NI	4G	Blvd	Min
DURH0014-H	NC 98 (Wake Forest Hwy)	Nichols Farm Rd	S Mineral Springs Rd	DurCity, Dur	0.5	4	60-100	36-45	25,500	12,000	23,600	0.93	NI	4G	Blvd	Min
MTP-81.1	NC 98 (Wake Forest Hwy)	Wake County Line	Nichols Farm Rd	DurCity, Dur	6.0	2	100	20-37	12,400	11,000	18,400	1.48	NI	4D	Blvd	Min
Secondary and Local Roads																
DURH0015-H	ACC Boulevard Ext	Northern Durham Parkway	T W Alexander Dr	Dur, DurCity	0.6	0	-	-	-	-	-	0.00	Rec	3B	Min	None
ORAN0106-H	Albert Rd	Dairyland Rd	Union Grove Church Rd	OR	0.5	2	-	20	-	-	-	0.00	NI	2A	Min	None
DURH0016-H	Alston Ave (South)	E NC 54 Hwy	T. W. Alexander Dr	DurCity	1.4	2	60	24	12,900	7,900	16,400	1.27	NI	3C	Min	None
--	Alston Ave (South)	E Cornwallis Rd	E NC 54 Hwy	DurCity	2.1	2	90	20-44	12,900	8,300	12,800	0.99	Ex	ADQ	Min	None
--	Alston Ave (South)	E Cornwallis Rd	NC 55 Hwy	DurCity	3.1	2	90	18	11,600	4,800	9,500	0.82	Ex	ADQ	Min	None
DURH0017-H	Alston Ave Extension	Holloway St	Old Oxford Rd/N Roxboro St	DurCity	3.4	0	-	-	-	-	-	0.00	Rec	2L	Blvd	None
--	Anderson St	Chapel Hill Rd	Duke University Rd	DurCity	1.2	2	70	-	11,600	-	8,300	0.72	Ex	ADQ	Min	None
--	Anderson St	Erwin Rd.	Duke University Rd	DurCity	0.6	2	50-60	-	11,000	8,200	11,000	1.00	Ex	ADQ	Min	None
CHAT0103-H	Andrews Store Rd.	Manns Chapel Rd.	US 15-501	Chat	3.3	2	60	20	12,400	-	2,300	0.19	NI	2B	Min	None
--	Angier Ave	S Alston Ave	Ellis Rd	DurCity	1.6	2	50-60	36-48	11,000	5,900	7,500	0.68	Ex	ADQ	Min	None
--	Angier Ave	Ellis Rd	S Miami Blvd	DurCity	2.5	2	60	22-48	12,400	7,700	13,400	1.08	Ex	ADQ	Min	UAD
--	Angier Ave	S Miami Blvd	US 70 E	DurCity	1.2	2	50	23-36	12,400	6,500	11,900	0.96	Ex	ADQ	Min	None
DURH0018-H	Angier Ave Extension	US 70	Northern Durham Parkway	Dur	0.8	0	-	-	-	-	-	0.00	Rec	2E	Min	None
--	Archdale Dr	E Cornwallis Rd	MLK Jr Pkwy	DurCity	1.0	2	-	-	11,600	5,400	9,600	0.83	Ex	ADQ	Min	None
--	Bahama Rd	Roxboro Road (US 501 N)	Stagville Rd	Dur	1.9	2	60	-	12,400	2,800	3,800	0.31	Ex	ADQ	Min	None
--	Bahama Rd	Stagville Rd	Family Dr	Dur	6.4	2	52-80	-	12,400	2,100	2,800	0.23	Ex	ADQ	Min	None
DURH0019-H	Barbee Chapel Road	Farrington Mill Rd	NC 54	DurCity, Dur, C	1.6	2	150	-	11,600	11,000	19,100	1.64	NI	4D	Blvd	Min
--	Barbee Road	Herndon Road	NC 54	DurCity	0.6	2	60-85	-	14,600	6,200	11,600	0.80	Ex	ADQ	Min	None
--	Barbee Road	Fayetteville Rd	NC 54	DurCity	2.2	2	55-85	-	14,600	8,600	12,100	0.83	Ex	ADQ	Min	None
--	Becketts Ridge/Millstone/Oakdale	Old NC 86	New connector over I-85	Hboro	0.7	2	-	-	-	-	-	0.00	Ex	ADQ	Min	None
CHAT0104-H	Big Woods Rd	Jack Bennet Rd	Gallup Rd	Chat	2.2	2	-	-	14,600	-	3,700	0.25	NI	2B	Min	None
DURH0020-H	Brier Creek Pkwy Extension	T.W. Alexander Dr	Andrews Chapel Rd	Dur	0.4	0	-	-	-	-	-	0.00	Rec	3B	Min	None
DURH0020-H	Brier Creek Pkwy Extension	Andrews Chapel Rd	Leesville Rd	Dur	0.5	4	-	20	-	-	-	0.00	NI	3A	Min	None
DURH0021-H	Briggs Av (Extension)	Riddle Rd	Ed Cook Rd	DurCity	0.7	0	-	-	-	-	-	0.00	Rec	2J	Min	None
--	Briggs Av (South)	E Lawson St	Riddle Rd	DurCity	1.3	2	80-85	-	11,600	2,300	5,300	0.45	Ex	ADQ	Min	None
--	Briggs Av (South)	NC 147	E Lawson St	DurCity	0.1	4	-	-	31,600	11,000	14,500	0.46	Ex	ADQ	Blvd	None
--	Briggs Av (South)	E Pettigrew St	NC 147	DurCity	0.1	4	145	-	31,600	9,200	10,000	0.32	Ex	ADQ	Blvd	None

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-33

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System					Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section	CTP Class	
DURH0022-H	Briggs Av Extension	Briggs Av	Guthrie Av	DurCity	0.2	0	-	-	-	-	-	0.00	Rec	2E	Min	None
--	Broad St	W Main St (US 70 Bus)	W Markham Ave	DurCity	0.3	2	70-80	44	11,000	13,000	14,200	1.29	Ex	ADQ	Min	UAD
--	Broad St	W Club Blvd	W Markham Ave	DurCity	0.5	2	80	44	11,000	13,000	15,500	1.41	Ex	ADQ	Min	UAD
--	Broad St	Guess Rd	W Club Blvd	DurCity	0.4	2	80	44	11,000	12,000	13,700	1.25	Ex	ADQ	Min	UAD
--	Broad St	Guess Rd	Leon St.	DurCity	0.3	4	70-95	-	23,500	13,600	18,000	0.77	Ex	ADQ	Maj	None
--	Broad St	Leon St,	W Murray Ave	DurCity	0.2	2	70-95	-	12,900	12,000	13,500	1.04	Ex	ADQ	Min	UAD
--	Broad St	Stadium Dr	W Murray Ave	DurCity	0.5	3	60-100	-	14,000	5,800	8,000	0.57	Ex	ADQ	Min	None
DURH0023-H	Broad St	W Carver St	Stadium Dr	DurCity	0.3	2	60-100	20	12,200	5,800	8,000	0.65	NI	2E	Min	None
--	Buchanan Blvd (South)	W Chapel Hill St	W Main St	DurCity	0.4	2	-	-	11,600	-	8,500	0.73	Ex	ADQ	Min	None
--	Buchanan Blvd (North)	W Main St	W Markham Ave	DurCity	0.5	2	-	-	11,600	9,400	13,200	1.14	Ex	ADQ	Min	UAD
--	Buchanan Blvd (North)	W Club Blvd	W Markham Ave	DurCity	0.5	2	-	-	11,600	6,500	9,800	0.85	Ex	ADQ	Min	None
--	Cameron Ave (West)	NC 86 S (Pittsboro St)	Merritt Mill Rd.	CH	0.5	2	-	-	11,600	7,100	8,100	0.70	Ex	ADQ	Min	None
--	Cameron Ave (East)	Raleigh St	S Columbia St.	CH	0.4	2	-	-	11,000	-	10,600	0.96	Ex	ADQ	Min	None
--	Carpenter Fletcher Rd	E Woodcroft Pkwy	NC 55	DurCity	0.8	2	-	-	11,600	-	13,700	1.18	Ex	ADQ	Min	UAD
--	Carpenter Fletcher Rd	NC 55	S Alston Ave	DurCity	0.2	2	-	-	11,600	4,500	8,500	0.73	Ex	ADQ	Min	None
DURH0024-H	Carpenter Pond Rd Ext	Leesville Rd	Carpenter Pond Rd	Dur	0.7	2	-	-	-	-	-	0.00	NI	2E	Min	None
DURH0025-H	Carpenter Pond Rd.	Leesville Rd	Olive Branch Rd	Dur	0.3	2	60	18	12,400	1,600	5,900	0.48	NI	2B	Min	None
--	Carpenter Pond Rd.	Olive Branch Rd	Old Creedmoor Rd	Dur	4.3	2	60	-	12,400	1,600	5,900	0.48	Ex	ADQ	Min	None
DURH0026-H	Carr Rd Extension	US 70	Angier Av	DurCity	0.8	0	-	-	-	-	-	0.00	Rec	2D	Min	None
--	Carver St (West)	Hillandale Rd	Rose Of Sharon Rd	DurCity	1.4	2	60	24	11,600	2,300	5,500	0.48	Ex	ADQ	Min	None
--	Carver St (West)	Guess Rd	Hillandale Rd	DurCity	0.3	2	60	22	14,000	10,000	17,600	1.25	Ex	ADQ	Min	UAD
DURH0027-H	Carver St (West)	Broad St	Guess Rd	DurCity	1.2	2	60	22	11,600	9,500	16,800	1.45	NI	3C	Min	None
DURH0027-H	Carver St (West)	N Duke Street	Broad St	DurCity	0.1	2	60	22-42	11,600	11,000	16,100	1.39	NI	3C	Min	None
DURH0027-H	Carver St (West)	N Duke Street	N Roxboro St	DurCity	0.4	2	40	28-42	11,600	10,000	19,400	1.67	NI	3C	Min	None
--	Carver St. (East)	Danube Ln	N Roxboro St	DurCity	0.7	2	-	-	11,600	-	2,300	0.20	Ex	ADQ	Min	None
ST-257	Carver St. Ext (East)	Old Oxford Rd	Danube Ln	DurCity	1.0	0	-	-	-	-	-	0.00	Rec	2E	Min	Min
--	Chapel Hill Rd	W Cornwallis Rd	University Dr	DurCity	0.5	2	70	-	11,600	6,200	8,600	0.75	Ex	ADQ	Min	None
--	Chapel Hill Rd	W Cornwallis Rd	W Chapel Hill St	DurCity	1.5	2	70	-	12,900	9,300	13,800	1.07	Ex	ADQ	Min	UAD
--	Chapel Hill Rd	Morehead Ave	Duke University Rd	DurCity	0.3	2	70	-	12,900	-	2,400	0.19	Ex	ADQ	Min	None
--	Chapel Hill St (West)	Kent St	S Durham Freeway	DurCity	0.3	3	60	30	12,900	12,000	16,000	1.24	Ex	ADQ	Min	UAD
--	Chapel Hill St (West)	S Durham Freeway	W Ramseur St	DurCity	0.4	4	60-80	30-50	11,600	14,000	19,300	1.66	Ex	ADQ	Maj	UAD
--	Chapel Hill St (West)	Liberty St	W Ramseur St	DurCity	0.4	2	-	-	11,000	3,800	5,500	0.50	Ex	ADQ	Min	None
--	Cheek Rd	E Geer St	US 70 E	DurCity	0.6	2	60-120	20-63	11,600	8,600	15,200	1.31	Ex	ADQ	Min	UAD
DURH0028-H	Cheek Rd	Junction Rd	US 70 E	DurCity	1.3	2	60	20	11,600	13,000	18,500	1.60	NI	2E	Min	None
--	Cheek Rd	Burton Rd	Junction Rd	DurCity, Dur	2.3	2	60	20	12,400	4,200	10,600	0.85	Ex	ADQ	Min	None
--	Cheek Rd	Burton Rd	Hereford Rd	Dur	3.3	2	60	20	12,400	1,800	6,700	0.54	Ex	ADQ	Min	None
--	Chin Page Rd	Page Rd	S Miami Blvd	DurCity, Dur	1.6	2	60	24	14,600	6,400	13,600	0.93	Ex	ADQ	Min	None
DURH0029-H	Chin Page Rd Extension	Page Rd	Pleasant Grove Ch Rd	Dur	0.4	0	-	-	-	-	-	0.00	Rec	2E	Min	None
U-5845	Churton St (South)	I-85	US 70A	Hboro	1.0	2	-	-	12,900	17,000	21,400	1.66	NI	4D	Blvd	Min
--	Club Blvd (West)	Ninth St	Hillandale Rd	DurCity	0.8	2	65-70	-	11,600	5,700	6,600	0.57	Ex	ADQ	Min	None
--	Club Blvd (West)	Broad St	Ninth St	DurCity	0.1	2	68	-	11,600	9,300	11,500	0.99	Ex	ADQ	Min	None
--	Club Blvd (West)	Broad St	N Buchanan Blvd	DurCity	0.4	2	68-80	-	11,600	7,600	10,500	0.91	Ex	ADQ	Min	None
--	Club Blvd (West)	N Buchanan Blvd	N Duke St	DurCity	0.4	4	65-100	-	23,500	11,000	16,100	0.68	Ex	ADQ	Maj	None
--	Club Blvd (West)	N Duke St	N Roxboro St	DurCity	0.9	2	65-85	-	11,600	8,600	13,900	1.20	Ex	ADQ	Min	UAD

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-34

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section		
--	Club Blvd. (East)	Midland Ter	N Roxboro St	DurCity	1.3	2	50	21-30	11,600	9,100	12,400	1.07	Ex	ADQ	Min	UAD
--	Club Blvd. (East)	I-85	Midland Ter	DurCity	1.1	2	60-70	20-35	11,600	8,700	15,800	1.36	Ex	ADQ	Min	UAD
--	Club Blvd. (East)	I-85	E Geer St	Dur	0.3	2	60	20	11,600	-	15,800	1.36	Ex	ADQ	Min	UAD
--	Cole Mill Rd	Hillsborough Rd	I-85 N	DurCity	0.2	6	120	66-88	47,700	18,000	25,300	0.53	Ex	ADQ	Maj	None
DURH0030-H	Cole Mill Rd	I-85 N	Rose Of Sharon Rd	DurCity	1.2	4	60	50	43,600	15,000	22,500	0.52	NI	4D	Blvd	None
DURH0030-H	Cole Mill Rd	Rose Of Sharon Rd	Sparger Rd	DurCity	1.3	2	60	24	12,400	11,000	16,000	1.29	NI	4D	Blvd	None
--	Cole Mill Rd	Sparger Rd	Umstead Rd	DurCity	0.8	2	100	24	12,400	8,900	13,500	1.09	Ex	ADQ	Min	UAD
--	Cole Mill Rd	Pleasant Green Rd	Umstead Rd	OR	1.1	2	-	-	12,400	2,200	4,200	0.34	Ex	ADQ	Min	None
--	Coleman Loop Rd	Highland Farm Rd	NC 86 N	OR	1.2	2	-	-	12,400	-	500	0.04	Ex	ADQ	Min	None
--	Cook Rd	Fayetteville St	MLK Parkway	DurCity	1.1	2	-	-	11,600	5,600	11,500	0.99	Ex	ADQ	Min	None
--	Corbin St (West)	N Churton St	Cornelius St (US 70)	Hboro	0.8	2	-	-	11,600	2,400	4,700	0.40	Ex	ADQ	Maj	None
--	Cornwallis Rd (West)	Erwin Rd.	Old NC 10	Dur, OR	4.0	2	60	20	12,400	1,400	5,100	0.41	Ex	ADQ	Min	None
--	Cornwallis Rd (West)	Erwin Rd.	US 15-501	DurCity	1.2	2	60	20	15,000	3,300	18,600	1.24	Ex	ADQ	Min	UAD
--	Cornwallis Rd (West)	Chapel Hill Rd	US 15-501	DurCity	1.3	2	60	20	11,600	8,800	14,800	1.28	Ex	ADQ	Min	UAD
--	Cornwallis Rd.	Chapel Hill Rd	University Dr	DurCity	0.5	2	60	20-36	12,900	8,100	12,400	0.96	Ex	ADQ	Min	None
--	Cornwallis Rd.	University Dr	S Roxboro St	DurCity	0.7	2	60	20	11,600	8,600	15,800	1.36	Ex	ADQ	Min	UAD
--	Cornwallis Rd.	S Roxboro St	Fayetteville St	DurCity	0.7	4	60	-	26,000	9,300	16,600	0.64	Ex	ADQ	Maj	None
--	Cornwallis Rd. (East)	Fayetteville Rd	NC 55	DurCity	1.4	2	60	24	12,700	8,100	11,300	0.89	Ex	ADQ	Min	None
MTP-12	Cornwallis Rd. (East)	NC 55	Future MLK Pkwy	DurCity	0.4	2	150	30-38	12,700	11,000	14,400	1.14	Ex	ADQ	Min	UAD
MTP-12	Cornwallis Rd. (East)	Future MLK Pkwy	T. W. Alexander Dr	DurCity	0.8	2	150	30-90	13,800	9,500	13,000	0.94	NI	4D	Blvd	None
DURH0031-H	Cornwallis Rd. (East)	NC 147	T. W. Alexander Dr	DurCity, Dur	0.8	2	150-170	30-100	16,500	9,900	16,800	1.02	NI	4D	Blvd	None
DURH0031-H	Cornwallis Rd. (East)	Davis Dr	NC 147	DurCity, Dur	0.7	2	150	30-48	15,100	11,000	16,000	1.06	NI	4D	Blvd	None
DURH0031-H	Cornwallis Rd. (East)	Davis Dr	S Miami Blvd	DurCity, Dur	0.4	2	150	30-48	14,600	8,200	16,300	1.12	NI	4D	Blvd	None
--	Country Club Rd.	Raleigh St.	South Rd.	CH	0.4	2	-	-	11,000	12,000	17,000	1.55	Ex	ADQ	Min	UAD
--	Crown Pkwy	Page Rd	Winnifred Dr	DurCity	0.4	3	-	36	-	-	-	0.00	Ex	ADQ	Min	None
DURH0032-H	Crown Pkwy/Roche Dr	Roche Dr	Winnifred Dr	DurCity	2.1	2	-	-	-	-	-	0.00	Rec	3B	Min	None
--	Culbreth Rd.	Smith Level Rd	US 15-501	CH, Carr	1.0	2	-	-	11,600	5,300	6,700	0.58	Ex	ADQ	Min	None
--	Dairyland Rd.	Dodsons Crossroads	Old NC 86	OR	5.0	2	-	20-21	12,400	5,500	8,000	0.65	Ex	ADQ	Min	None
--	Danube Ln	E Carver St	Old Oxford Rd	DurCity	0.6	2	-	-	14,600	2,800	5,700	0.39	Ex	ADQ	Min	None
DURH0033-H	Danziger Dr Ext bridge (I-40)	Mt Moriah Rd	E Lakeview Dr	DurCity, CH	0.4	0	-	-	-	-	-	0.00	Rec	3C	Min	None
--	Danziger Dr	Mt Moriah Rd	Danziger Dr end	DurCity	0.4	3	-	-	-	-	-	0.00	Ex	ADQ	Min	None
--	Davis Dr	Triangle Parkway	Wake County Line	DurCity, Dur	0.3	4	190-228	52-86	45,200	17,000	40,100	0.89	Ex	ADQ	Blvd	None
--	Davis Dr	E NC 54 Hwy	Triangle Parkway	DurCity, Dur	1.5	4	150-270	52-96	44,400	18,000	21,900	0.49	Ex	ADQ	Blvd	None
--	Davis Dr	I-40	E NC 54 Hwy	DurCity, Dur	0.3	4	150	48-98	43,600	20,100	33,300	0.76	Ex	ADQ	Blvd	None
--	Davis Dr	E Cornwallis Rd	I-40	DurCity, Dur	0.6	4	150	48-55	43,600	14,000	28,900	0.66	Ex	ADQ	Blvd	None
--	Dearborn Dr	E Club Blvd	Old Oxford Rd	DurCity	1.6	2	60	20	11,600	9,400	17,500	1.51	Ex	ADQ	Min	UAD
--	Denfield St	Hebron Rd	N Roxboro St	DurCity	0.7	2	-	-	11,600	5,900	5,900	0.51	Ex	ADQ	Min	None
--	Duke St (South) (SR 1327)	NC 147 (Durham Freeway)	University Dr	DurCity	0.4	2	50	30-40	14,100	5,400	6,500	0.46	Ex	(5)	Min	None
--	Duke St (South) (SR 1327)	W Main St	NC 147 (Durham Freeway)	DurCity	0.5	2	50	30-40	15,800	12,000	15,300	0.97	Ex	(5)	Min	None
--	Duke St. (North) (SR 1327)	W Club Blvd	W Main St	DurCity	1.2	2	-	-	14,100	9,800	11,100	0.79	Ex	(5)	Min	None
--	Duke St. (North) (SR 1327)	I-85	W Club Blvd	DurCity	0.2	2	-	41	14,100	9,600	10,700	0.76	Ex	ADQ	Min	None
--	Duke University Rd	Academy Rd	Anderson St	DurCity	0.8	2	-	-	23,500	9,300	15,200	0.65	Ex	ADQ	Min	None

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-35

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System					Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section	CTP Class	
--	Duke University Rd	Anderson St	Kent St	DurCity	0.7	2 60	-	-	11,600	-	15,300	1.32	Ex	ADQ	Min	UAD
--	Eastowne Dr	US 15-501	US 15-501	CH	0.6	2 -	-	-	-	-	-	0.00	Ex	ADQ	Min	None
--	Ed Cook Rd	So Hi Dr	Ellis Rd	DurCity	0.9	2 -	-	-	-	-	-	0.00	Ex	ADQ	Min	None
--	Efland Cedar Grove Rd	Brookhollow Rd	US 70	OR	2.7	2 -	-	-	12,400	3,100	5,100	0.41	Ex	ADQ	Min	None
--	Elba St	Fulton St	Trent Dr	DurCity	0.3	4 -	-	-	29,000	-	17,500	0.60	Ex	ADQ	Maj	None
--	Elliott Rd	N Estes Dr.	E Franklin St.	CH	0.9	2 -	-	-	11,600	4,100	5,700	0.49	Ex	ADQ	Min	None
--	Elliott Rd	Fordham Blvd	E Franklin St.	CH	0.5	2 -	-	-	11,100	7,400	9,400	0.85	Ex	ADQ	Min	None
MTP-221	Elliott Rd. Ext (South)	S Elliot Rd/Fordham Blvd	Ephesus Ch Rd	CH	0.3	0 -	-	-	-	-	-	0.00	Rec	2E	Min	None
--	Ellis Rd	NC 147 (Durham Freeway)	S Miami Blvd	DurCity	1.3	2 -	-	-	14,600	9,800	11,700	0.80	Ex	ADQ	Min	None
--	Ellis Rd	Moore Dr	NC 147 (Durham Freeway)	Dur	0.3	5 -	-	-	27,800	9,000	27,600	1.01	Ex	ADQ	Min	UAD
--	Ellis Rd	So Hi Dr	Moore Dr	Dur	0.3	2 -	-	-	18,300	-	-	0.00	Ex	ADQ	Min	None
--	Ellis Rd	So Hi Dr	Riddle Rd	DurCity	1.1	2 60	-	-	11,600	3,700	8,400	0.73	Ex	ADQ	Min	None
--	Ellis Rd	Glover Rd	Riddle Rd	DurCity	0.2	2 -	-	-	14,600	7,100	16,200	1.11	Ex	ADQ	Min	UAD
DURH0034-H	Ellis Rd	E Pettigrew St	Glover Rd	DurCity	0.8	2 -	-	-	11,600	5,700	15,400	1.33	NI	3C	Min	None
DURH0034-H	Ellis Rd	Angier Ave	E Pettigrew St	DurCity	0.1	2 -	-	-	12,500	-	13,800	1.11	NI	3C	Min	None
DURH0035-H	Ellis-Glover Connector	Ellis Rd	Glover	Dur	1.3	0 -	-	-	-	-	-	0.00	Rec	2E	Min	None
--	Emperor Blvd.	Page Rd	Slater Rd.	DurCity	0.4	4 -	-	-	23,500	-	11,600	0.49	Ex	ADQ	Min	None
--	Eno Mountain Rd	Dimmocks Mill Rd	Orange Grove Rd.	OR, Hboro	0.5	2 -	-	22-24	11,600	3,300	11,100	0.95	Ex	ADQ	Min	None
U-3436	Eno Mtn Rd realignment	Eno Mountain Rd	Mayo St	OR	0.3	0 -	-	-	-	-	-	0.00	Rec	2A	Min	Min
--	Ephesus Church Rd	Fordham Blvd	Pope Rd.	Dur, CH	1.5	2 60	-	20	11,600	9,200	20,600	1.77	Ex	ADQ	Min	UAD
--	Ephesus Church Rd	Farrington Rd	Pope Rd.	DurCity	0.6	3 -	-	-	14,000	5,900	15,600	1.12	Ex	ADQ	Min	UAD
ORAN0107-H	Erwin Rd	Sage Rd.	US 15-501	CH	0.8	2 -	-	-	11,600	8,800	14,200	1.22	NI	2E	Min	Min
ORAN0107-H	Erwin Rd.	Sage Rd	Whitfield Rd	CH, OR	1.8	2 60-100	-	18-23	12,900	7,600	16,000	1.24	NI	2E	Min	Min
DURH0036-H	Erwin Rd.	W Cornwallis Rd	Whitfield Rd	DurCity, Dur, C	2.3	2 -	-	-	12,400	13,000	23,400	1.89	NI	4D	Blvd	None
DURH0036-H	Erwin Rd.	NC 751	W Cornwallis Rd	DurCity	0.8	2 -	-	-	12,400	10,000	17,200	1.39	NI	4D	Blvd	None
TE-5205	Erwin Rd	Cameron Blvd	Lasalle St	DurCity	0.8	4 90	-	55	26,000	18,000	21,500	0.83	NI	4D	Blvd	None
TE-5205	Erwin Rd	Fulton St	Lasalle St	DurCity	0.5	5 100	-	55-60	28,100	24,000	27,800	0.99	NI	4D	Blvd	None
TE-5205	Erwin Rd.	Anderson St	Fulton St	DurCity	0.4	4 100	-	60-75	26,000	14,000	16,700	0.64	NI	4D	Blvd	None
--	Erwin Rd.	Anderson St	W Main St	DurCity	0.5	4 60	-	-	23,500	9,100	11,800	0.50	Ex	ADQ	Min	None
MTP-17.1	Estes Dr Ext	N Greensboro St	Seawell School Road	CH, Carr	0.9	2 -	-	-	11,600	13,000	17,500	1.51	NI	2E	Min	Min
MTP-17	Estes Dr Ext	MLK Jr Blvd	Seawell School Road	CH	0.8	2 -	-	-	12,900	12,000	14,000	1.09	NI	4G	Min	Min
MTP-241	Estes Dr.	MLK Jr Blvd	E Franklin St.	CH	1.4	2 -	-	-	11,600	15,000	22,600	1.95	Ex	ADQ	Min	UAD
--	Estes Dr.	Fordham Blvd	E Franklin St.	CH	0.6	5 -	-	-	28,100	15,000	26,300	0.94	Ex	ADQ	Maj	None
MTP-222	Eubanks Rd	Old NC 86	Rogers Rd	OR	0.9	2 -	-	-	12,400	4,100	10,600	0.86	Ex	ADQ	Min	None
MTP-200, MTP-222	Eubanks Rd	Rogers Rd	Mill House Rd	OR	0.9	2 -	-	-	12,400	6,200	12,700	1.02	Ex	ADQ	Min	UAD
MTP-200	Eubanks Rd	MLK Jr Blvd	Mill House Rd	CH	0.8	2 -	-	-	12,400	8,600	21,800	1.76	NI	4G	Blvd	Min
--	Falconbridge Rd	NC 54	Falconbridge Rd Connector	DurCity	0.1	2 -	-	-	-	-	-	0.00	Ex	ADQ	Min	None
DURH0037-H	Falconbridge Rd Connector	Falconbridge Rd	Farrington Rd	DurCity	0.2	0 -	-	-	-	-	-	0.00	Rec	2E	Min	None
MTP-201	Falconbridge Rd extension	Farrington Rd	NC 54	DurCity, Dur	0.9	0 -	-	-	-	-	-	0.00	Rec	4D	Blvd	None

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-36

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System					Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section	CTP Class	
DURH0038-H	Farrington Mill Rd	Barbee Chapel Road	Mt. Carmel Church Rd	Dur, Chat	3.7	2	200	-	12,400	8,200	11,500	0.92	NI	2A	Min	None
CHAT0104-H	Farrington Point Rd	Lystra Rd	Marthas Chapel Rd	Chat	1.9	2	-	-	12,400	5,300	15,600	1.26	NI	2A	Min	None
CHAT0104-H	Farrington Point Rd	Old Farrington Rd	Lystra Rd	Chat	2.0	2	-	-	12,400	-	14,800	1.19	NI	2A	Min	None
--	Farrington Rd	Farrington Mill Rd	Stagecoach Rd	Dur	0.4	2	60	-	11,600	12,000	18,500	1.60	Ex	ADQ	Min	UAD
--	Farrington Rd	Dunbrook Dr	Stagecoach Rd	DurCity, Dur	1.1	2	150	-	11,600	-	10,800	0.93	Ex	ADQ	Min	None
--	Farrington Rd	NC 54	Dunbrook Dr	DurCity	0.5	2	150	-	14,600	9,000	13,600	0.93	Ex	ADQ	Min	None
--	Farrington Rd	NC 54	Falconbridge Ext.	DurCity, Dur	0.8	2	-	-	12,700	11,000	23,200	1.80	Ex	ADQ	Min	UAD
DURH0039-H	Farrington Rd	Falconbridge Ext.	Southwest Durham Dr	DurCity, Dur	0.8	2	-	-	12,700	11,000	23,200	1.80	NI	4D	Blvd	None
DURH0039-H	Farrington Rd	Old Chapel Hill Rd	I-40	DurCity	0.8	2	-	-	12,700	6,800	21,300	1.68	NI	4D	Blvd	None
MTP-22.1	Fayetteville Rd	NC 751	Scott King Rd	DurCity, Dur	0.1	2	60-110	20-72	12,700	-	11,100	0.87	NI	4G	Blvd	None
MTP-22.1	Fayetteville Rd	Renaissance Pkwy	Scott King Rd	DurCity, Dur	1.8	2	50	20	12,700	7,000	15,100	1.19	NI	4G	Blvd	None
--	Fayetteville Rd	NC 54	Renaissance Pkwy	DurCity	0.7	4	110	-	52,600	32,000	43,700	0.83	Ex	ADQ	Blvd	None
--	Fayetteville Rd	Woodcroft Pkwy	NC 54	DurCity	1.0	4	-	-	36,600	26,000	34,800	0.95	Ex	ADQ	Blvd	None
MTP-23	Fayetteville Rd	Barbee Road	Woodcroft Pkwy	DurCity	1.4	2	-	-	12,700	17,000	22,500	1.77	NI	4D	Blvd	Min
MTP-23	Fayetteville Rd	Barbee Road	MLK Parkway	DurCity	0.3	3	-	-	32,700	19,000	27,300	0.83	NI	4D	Blvd	Min
MTP-23	Fayetteville Rd	Riddle Rd	MLK Parkway	DurCity	0.7	2	-	-	14,600	15,000	20,500	1.41	NI	4D	Blvd	Min
--	Fayetteville St	E Cornwallis Rd	Riddle Rd	DurCity	0.8	4	-	-	25,500	19,000	29,000	1.14	Ex	ADQ	Maj	UAD
--	Fayetteville St	E Cornwallis Rd	Nelson St	DurCity	1.0	4	70	-	23,500	16,000	22,800	0.97	Ex	ADQ	Maj	None
--	Fayetteville St	Nelson St	E Lawson St	DurCity	0.3	2	70	-	11,600	13,000	18,500	1.59	Ex	ADQ	Min	UAD
--	Fayetteville St	Umstead St	E Lawson St	DurCity	0.5	2	-	-	11,600	17,000	24,500	2.11	Ex	ADQ	Min	UAD
--	Fayetteville St	NC 147 (Durham Freeway)	Umstead St	DurCity	0.4	5	-	-	31,600	17,000	25,500	0.81	Ex	ADQ	Maj	None
--	Fayetteville St	Main St	NC 147 (Durham Freeway)	DurCity	0.3	5	-	-	26,000	-	20,000	0.77	Ex	ADQ	Maj	None
--	Fayetteville St	E Geer St	Main St	DurCity	0.9	3	-	-	15,600	-	7,000	0.45	Ex	ADQ	Min	None
--	Ferrell Rd	E Geer St	Junction Rd	Dur	0.3	2	60	24	11,600	-	11,400	0.98	Ex	ADQ	Min	None
--	Fifteenth St	Erwin Rd	Hillsborough Rd	DurCity	0.3	3	70	44	-	-	-	0.00	Ex	ADQ	Min	None
--	Fletchers Ch Rd/Burton Rd	Patterson Rd	E Geer St	DurCity, Dur	4.8	2	55-90	20	12,400	6,200	13,900	1.12	Ex	ADQ	Min	UAD
--	Franklin St (West)	Church St	Merritt Mill Rd.	CH	0.4	4	-	-	22,100	13,000	19,400	0.88	Ex	ADQ	Maj	None
--	Franklin St (West)	N Columbia St.	Church St	CH	0.1	4	-	-	24,200	13,000	20,000	0.82	Ex	ADQ	Maj	None
--	Franklin St (East)	N Columbia St.	Raleigh St.	CH	0.4	4	-	-	22,100	14,000	22,500	1.02	Ex	ADQ	Maj	UAD
--	Franklin St (East)	Deming	Raleigh St	CH	0.8	4	-	-	22,200	16,000	23,700	1.07	Ex	ADQ	Maj	UAD
--	Franklin St (East)	Estes Dr.	Raleigh St	CH	0.6	4	-	-	31,600	17,000	25,200	0.80	Ex	ADQ	Maj	None
--	Franklin St (East)	Estes Dr.	US 15-501	CH	1.0	4	-	-	36,600	22,000	32,400	0.89	Ex	ADQ	Maj	None
ORAN0108-H	Freeland Memorial Dr Extension	S Churton St	New Collector Rd	Hboro	0.5	0	-	-	-	-	-	0.00	Rec	2E	Min	None
--	Friday Center Dr	NC 54	Marriot Way	CH	0.1	4	-	-	-	-	-	0.00	Ex	ADQ	Blvd	None
--	Fulton St	Erwin Rd.	NC 147 (Durham Freeway)	DurCity	0.4	4	-	-	23,500	17,000	18,500	0.79	Ex	ADQ	Maj	None
--	Garrett Rd	NC 54	NC 751	DurCity	0.1	5	-	-	24,100	-	14,200	0.59	Ex	ADQ	Maj	None
MTP-24.11	Garrett Rd	NC 751	Old Chapel Hill Rd	DurCity	2.1	2	-	-	14,000	19,000	24,700	1.77	NI	4D	Blvd	None
DURH0040-H	Garrett Rd	Durham Chapel Hill B	Old Chapel Hill Rd	DurCity	1.0	2	-	-	13,800	11,000	15,300	1.11	NI	4D	Blvd	None
--	Garrett Rd	Durham Chapel Hill B	Pickett Rd	DurCity	1.0	2	60	-	13,800	4,800	7,000	0.51	Ex	ADQ	Min	None
--	Geer St (East)	N Alston Ave	N Mangum St	DurCity	0.5	2	65	-	11,600	5,200	9,100	0.78	Ex	ADQ	Min	None

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-37

Highway																	
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement	
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section			
--	Geer St (East)	N Alston Ave	N Miami Blvd	DurCity	0.4	4	-	-	23,500	11,000	19,500	0.83	Ex	ADQ	Maj	None	
--	Geer St (East)	Cheek Rd	N Miami Blvd	DurCity	0.2	2	-	-	14,000	8,100	13,100	0.94	Ex	ADQ	Min	None	
--	Geer St (East)	Midland Terrace	Cheek Rd	DurCity	0.9	2	-	-	14,000	5,600	12,600	0.90	Ex	ADQ	Min	None	
--	Geer St (East)	Glenn School Rd	Midland Terrace	DurCity	1.6	2	-	-	14,000	4,900	12,800	0.92	Ex	ADQ	Min	None	
--	Geer St (East)	I-85	Glenn School Rd	Dur	2.1	2	-	-	14,000	5,000	14,000	0.99	Ex	ADQ	Min	None	
--	Glenn Rd	E Club Blvd	Northern Durham Pkwy	DurCity, Dur	0.9	2	60	-	12,400	1,500	4,900	0.39	Ex	ADQ	Min	None	
--	Glenn Rd	Northern Durham Parkway	Red Mill Rd	Dur, DurCity	2.8	2	-	-	-	-	-	0.00	Ex	ADQ	Min	None	
--	Globe Rd	Wake County Line	Page Rd	Dur	0.3	2	60	-	14,000	8,900	15,400	1.10	Ex	ADQ	Min	UAD	
--	Glover Rd	Ellis Rd	NC 147 (Durham Freeway)	DurCity	0.6	2	-	-	11,600	-	6,600	0.57	Ex	ADQ	Min	None	
--	Glover Rd	Angier Ave	NC 147 (Durham Freeway)	DurCity	0.7	2	-	-	11,600	2,600	5,800	0.50	Ex	ADQ	Min	None	
DURH0041-H	Glover Rd Extension	US 70	Angier Av	DurCity	0.6	0	-	-	-	-	-	0.00	Rec	2E	Min	None	
DURH0042-H	Grandale Dr	Hopson Rd Ext	Yates Store Rd Ext	Dur, Chat	0.3	2	-	-	-	-	-	0.00	Ex	ADQ	Min	None	
DURH0042-H	Grandale Dr	Scott King Rd	Hopson Rd Ext	Dur	0.5	2	-	-	-	-	-	0.00	Ex	ADQ	Min	None	
--	Grandale Dr	Sedwick Dr	Barbee Rd	DurCity	1.6	2	60-80	18-32	-	-	-	0.00	Ex	ADQ	Min	None	
ORAN0109-H	Greensboro St (South)	E Main St.	NC 54	Carr	0.6	2	-	-	11,600	12,000	15,300	1.32	NI	2E	Min	Min	
ORAN0110-H	Greensboro St. (North)	Estes Dr	E Main St.	Carr	0.6	2	-	-	11,600	14,000	17,500	1.51	NI	2E	Min	Min	
--	Gregson St (South)	Parker St	W Main St	DurCity	0.5	2	-	-	14,100	9,200	11,000	0.78	Ex	(5)	Min	None	
--	Gregson St. (North)	W Club Blvd	W Main St	DurCity	1.2	2	-	-	14,100	9,300	10,100	0.71	Ex	(5)	Min	None	
--	Gregson St. (North)	N Duke St	W Club Blvd	DurCity	0.3	4	-	-	31,600	16,000	20,100	0.64	Ex	ADQ	Blvd	None	
--	Guess Rd	Broad St	N Buchanan Blvd	DurCity	0.6	4	60-80	-	23,500	9,600	15,500	0.66	Ex	ADQ	Maj	None	
--	Guess Rd	Broad St	I-85	DurCity	0.5	4	50-120	40-111	23,500	14,000	16,400	0.70	Ex	ADQ	Maj	None	
--	Guthrie Av	Briggs Av Extension	Holloway St	DurCity	0.9	2	-	-	-	-	-	0.00	Ex	ADQ	Min	None	
--	Hamlin Rd	Old Oxford Rd	Red Mill Rd	DurCity	3.4	2	-	-	12,400	4,900	9,100	0.73	Ex	ADQ	Min	None	
DURH0043-H	Hebron Rd Extension	Hebron Rd	N Roxboro/Wellington Dr	DurCity	0.5	0	-	-	-	-	-	0.00	Rec	2E	Min	None	
--	Hebron Rd.	Danube Ln	Denfield St	DurCity	0.4	2	-	-	11,600	6,600	5,900	0.51	Ex	ADQ	Min	None	
--	Hebron Rd.	Danube Ln	Old Oxford Rd	DurCity	1.1	2	-	-	11,600	5,100	6,700	0.58	Ex	ADQ	Min	None	
--	Herndon Rd	Barbee Road	Rossford Ln	DurCity	0.4	2	-	-	11,600	6,300	11,700	1.01	Ex	ADQ	Min	UAD	
--	Herndon Rd	Rossford Ln	Fayetteville Rd	DurCity	0.2	4	-	-	23,500	6,600	9,900	0.42	Ex	ADQ	Maj	None	
--	High Rock Rd	Ira Rd	Lebanon Rd	OR	1.0	2	-	-	12,400	-	1,700	0.14	Ex	ADQ	Min	None	
--	Hillandale Rd	W Club Blvd	NC 147 (Durham Freeway)	DurCity	0.3	4	100	-	23,500	18,000	21,400	0.91	Ex	ADQ	Maj	None	
DURH0044-H	Hillandale Rd	I-85	W Club Blvd	DurCity	0.7	2	70	-	11,600	17,000	19,800	1.70	NI	4G	Blvd	None	
U-3804	Hillandale Rd	W Carver St	I-85	DurCity	0.6	4	56	-	31,600	23,000	42,900	1.36	Ex	ADQ	Blvd	UAD	
--	Hillandale Rd	Rose Of Sharon Rd	W Carver St	DurCity	2.0	2	50	-	11,600	11,000	11,100	0.96	Ex	ADQ	Min	None	
ORAN0111-H	Hillsborough Rd	Old NC 86	Estes Dr	Carr	2.0	2	-	-	11,600	6,500	10,900	0.94	NI	2E	Min	Min	
--	Hillsborough Rd	N Greensboro St	W Main St.	Carr	0.7	2	-	-	11,600	2,700	4,000	0.35	Ex	ADQ	Min	None	
--	Hillsborough St	MLK Jr Blvd	E Franklin St.	CH	0.8	2	-	-	10,000	6,800	11,100	1.11	Ex	ADQ	Min	UAD	
MTP-36	Homestead Rd	Rogers Rd	Old NC 86	OR, Carr	2.1	2	-	-	11,600	7,100	15,600	1.34	NI	2E	Min	Min	
MTP-35	Homestead Rd	MLK Jr Blvd	Rogers Rd	CH, Carr	1.3	2	-	-	11,600	7,200	13,600	1.17	NI	2E	Min	Min	
DURH0045-H	Hopson Rd Extension	NC 55	Grandale Dr	Dur	1.4	0	-	-	-	-	-	0.00	Rec	2K	Blvd	None	

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-38

Highway																	
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement	
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section			
--	Hopson Rd.	Louis Stephens Dr	NC 55	DurCity, Dur	0.5	4	-	-	45,200	5,200	14,200	0.31	Ex	ADQ	Blvd	None	
DURM0234-H	Hopson Rd.	Triangle Expressway	Louis Stephens Dr	DurCity, Dur	0.9	2	-	-	15,100	7,400	18,200	1.20	NI	4D	Blvd	None	
MTP-202	Hopson Rd.	S Miami Blvd	Triangle Expressway	DurCity	0.9	2	-	-	15,100	11,000	19,600	1.30	NI	4D	Blvd	None	
--	Horton Rd	Guess Rd	Hillandale Rd	DurCity	0.4	2	-	-	11,600	9,100	8,700	0.75	Ex	ADQ	Min	None	
--	Horton Rd	Guess Rd	N Roxboro St	DurCity	1.6	2	-	-	14,000	13,000	18,800	1.34	Ex	ADQ	Min	UAD	
--	Infinity Rd	N Roxboro Road (US 501 N)	Snow Hill Rd	DurCity, Dur	2.8	2	-	-	11,600	7,800	13,400	1.16	Ex	ADQ	Min	UAD	
MTP-50.1	Jack Bennet Rd	Farrington Point Rd	US 15-501	Chat	4.1	2	-	-	12,400	4,800	7,100	0.57	NI	2S	Min	None	
--	Jones Ferry Rd.	Ferguson Rd.	Old Greensboro Rd.	OR	3.3	2	-	-	12,400	4,100	6,100	0.49	Ex	ADQ	Min	None	
--	Jones Ferry Rd.	NC 54	Old Greensboro Rd.	OR, Carr	0.9	2	-	-	12,400	11,000	15,300	1.24	Ex	ADQ	Min	UAD	
--	Jones Ferry Rd.	W Main St.	NC 54	Carr	0.7	2	-	-	11,600	8,600	12,100	1.04	Ex	ADQ	Min	UAD	
--	Junction Rd	Cheek Rd	Holloway St	DurCity	1.5	2	-	-	14,600	5,400	13,100	0.90	Ex	ADQ	Min	None	
--	Junction Rd	Cheek Rd	E Geer St	DurCity	1.5	2	-	-	14,600	3,300	6,500	0.45	Ex	ADQ	Min	None	
--	Kent St	W Chapel Hill St	Morehead Ave	DurCity	0.4	2	-	-	11,000	-	5,100	0.46	Ex	ADQ	Min	None	
--	King St (West)	West Hill Ave	N Churton St	Hboro	1.1	2	-	-	11,300	1,700	3,000	0.27	Ex	ADQ	Min	None	
--	King St. (East)	N Churton St	US 70 Bypass	OR, Hboro	1.3	2	-	-	11,600	3,500	7,000	0.61	Ex	ADQ	Min	None	
--	Lake Hogan Farm Rd	Homestead Rd	Legends Way	Carr	1.0	2	-	-	11,600	-	4,200	0.36	Ex	ADQ	Min	None	
MTP-51	Lake Hogan Farm Rd Ext	Lake Hogan Farm Rd	Eubanks Rd	OR, Carr	0.7	0	-	-	-	-	-	0.00	Rec	2E	Min	None	
MTP-51	Lake Hogan Farm Rd Ext	Eubanks Rd	Lake Hogan Farm Rd Ext	Carr	0.1	2	-	-	-	-	-	0.00	Ex	ADQ	Min	None	
--	Lakeview Dr (East)	US 15-501	Old Chapel Hill Rd	CH	0.3	2	-	-	-	-	-	0.00	Ex	ADQ	Min	None	
--	Lasalle St	Erwin Rd	Hillsborough Rd	DurCity	0.9	3	-	-	15,600	-	12,500	0.80	Ex	ADQ	Min	None	
DURH0047-H	Latta Rd	Guess Rd	N Roxboro Road (US 501 N)	DurCity	1.2	2	-	-	11,600	9,400	15,600	1.34	NI	3C	Min	None	
--	Lawrence Rd	Old NC 10	St Marys Rd	OR	2.8	2	-	-	12,400	3,400	8,900	0.72	Ex	ADQ	Min	None	
--	Lawson St (East)	Fayetteville St	S Roxboro St	DurCity	0.3	2	-	-	11,000	-	7,900	0.72	Ex	ADQ	Min	None	
--	Lawson St (East)	Fayetteville St	S Alston Ave (NC 55)	DurCity	0.4	2	-	-	11,000	7,908	16,100	1.46	Ex	ADQ	Min	UAD	
--	Lawson St (East)	S Alston Ave (NC 55)	S Briggs Ave	DurCity	1.0	2	-	-	11,600	-	8,500	0.73	Ex	ADQ	Min	None	
--	Lebanon Rd	Efland Cedar Grove Rd	Doe Run Rd	OR	3.3	2	-	-	12,400	1,800	3,000	0.25	Ex	ADQ	Min	None	
--	Leesville Rd	US 70	Shady Grove Rd	DurCity, Dur	2.6	2	-	18-24	12,400	4,100	15,900	1.28	Ex	ADQ	Min	UAD	
DURH0048-H	Leesville Rd	Shady Grove Rd	Wake County Line	DurCity, Dur	0.2	2	-	24-40	12,400	4,100	15,900	1.28	NI	3A	Min	UAD	
MTP-53	Leesville Rd realignment	US 70	Leesville Rd	Dur	0.8	0	-	-	-	-	-	0.00	Rec	2A	Min	None	
ORAN0112-H	Legion Rd	Ephesus Church Rd.	US 15-501	CH	0.9	2	-	-	11,600	5,200	11,800	1.02	Ex	ADQ	Min	UAD	
MTP-223	Legion Road Extension	Legion Rd	Fordham Blvd	CH	0.1	2	-	-	-	-	-	0.00	Rec	2E	Min	None	
--	Liberty St	N Elizabeth St	E Chapel Hill St	DurCity	0.6	2	-	-	12,100	-	1,600	0.13	Ex	ADQ	Min	None	
--	Louis Stephens Dr	Wake County Line	T. W. Alexander Dr	DurCity, Dur	1.1	2	75	-	15,100	2,400	4,500	0.30	Ex	ADQ	Min	None	
ORAN0106-H	Lucy Ln	Old NC 86	Lucy Ln end	OR	0.5	1	-	-	-	-	-	0.00	NI	2A	Min	None	
ORAN0106-H	Lucy Ln extension	Union Grove Church Rd	Lucy Ln end	OR	0.8	0	-	-	-	-	-	0.00	Rec	2A	Min	None	
DURH0049-H	Lynn Rd Extension	Lynn Rd	US 70	DurCity, Dur	1.1	0	-	-	-	-	-	0.00	Rec	2J	Blvd	None	
U-0071	Lynn Rd Extension	Lynn Rd	Pleasant Dr	DurCity, Dur	0.6	0	-	-	-	-	-	0.00	Rec	2E	Min	Ref	
--	Lynn Rd.	Gibson Rd	US 70	DurCity	0.4	2	-	-	11,600	7,100	8,000	0.69	Ex	ADQ	Min	None	
DURM0269-H	Lynn Rd.	Holloway St	Lynn Rd Extension	DurCity	0.9	2	-	-	11,600	7,100	8,000	0.69	NI	2J	Blvd	None	
MTP-50.1	Lystra Rd.	Jack Bennet Rd	US 15-501	Chat	3.6	2	-	-	12,400	4,800	6,600	0.53	NI	2A	Min	None	
--	Main St (West)	Jones Ferry Rd	NC 54	Carr	1.2	2	-	-	11,300	5,900	9,500	0.84	Ex	ADQ	Min	None	

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-39



Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section		
--	Main St (West)	S Greensboro St	Jones Ferry Rd	Carr	0.2	2	-	-	11,300	14,000	18,900	1.68	Ex	ADQ	Min	UAD
--	Main St (East)	S Greensboro St	Weaver St	Carr	0.1	2	-	-	11,300	8,600	11,700	1.04	Ex	ADQ	Min	UAD
ORAN0113-H	Main St (East)	Weaver St	W Rosemary St	Carr	0.2	4	-	-	22,100	17,000	23,200	1.05	NI	3C	Min	UAD
--	Main St (East)	W Rosemary St	Merritt Mill Rd.	CH, Carr	0.2	2	-	-	11,300	10,500	13,300	1.18	Ex	ADQ	Min	UAD
--	Main St (West)	Hillsborough Rd	Fifteenth St	DurCity	0.6	2	55-95	30-55	11,600	6,300	8,900	0.77	Ex	ADQ	Min	None
--	Main St (West)	Fifteenth St	Broad St	DurCity	0.6	4	60-95	44-60	23,500	14,000	22,300	0.95	Ex	ADQ	Maj	None
--	Main St (West)	Great Jones St	W Chapel Hill St	DurCity	0.1	2	-	-	11,000	4,600	6,100	0.56	Ex	ADQ	Min	None
--	Main St (West)	N Roxboro St	W Chapel Hill St	DurCity	0.4	2	-	-	11,000	4,600	6,500	0.60	Ex	ADQ	Min	None
--	Main St (East)	S. Alston Ave. (NC 55)	N Roxboro St	DurCity	0.7	2	-	-	11,000	-	6,300	0.57	Ex	ADQ	Min	None
--	Manning Dr.	Pittsboro St.	Ridge Rd.	CH	0.7	2	-	-	22,100	17,000	21,300	0.97	Ex	ADQ	Maj	None
--	Manning Dr.	Fordham Blvd	Ridge Rd.	CH	0.6	4	-	-	22,100	15,000	16,600	0.75	Ex	ADQ	Maj	None
--	Manns Chapel Rd.	Great Ridge Pkwy	Denny Circle	Chat	4.1	2	-	-	12,400	-	3,300	0.26	Ex	ADQ	Min	None
--	Manns Chapel Rd.	US 15-501	Great Ridge Pkwy	Chat	0.9	2	-	-	12,400	6,400	7,200	0.58	Ex	ADQ	Min	None
--	Markham Ave (West)	Broad St	N Buchanan Blvd	DurCity	0.4	2	-	-	11,000	-	3,800	0.35	Ex	ADQ	Min	None
ORAN0114-H	Marriot Way	Friday Center Dr	Marriot Way Extension	CH	0.1	2	-	-	-	-	-	0.00	NI	2E	Min	None
ORAN0114-H	Marriot Way Extension	Marriot Way	Barbee Chapel Rd	CH	0.1	0	-	-	-	-	-	0.00	Rec	2E	Min	None
--	Mason Farm Rd.	Fordham Blvd	S Columbia St	CH	1.1	2	-	-	11,300	6,700	7,500	0.66	Ex	ADQ	Min	None
--	Mason Rd	Guess Rd	N Roxboro Rd (US 501 N)	Dur	2.5	2	-	-	12,400	3,800	7,600	0.61	Ex	ADQ	Min	None
--	Massey Chapel RD	NC 751	Fayetteville Rd	Dur, DurCity	0.9	2	-	-	-	-	-	0.00	Ex	ADQ	Min	None
--	Massey Chapel Rd	Fayetteville Rd	Massey Chapel Rd Ext	Dur, DurCity	0.7	2	60	18-20	-	-	-	0.00	Ex	ADQ	Min	None
DURH0050-H	Massey Chapel Rd Ext	Fayetteville Rd	Massey Chapel Rd	Dur, DurCity	0.2	0	-	-	-	-	-	0.00	Rec	2B	Min	None
--	Mayo St.	S Churton St	Orange Grove Rd.	Hboro	0.3	2	-	-	11,600	4,400	8,700	0.75	Ex	ADQ	Min	None
--	McCauley St.	Pittsboro St.	S Columbia St	CH	0.1	2	-	-	11,000	-	8,200	0.74	Ex	ADQ	Min	None
--	Merritt Mill Rd.	S Greensboro St	W Cameron Ave	CH, Carr	0.7	2	-	-	14,000	11,000	13,500	0.96	Ex	ADQ	Min	None
--	Merritt Mill Rd.	W Cameron Ave	W Rosemary St	CH	0.3	2	-	-	10,000	6,400	9,200	0.92	Ex	ADQ	Min	None
--	Miami Blvd (South)	I-40	Slater Rd	DurCity	0.6	4	100-200	64-92	36,600	21,000	36,500	1.00	Ex	ADQ	Maj	None
--	Miami Blvd (South)	E Cornwallis Rd	I-40	DurCity	0.8	4	100-200	76-92	43,600	27,000	51,000	1.17	Ex	ADQ	Maj	UAD
--	Miami Blvd (South)	E Cornwallis Rd	T. W. Alexander Dr	DurCity	1.6	4	100	64-76	43,600	23,000	36,300	0.83	Ex	ADQ	Maj	None
--	Miami Blvd (South)	E US 70 Hwy	T. W. Alexander Dr	DurCity	1.8	4	60-110	48-76	43,600	31,000	37,800	0.87	Ex	ADQ	Maj	None
--	Miami Blvd (North)	E Geer St	Holloway St.	DurCity	0.9	4	-	-	23,500	6,700	9,500	0.40	Ex	ADQ	Maj	None
DURH0051-H	Miami Blvd. Ext (North)	E Geer St	Alston Ave Ext	DurCity	0.1	3	-	-	-	-	-	0.00	Rec	3C	Min	None
--	Midland Terrace	Cheek Rd	Midland Terrace Extension	DurCity	0.4	2	-	-	11,600	4,600	9,800	0.85	Ex	ADQ	Min	None
DURH0052-H	Midland Terrace	E Geer St	Midland Terrace Extension	DurCity	0.2	2	-	-	-	-	-	0.00	NI	2J	Blvd	None
DURH0052-H	Midland Terrace Extension	Midland Terrace	NC 98	DurCity	2.2	0	-	-	-	-	-	0.00	Rec	2J	Blvd	None
--	Midland Terrace.	E Club Blvd	E Geer St	DurCity	1.1	2	-	-	11,600	4,000	10,800	0.93	Ex	ADQ	Min	None
--	Milton Rd	Tom Wilkinson	Roxboro Road (501N)	DurCity	0.7	2	-	-	12,900	7,800	11,600	0.90	Ex	ADQ	Min	None
--	Milton Rd	Guess Rd	Tom Wilkinson	Dur	1.8	2	-	-	12,900	3,500	5,300	0.41	Ex	ADQ	Min	None
--	Mineral Springs Rd (South)	Pleasant Dr	Sherron Rd	DurCity, Dur	1.2	2	-	-	11,600	7,200	9,900	0.85	Ex	ADQ	Min	None
--	Mineral Springs Rd (South)	Northern Durham Pkwy	Pleasant Dr	DurCity, Dur	1.2	2	-	-	11,600	10,000	14,000	1.21	Ex	ADQ	Min	UAD
--	Mineral Springs Rd. (North)	Fletchers Chapel Rd	Northern Durham Pkwy	DurCity, Dur	1.6	2	-	-	11,600	8,700	11,100	0.95	Ex	ADQ	Min	None
--	MLK Parkway	Shannon Rd	University Dr	DurCity	0.3	4	-	-	31,600	15,900	28,900	0.91	Ex	ADQ	Blvd	None

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-40

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System					Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section	CTP Class	
--	MLK Parkway	Old Chapel Hill Rd	Shannon Rd	DurCity	0.5	4	-	-	28,100	14,000	25,800	0.92	Ex	ADQ	Maj	None
--	MLK Parkway	Hope Valley Rd	Old Chapel Hill Rd	DurCity	0.8	4	-	-	36,600	19,000	31,500	0.86	Ex	ADQ	Blvd	None
--	MLK Parkway	Archdale	Hope Valley Rd	DurCity	0.1	4	-	-	36,600	-	52,600	1.44	Ex	ADQ	Maj	UAD
--	MLK Parkway	Fayetteville Rd	Archdale	DurCity	2.0	4	-	-	36,600	23,000	36,100	0.99	Ex	ADQ	Blvd	None
--	MLK Parkway	Fayetteville Rd	NC 55	DurCity	1.2	4	-	-	36,600	13,000	20,500	0.56	Ex	ADQ	Blvd	None
DURH0053-H	MLK Pkwy Extension	NC 55	Cornwallis Rd	DurCity	0.3	0	-	-	-	-	-	0.00	Rec	4D	Blvd	None
--	Moores Mill Rd	Person County Line	US 501 N (N Roxboro Road)	Dur	3.0	2	-	-	12,400	-	2,600	0.21	Ex	ADQ	Min	None
--	Morehead Ave	Chapel Hill Rd	Kent St	DurCity	0.1	2	-	-	11,600	4,900	7,700	0.66	Ex	ADQ	Min	None
--	Morgan St (West)	W Main St	Great Jones St	DurCity	0.5	2	-	-	11,100	4,800	8,600	0.78	Ex	ADQ	Maj	None
--	Morreene Rd	US 15-501	Neal Rd	DurCity	0.9	2	-	-	11,600	9,400	12,700	1.10	Ex	ADQ	Min	UAD
--	Morreene Rd	Campus Walk	US 15-501	DurCity	0.1	2	-	-	12,900	10,200	14,000	1.09	Ex	ADQ	Min	UAD
--	Morreene Rd	Erwin Rd	Campus Walk	DurCity	0.5	2	-	-	12,900	8,100	6,700	0.52	Ex	ADQ	Min	None
--	Mt Hermon Church Rd	US 70	Old NC 10	OR	0.9	2	-	-	12,400	2,300	8,600	0.69	Ex	ADQ	Min	None
--	Mt Sinai Rd	Erwin Rd.	NC 86	OR	5.2	2	-	-	12,400	2,700	7,700	0.62	Ex	ADQ	Min	None
ORAN0115-H	Mt. Carmel Church Rd	Old Farrington Rd	Parker Rd	CH, OR, Chat	2.7	2	-	20-22	11,600	9,600	15,700	1.35	NI	2B	Min	None
ORAN0115-H	Mt. Carmel Church Rd	Parker Rd	Bennett Rd	CH, OR, Chat	1.0	2	-	20	11,600	9,600	15,700	1.35	NI	3C	Min	None
MTP-242	Mt. Carmel Church Rd	Bennett Rd	US 15-501	CH	0.4	2	-	-	11,600	9,600	15,700	1.35	NI	4G	Min	None
--	Mt. Moriah Rd	Old Chapel Hill Rd.	US 15-501	DurCity	0.6	2	-	-	11,600	5,400	14,100	1.21	Ex	ADQ	Min	UAD
--	Mt. Moriah Rd	Erwin Rd.	US 15-501	OR	1.4	2	-	-	11,600	5,100	13,400	1.16	Ex	ADQ	Min	UAD
--	Mt. Willing Rd	I-40/85	MPO Boundary	OR	0.6	2	-	-	14,600	2,200	5,300	0.36	Ex	ADQ	Min	None
ORAN0116-H	Mt. Willing Rd	I-40/85	US 70	OR	0.7	2	-	-	11,600	6,600	8,900	0.76	NI	2E	Min	None
--	Murray Av (West)	Broad St	N Duke St	DurCity	0.4	2	-	-	11,600	-	4,300	0.37	Ex	ADQ	Min	None
--	Murray Av (West)	N Duke Street	N Roxboro St	DurCity	0.9	2	-	-	11,000	2,000	2,700	0.25	Ex	ADQ	Min	None
--	Nash St (North)	Revere Rd	Allison St	Hboro	1.3	2	-	-	11,600	1,900	6,600	0.57	Ex	ADQ	Min	None
--	NE Creek Pkwy/So Hi Dr	Ellis Rd	Cornwallis Dr	DurCity	1.6	2	-	-	-	-	-	0.00	Ex	ADQ	Min	None
--	Neal Rd	Hillsborough Rd	Morreene Rd	DurCity	1.3	2	-	-	11,600	6,400	9,500	0.82	Ex	ADQ	Min	None
ORAN0117-H	New Collector Rd	Orange Grove Rd Ext	Becketts Ridge Dr	OR, Hboro	0.8	0	-	-	-	-	-	0.00	Rec	2E	Min	None
--	New Hope Church Rd.	I-40	Old NC 86	OR	1.5	2	-	-	12,400	3,400	9,600	0.77	Ex	ADQ	Min	None
--	New Hope Church Rd.	I-40	OLD NC 10	OR	2.6	2	-	-	12,400	1,900	6,900	0.56	Ex	ADQ	Min	None
--	New Hope Commons Dr	Mt Moriah Rd	New Hope Commons Ext	DurCity	0.3	3	-	-	-	-	-	0.00	Ex	ADQ	Min	None
--	New Hope Commons Dr	Mt Moriah Rd	New Hope Commons end	DurCity	0.1	2	-	-	-	-	-	0.00	Ex	ADQ	Min	None
ORAN0118-H	New Hope Commons Dr Ext	New Hope Commons Dr	Eastowne Dr	DurCity, CH	0.4	0	-	-	-	-	-	0.00	Rec	3C	Min	None
DURH0054-H	New Hope Commons Dr extension (North)	New Hope Commons Dr	Third Crossing Rd	DurCity	0.1	0	-	-	-	-	-	0.00	Rec	3B	Min	None
DURH0055-H	New Leesville Blvd Extension	New Leesville Blvd	Carpenter Pond Rd	Dur	0.3	0	-	-	-	-	-	0.00	Rec	4G	Blvd	None
--	New Sharon Church Rd	Walker Rd	St Marys Rd	OR	1.8	2	-	-	12,400	2,200	5,000	0.40	Ex	ADQ	Min	None
U-4721 AB	Northern Durham Parkway	US 70	Flat River Dr	DurCity, Dur	2.0	0	-	-	-	-	-	0.00	Rec	4G	Blvd	Full
U-4721 AB	Northern Durham Parkway	Falt River Dr	Sherron Rd	DurCity	0.7	2	-	-	-	-	-	0.00	NI	4G	Blvd	Full
U-4721 AB	Northern Durham Parkway	Sherron Rd	S Mineral Springs Rd	DurCity, Dur	1.4	0	-	-	-	-	-	0.00	Rec	4G	Blvd	Full
U-4721 AB	Northern Durham Parkway	S Mineral Springs Rd	NC 98	DurCity, Dur	0.1	4	-	-	-	-	-	0.00	NI	4G	Blvd	Full

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-41

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System					Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section	CTP Class	
U-4721 AC	Northern Durham Parkway	NC 98	N Mineral Springs Rd	DurCity, Dur	0.4	4 -	-	-	-	-	-	0.00	NI	4G	Blvd	Full
U-4721 AC	Northern Durham Parkway	N Mineral Springs Rd	Glenn School Rd	DurCity, Dur	3.2	0 -	-	-	-	-	-	0.00	Rec	4G	Blvd	Full
U-4721 AC	Northern Durham Parkway	Glenn School Rd	I-85	DurCity, Dur	0.2	4 -	-	-	-	-	-	0.00	NI	4G	Blvd	Full
U-4721 B	Northern Durham Parkway	I-85 North	Glenn Rd	DurCity, Dur	0.4	4 -	-	-	-	-	-	0.00	NI	4G	Blvd	None
U-4721 B	Northern Durham Parkway	Glenn Rd	Old Oxford Rd	DurCity, Dur	2.2	0 -	-	-	-	-	-	0.00	Rec	4G	Blvd	None
	Oakdale Dr	Old NC 86	Orange Grove Rd.	OR, Hboro	1.1	2 -	-	-	12,400	3,800	11,500	0.93	Ex	ADQ	Min	None
CHAT0105-H	O'Kelly Chapel Rd	NC 751	Cary Town ETJ	Chat	1.7	2 -	-	-	12,400	4,100	8,300	0.67	NI	2A	Min	None
CHAT0106-H	O'Kelly Chapel Rd	Cary Town ETJ	Yates Store Rd	Chat	1.1	2 -	-	-	12,400	4,100	8,300	0.67	NI	4D	Blvd	None
EB-4707 A	Old Chapel Hill Rd	Scarlett Dr.	SW Durham Pkwy	DurCity, CH	1.7	2 -	-	-	11,600	9,900	19,600	1.69	NI	2E	Min	None
EB-4707 B	Old Chapel Hill Rd	Garrett Rd	SW Durham Pkwy	DurCity	1.0	2 -	-	-	11,600	16,000	31,600	2.72	Ex	ADQ	Min	UAD
--	Old Chapel Hill Rd	MLK Pkwy	University Dr	DurCity	1.3	2 -	-	-	11,600	6,800	10,300	0.89	Ex	ADQ	Min	None
--	Old Chapel Hill Rd	MLK Pkwy	University Dr	DurCity	0.6	2 -	-	-	11,600	4,300	6,000	0.52	Ex	ADQ	Min	None
--	Old Fayetteville Rd	Hillsborough Road	NC 54	Carr	1.0	2 -	-	-	12,900	8,700	18,000	1.40	Ex	ADQ	Min	UAD
--	Old Fayetteville Rd	Jones Ferry Rd.	NC 54	OR, Carr	1.2	2 -	-	-	11,600	3,900	7,700	0.67	Ex	ADQ	Min	None
--	Old Greensboro Rd.	Jones Ferry Rd	MPO Boundary	OR	2.7	2 -	-	-	12,400	4,600	6,500	0.53	Ex	ADQ	Min	None
--	Old NC 10	NC 86	Hillsborough Rd (US 70 Bus)	OR	5.9	2 -	-	-	12,400	2,400	7,800	0.63	Ex	ADQ	Min	None
ORAN0119-H	Old NC 86	Dairyland Rd	Hillsborough Rd	OR	0.7	2 -	-	-	13,800	11,000	23,700	1.72	NI	2A	Min	Min
ORAN0119-H	Old NC 86	Dairyland Rd	Eubanks Rd	OR	1.7	2 -	-	-	12,400	7,300	17,900	1.45	NI	2A	Min	Min
ORAN0119-H	Old NC 86	Eubanks Rd	I-40	OR	5.0	2 -	-	-	12,400	4,800	15,300	1.24	NI	2A	Min	Min
U-5845	Old NC 86	I-40	I-85	Hboro	1.5	2 -	-	-	11,600	17,000	21,800	1.88	NI	4D	Blvd	Min
DURH0056-H	Old Oxford Connector	Dearborn Dr	Old Oxford Rd/Thompson Rd	DurCity	0.8	0 -	-	-	-	-	-	0.00	Rec	2E	Min	None
--	Old Oxford Connector/Thompson Rd	Old Oxford Rd	Old Oxford Connector	Dur	0.2	2 -	-	-	-	-	-	0.00	Ex	ADQ	Min	None
DURH0057-H	Old Oxford Rd	Hamlin Rd	N Roxboro St	DurCity	1.6	2 -	-	-	11,600	16,000	23,800	2.05	NI	4D	Min	None
MTP-85	Old Oxford Rd	Hamlin Rd	Snow Hill Rd	DurCity, Dur	1.7	2 -	-	-	12,400	7,800	16,400	1.32	Ex	ADQ	Min	UAD
--	Old Oxford Hwy	Red Mill Rd	Snow Hill Rd	Dur	2.5	2 -	-	-	12,400	4,700	9,100	0.74	Ex	ADQ	Min	None
--	Old Oxford Hwy	Granville County Line	Red Mill Rd	Dur	3.9	2 -	-	-	12,400	6,000	12,400	1.00	Ex	ADQ	Min	None
MTP-89	Olive Branch Rd	Carpenter Pond Rd.	Doc Nichols Rd	Dur	2.3	2 -	20	-	12,400	2,200	12,900	1.04	NI	2B	Min	None
MTP-89	Olive Branch Rd	Doc Nichols Rd	Wake Forest Hwy	Dur	0.9	2 -	20	-	12,400	2,200	12,900	1.04	NI	2B	Min	None
--	Olympic Ave	N Duke Street	N Roxboro St	DurCity	0.6	2 -	-	-	11,600	-	7,000	0.60	Ex	ADQ	Min	None
--	Orange Factory Rd	Roxboro Road (US 501 N)	Stagville Rd	DurCity, Dur	3.0	2 -	-	-	12,400	2,100	5,000	0.40	Ex	ADQ	Min	None
--	Orange Grove Rd	Oakdale Dr	Dimmocks Mill Rd	OR	1.8	2 -	-	-	12,400	3,586	7,800	0.63	Ex	ADQ	Min	None
--	Orange Grove Rd	Oakdale Dr	S Churton St	OR, Hboro	1.5	2 -	-	-	11,600	3,200	9,100	0.79	Ex	ADQ	Min	None
U-5848	Orange Grove Connector	Orange Grove Rd	US 70Bus	OR, Hboro	0.4	0 -	-	-	-	-	-	0.00	Rec	4G	Blvd	Min
--	Page Rd	S Miami Blvd	Emperor Blvd	DurCity	0.6	4 -	-	-	36,600	16,000	42,400	1.16	Ex	ADQ	Maj	UAD
--	Page Rd	Emperor Blvd	I-40	DurCity	0.1	4 -	-	-	29,300	-	42,600	1.45	Ex	ADQ	Maj	UAD
DURH0058-H	Page Rd	Globe Rd	I-40	DurCity, Dur	2.5	2 -	-	-	12,400	6,600	20,500	1.65	NI	4G	Blvd	None
DURH0058-H	Page Rd	Globe Rd	T. W. Alexander Dr	DurCity	0.7	2 -	-	-	12,400	12,000	22,000	1.77	NI	4G	Blvd	None
--	Page Rd	Angier Ave	Page Rd Ext	DurCity	1.0	2 -	-	-	12,400	2,900	10,700	0.86	Ex	ADQ	Min	None
DURH0059-H	Page Rd Extension	E US 70 Hwy	T. W. Alexander Dr	DurCity	1.0	2 -	-	-	12,400	10,000	20,400	1.65	NI	4G	Blvd	None
MTP-26.11	Patriot Dr Extension	S Miami Blvd	Globe Rd	DurCity, Dur	2.3	0 -	-	-	-	-	-	0.00	Rec	2E	Min	None

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-42

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section		
TE-5205	Pettigrew St (West)	W Chapel Hill St	S Dillard St	DurCity	0.7	2	47-55	27-40	-	-	-	0.00	NI	(2)	Min	None
TE-5205	Pettigrew St (East)	S Dillard St	S Alston Ave	DurCity	0.7	2	40-55	-	-	-	-	0.00	NI	(2)	Min	None
--	Pettigrew St (East)	S Alston Ave	S Briggs Ave	DurCity	0.9	2	35-60	-	-	-	-	0.00	Ex	ADQ	Min	None
--	Pettigrew St (East)	Ellis Rd	S Briggs Ave	DurCity	0.6	2	-	-	11,600	5,400	6,200	0.53	Ex	ADQ	Min	None
DURH0060-H	Pettigrew St Ext (East)	Ellis Rd	Glover Rd	DurCity	1.4	0	-	-	-	-	-	0.00	Rec	2E	Min	None
--	Pickett Rd	Garrett Rd	Randolph Rd	DurCity, Dur	0.9	2	-	-	11,600	3,900	7,900	0.68	Ex	ADQ	Min	None
--	Pickett Rd	Garrett Rd	Tower Blvd	DurCity	1.0	2	-	-	11,600	5,300	8,600	0.74	Ex	ADQ	Min	None
--	Pickett Rd	Tower Blvd	Chapel Hill Rd	DurCity	1.3	3	-	-	-	-	-	0.00	Ex	ADQ	Min	None
--	Piney Mountain Rd.	MLK Jr Blvd	Weaver Dairy Rd.	CH	2.3	2	-	-	11,600	3,500	7,100	0.61	Ex	ADQ	Min	None
--	Pleasant Green Rd	New Sharon Church Rd	US 70	OR	7.6	2	-	-	12,400	3,500	6,200	0.50	Ex	ADQ	Min	None
--	Pope Rd.	Ephesus Church Rd.	Old Chapel Hill Rd	DurCity, Dur, C	1.0	2	-	-	12,700	3,600	9,900	0.78	Ex	ADQ	Min	None
--	Pulitzer Ln	Page Rd	Crown Pkwy (future roadway)	DurCity	0.5	2	-	-	-	-	-	0.00	Ex	ADQ	Blvd	None
--	Purefoy Dr	Rogers Rd	Purefoy Dr Extension	CH	0.3	2	-	-	-	-	-	0.00	Ex	ADQ	Min	None
MTP-220	Purefoy Dr Extension	Purefoy Rd	Weaver Dairy Ext	CH	0.6	0	-	-	11,400	-	-	0.00	Rec	2E	Min	None
--	Quail Roost Rd	Bahama Rd	US 501 (N Roxboro Rd)	Dur	2.5	2	-	-	11,600	2,700	3,300	0.28	Ex	ADQ	Min	None
--	Raleigh Rd.	Country Club Rd.	Fordham Blvd	CH	0.8	4	-	-	31,600	21,000	24,700	0.78	Ex	ADQ	Maj	None
--	Raleigh St.	Cameron Ave.	Franklin St.	CH	0.2	2	-	-	10,000	-	17,200	1.72	Ex	ADQ	Min	UAD
--	Randolph Rd	Erwin Rd.	Pickett Rd	DurCity, Dur	0.7	2	-	-	11,600	4,000	6,400	0.55	Ex	ADQ	Min	None
--	Range Rd	Bahama Rd	Granville County Lime	Dur	3.1	2	-	-	12,400	-	1,100	0.09	Ex	ADQ	Min	None
--	Red Mill Rd	Old Oxford Hwy.	Red Mill Rd realignment	Dur	0.1	2	-	-	12,400	8,900	16,900	1.36	Ex	ADQ	Min	UAD
--	Red Mill Rd	Teknika Pkwy	I-85	Dur	3.7	2	-	-	12,400	8,900	16,900	1.36	Ex	ADQ	Min	UAD
DURH0061-H	Red Mill Rd realignment	Red Mill Rd	Red Mill Rd	Dur	0.4	0	-	-	-	-	-	0.00	Rec	2A	Min	None
--	Redwood Rd	Cheek Rd	I-85	Dur	2.3	2	-	-	12,400	320	2,100	0.17	Ex	ADQ	Min	None
--	Renaissance Pkwy	Fayetteville Rd	NC 751	DurCity	1.2	4	-	-	31,600	18,100	16,000	0.51	Ex	ADQ	Blvd	None
DURH0062-H	Riddle Rd Realignment	Fayetteville St	Riddle Rd	DurCity	0.1	0	-	-	-	-	-	0.00	Rec	3C	Min	None
DURH0063-H	Riddle Rd.	Fayetteville St	NC 55	DurCity	0.8	2	-	-	11,600	10,000	15,200	1.31	NI	3C	Min	None
DURH0063-H	Riddle Rd.	Ellis Rd	NC 55	DurCity	1.1	2	-	-	11,600	7,900	16,700	1.44	NI	3C	Min	None
DURH0064-H	Riddle Rd. Extension	Ellis Rd	Glove Rd	DurCity	0.4	0	-	-	-	-	-	0.00	Rec	2E	Min	None
--	Ridge Rd.	Manning Dr	South Rd.	CH	0.7	2	-	-	11,000	8,000	10,500	0.95	Ex	ADQ	Min	None
DURH0032-H	Roche Dr	T W Alexander	Crown Pkwy	DurCity	0.2	2	-	22	-	-	-	0.00	NI	3B	Min	None
--	Rogers Rd.	Eubanks Rd.	Homestead Rd	Carr	1.2	2	-	-	12,400	2,600	6,800	0.55	Ex	ADQ	Min	None
--	Rose Of Sharon Rd	Cole Mill Rd	W Carver St	DurCity	0.1	2	-	-	12,400	5,800	10,500	0.84	Ex	ADQ	Min	None
--	Rose Of Sharon Rd	W Carver St	Hillandale Rd	DurCity	1.6	2	-	-	12,400	4,200	7,800	0.63	Ex	ADQ	Min	None
--	Rose Of Sharon Rd	Hillandale Rd	Guess Rd	DurCity	0.8	2	-	-	12,400	4,200	9,400	0.76	Ex	ADQ	Min	None
--	Rosemary St (West)	N Columbia St.	E Main St	CH, Carr	0.7	2	-	-	10,000	8,700	17,400	1.74	Ex	ADQ	Min	UAD
--	Rosemary St. (East)	N Columbia St.	Hillsborough St.	CH	0.4	2	-	-	10,000	-	1,000	0.10	Ex	ADQ	Min	None
--	Rosemary St. (East)	E Franklin St.	Hillsborough St	CH	0.3	2	-	-	11,300	-	-	0.00	Ex	ADQ	Min	None
--	Roxboro St (South)	Hope Valley Rd	MLK Pkwy	DurCity	2.4	4	-	-	31,600	7,000	11,200	0.35	Ex	ADQ	Blvd	None
MTP-94	Roxboro St Ext (South)	S Roxboro	E Cornwallis Rd	DurCity	1.2	0	-	-	-	-	-	0.00	Rec	4D	Blvd	None
--	Roxboro St. (South)	Summit St	E Cornwallis Rd	DurCity	0.5	4	-	-	31,600	9,300	19,900	0.63	Ex	ADQ	Maj	None
--	Roxboro St. (South)	E Lawson St	Summit St	DurCity	0.6	2	-	-	11,600	8,300	14,400	1.25	Ex	ADQ	Min	UAD
--	Roxboro St. (South)	E Lawson St	E Lakewood St	DurCity	0.8	2	-	-	11,600	5,200	8,900	0.77	Ex	ADQ	Min	None

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-43

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section		
--	Sage Rd	Erwin Rd.	Weaver Dairy Rd.	CH	0.4	2	-	-	12,900	-	12,000	0.93	Ex	ADQ	Min	None
--	Sage Rd.	Erwin Rd.	Fordham Blvd (US 15-501 Byp)	CH	0.5	2	-	-	35,200	7,400	15,400	0.44	Ex	ADQ	Maj	None
DURH0065-H	Sayward Dr	Sayward Dr end	SW Durham Parkway	DurCity	0.2	2	-	-	-	-	-	0.00	NI	2C	Min	None
DURH0065-H	Sayward Dr extension	Danziger Dr	Sayward Dr end	DurCity	0.1	0	-	-	-	-	-	0.00	Rec	2C	Min	None
--	Scott King Rd	Fayetteville Rd	Revere Rd	DurCity, Dur	3.0	2	-	-	11,600	1,800	6,200	0.54	Ex	ADQ	Min	None
--	Scott King Rd	Revere Rd	NC 55	DurCity	0.6	2	-	-	11,600	6,700	9,900	0.85	Ex	ADQ	Min	None
--	Seawell School Road	Estes Dr	Homestead Rd	CH, Carr	1.9	2	-	-	12,900	3,700	11,400	0.89	Ex	ADQ	Min	None
--	Sedwick Rd	NC 55	S Alston Ave	DurCity	0.5	2	-	-	12,700	4,100	10,900	0.86	Ex	ADQ	Min	None
--	Shannon Rd	University Dr	Old Chapel Hill Rd	DurCity	0.7	2	-	-	11,600	8,086	11,600	1.00	Ex	ADQ	Min	None
--	Shannon Rd	Durham Chapel Hill B	University Dr	DurCity	0.3	4	-	-	26,000	11,000	25,300	0.97	Ex	ADQ	Maj	None
--	Sherron Rd	S Mineral Springs Rd	US 70	Dur	0.2	5	-	-	28,100	18,000	35,000	1.25	Ex	ADQ	Maj	UAD
DURH0066-H	Sherron Rd.	Stallings Rd	S Mineral Springs Rd	DurCity, Dur	3.1	2	-	-	12,400	12,000	27,600	2.23	NI	4D	Blvd	None
--	Slater Rd	S Miami Blvd	Page Rd	DurCity	0.3	4	-	-	43,600	5,200	19,200	0.44	Ex	ADQ	Maj	None
--	Slater Rd.	Emperor Blvd.	Wake County Line	DurCity, Dur	0.8	2	-	-	12,700	3,100	6,600	0.52	Ex	ADQ	Min	None
DURH0067-H	Smallwood Dr Extension	Page Rd	Crown Pkwy (future roadway)	DurCity	0.5	2	-	-	-	-	-	0.00	NI	2J	Blvd	None
	Smith Level Rd	Rock Haven Rd	US 15-501	OR, Carr	2.2	2	-	-	12,400	7,800	11,900	0.96	Ex	ADQ	Min	None
U-2803	Smith Level Rd	Rock Haven Rd	NC 54	Carr	0.8	2	-	-	12,900	16,000	22,900	1.78	Ex	ADQ	Min	UAD
U-4721 C	Snow Hill Rd	N Roxboro Rd (US 501 N)	Snow Valley Rd	DurCity, Dur	4.2	2	55-60	22	12,400	4,600	10,800	0.87	NI	2A	Min	None
U-4721 C	Snow Hill Rd realignment	Snow Valley Rd	Old Oxford Hwy	DurCity, Dur	0.2	0	-	-	12,400	4,600	10,800	0.87	Rec	2A	Min	None
--	South Rd	Country Club Rd.	S Columbia St	CH	0.7	2	-	-	11,100	10,000	10,900	0.98	Ex	ADQ	Min	None
--	Sparger Rd	Cole Mill Rd	Hillsborough Rd (US 70)	DurCity	1.7	2	-	-	11,600	6,000	11,100	0.96	Ex	ADQ	Min	None
--	St Marys Rd	Guess Rd	Pleasant Green Rd	OR	3.3	2	-	-	12,400	2,900	6,900	0.55	Ex	ADQ	Min	None
--	St Marys Rd	Pleasant Green Rd	US 70 Bypass	OR	5.1	2	-	-	12,400	2,400	6,000	0.48	Ex	ADQ	Min	None
--	Stagecoach Rd	Farrington Rd	NC 751	Dur	1.6	2	-	-	14,600	7,500	12,100	0.83	Ex	ADQ	Min	None
--	Stagville Rd	Bahama Rd	Old Oxford Hwy	Dur	3.8	2	-	-	12,400	3,600	6,700	0.54	Ex	ADQ	Min	None
MTP-230	SW Durham Dr	NC 54	George King Rd	DurCity, Dur	0.4	0	-	-	-	-	-	0.00	Rec	2J	Blvd	None
MTP-230	SW Durham Dr	George King Rd	Ephesus Church Rd	DurCity, Dur	1.1	2	-	-	-	-	-	0.00	NI	2J	Blvd	None
MTP-230	SW Durham Dr	Ephesus Church Rd	I-40	DurCity, Dur	0.4	0	-	-	-	-	-	0.00	Rec	2J	Blvd	None
MTP-104	SW Durham Dr	Old Chapel Hill Rd.	US 15-501	DurCity	1.0	4	-	-	21,800	6,600	11,500	0.53	NI	4D	Blvd	None
MTP-106, MTP-106.1	SW Durham Dr	US 15-501	Mt. Moriah Rd	DurCity	0.4	0	-	-	-	-	-	0.00	Rec	4D	Blvd	None
--	Swift Ave	W Main St	NC 147 (Durham Freeway)	DurCity	0.2	5	75-85	64	26,000	17,000	20,200	0.78	Ex	ADQ	Maj	None
--	T. W. Alexander Dr	E NC 54 Hwy	NC 55	DurCity, Dur	1.6	2	-	-	15,100	9,000	8,200	0.54	Ex	ADQ	Min	None
DURH0068-H	T. W. Alexander Dr	E Cornwallis Rd	E NC 54 Hwy	DurCity, Dur	1.6	2	-	-	12,700	13,000	37,600	2.96	NI	4D	Blvd	None
U-3309	T. W. Alexander Dr	E Cornwallis Rd	NC 147 (Durham Freeway)	DurCity, Dur	0.9	4	-	-	36,600	12,000	26,100	0.71	Ex	ADQ	Blvd	None
--	T. W. Alexander Dr	NC 147	S Miami Blvd	DurCity, Dur	0.8	4	-	-	36,600	26,000	34,500	0.94	Ex	ADQ	Blvd	None
--	T. W. Alexander Dr	Presidential Dr	S Miami Blvd	DurCity	0.3	4	-	-	36,600	-	39,200	1.07	Ex	ADQ	Blvd	UAD
--	T. W. Alexander Dr	Page Rd	Presidential Dr	DurCity	1.7	4	-	-	36,600	23,000	31,400	0.86	Ex	ADQ	Blvd	None
--	T. W. Alexander Dr	Page Rd	Wake County Line	DurCity	0.3	4	-	-	36,600	19,000	24,300	0.66	Ex	ADQ	Blvd	None

Note: Capacity and V/C (volume-to-capacity ratio) values are based on a **Level of Service D** (LOS D). C-44

Highway																
ID	Facility	Segment		Jurisdiction	Dist. (mi)	2015 Existing System					2040 Proposed System				CTP Class	Problem Statement
		From	To			Lanes	ROW	Width	Existing Capacity (vpd)	2011 Volume	2040 Volume E+C	2040 V/C	Status	Cross-Section		
DURH0069-H	T.W. Alexander Dr	Del Webb Arbors Dr	Leesville Rd	Dur	0.2	0	-	-	-	-	-	0.00	Rec	4G	Blvd	None
DURH0070-H	Third Crossing Rd	Sayward Dr	US 15-501	DurCity	0.8	0	-	-	-	-	-	0.00	Rec	3B	Min	None
DURH0071-H	Tower Blvd	Durham Chapel Hill B	US 15-501 entrance ramp	DurCity	0.1	4	-	-	12,900	-	15,300	1.18	NI	4F	Blvd	None
--	Tower Blvd	US 15-501 entrance ramp	Pickett Rd	DurCity	0.2	2	-	-	11,600	-	9,600	0.83	Ex	ADQ	Min	None
--	Trent Dr	Elba St	Erwin Rd	DurCity	0.1	4	-	-	23,500	9,300	10,200	0.43	Ex	ADQ	Maj	None
--	Umstead Rd	Cole Mill Rd	Craig Rd	DurCity, Dur	0.9	2	-	-	12,400	7,900	12,300	0.99	Ex	ADQ	Min	None
--	Umstead Rd	Craig Rd	Bivins Rd	DurCity, Dur	2.0	2	-	-	12,400	5,200	8,900	0.72	Ex	ADQ	Min	None
--	Umstead Rd	Bivins Rd	Guess Rd	DurCity	0.5	2	-	-	12,400	8,200	13,100	1.06	Ex	ADQ	Min	UAD
--	University Dr	Garrett Rd	MLK Jr Pkwy	DurCity	1.1	2	-	-	26,000	19,000	29,300	1.13	Ex	ADQ	Blvd	UAD
DURH0072-H	University Dr	MLK Jr Pkwy	Shannon Rd	DurCity	0.5	4	-	-	26,000	17,000	23,800	0.92	NI	4D	Blvd	None
--	University Dr	Academy Rd	Shannon Rd	DurCity	0.6	4	60	-	26,000	15,000	19,000	0.73	Ex	ADQ	Maj	None
--	University Dr	W Cornwallis Rd	Hope Valley Rd	DurCity	0.2	2	-	-	11,600	9,700	15,700	1.35	Ex	ADQ	Min	UAD
--	University Dr	W Cornwallis Rd	Durham Chapel Hill Blvd	DurCity	0.5	2	-	-	11,600	7,200	8,000	0.69	Ex	ADQ	Min	None
--	Vickers Ave	Parker St	University Dr	DurCity	0.6	2	-	-	14,100	4,200	5,700	0.40	Ex	(5)	Min	None
--	Waterstone Dr	NC 86	Old NC 86	OR, Hboro	1.0	2	-	-	13,800	-	2,200	0.16	Ex	ADQ	Blvd	None
--	Weaver Dairy Rd Ext	MLK Jr Blvd	Homestead Rd	CH	1.3	2	-	-	21,800	-	8,000	0.37	Ex	ADQ	Min	None
--	Weaver Dairy Rd.	MLK Jr Blvd	Kingston Dr	CH	0.4	4	-	-	31,600	12,000	26,100	0.82	Ex	ADQ	Blvd	None
--	Weaver Dairy Rd.	Kingston Dr	Sunrise Rd	CH	1.1	2	-	-	15,600	12,000	26,300	1.68	Ex	ADQ	Min	UAD
--	Weaver Dairy Rd.	Sage Rd	Sunrise Rd	CH	0.8	2	-	-	15,600	11,000	28,700	1.84	Ex	ADQ	Min	UAD
--	Weaver Dairy Rd.	Erwin Rd	Sage Rd	CH	0.5	2	-	-	12,900	4,900	4,800	0.37	Ex	ADQ	Min	None
--	Weaver St (West)	W Main St	N Greensboro St	Carr	0.2	2	-	-	11,600	6,900	9,800	0.85	Ex	ADQ	Min	None
--	Weaver St. (East)	N Greensboro St	E Main St	Carr	0.1	2	-	-	11,600	9,300	12,100	1.05	Ex	ADQ	Min	UAD
--	West Hill Ave N	US 70 W	W King St	OR, Hboro	1.0	2	-	-	10,200	1,500	4,100	0.40	Ex	ADQ	Min	None
--	Westgate Dr	Durham Chapel Hill B	University Dr	DurCity	0.4	4	-	-	31,600	7,500	24,900	0.79	Ex	ADQ	Maj	None
--	Whitfield Rd	Sunrise Rd	NC 86	OR	2.1	2	-	-	12,400	4,000	10,500	0.84	Ex	ADQ	Min	None
--	Whitfield Rd	Erwin Rd.	Sunrise Rd	OR	1.4	2	-	-	12,400	4,700	16,000	1.29	Ex	ADQ	Min	UAD
--	Willow Dr	Estes Dr.	Fordham Blvd	CH	0.4	2	-	-	11,600	7,200	11,100	0.96	Ex	ADQ	Min	None
U-5823	Woodcroft Pkwy Extension	NC 751	Garrett Rd	DurCity	0.2	0	-	-	-	-	-	0.00	Rec	2J	Blvd	Min
--	Woodcroft Pkwy (West)	Fayetteville Rd	Hope Valley Rd	DurCity	1.9	2	-	-	11,600	8,100	10,600	0.91	Ex	ADQ	Min	None
--	Woodcroft Pkwy (East)	Barbee Road	Fayetteville Rd	DurCity	1.1	2	-	-	11,600	6,300	8,900	0.76	Ex	ADQ	Min	None
--	Woodcroft Pkwy (East)	Barbee Road	Carpenter Fletcher Rd	DurCity	0.6	2	-	-	14,000	-	13,700	0.98	Ex	ADQ	Min	None
CHAT0107-H	Yates Store Rd Extension	O'Kelly Chapel Rd	Stonewater Glen Ln	Cary	0.2	2	-	-	-	-	-	0.00	NI	4F	Blvd	None
CHAT0107-H	Yates Store Road Extension	Yates Store Road	Wake Road	Cary, Chat	1.4	0	-	-	-	-	-	0.00	Rec	4F	Blvd	None

Footnotes: (1) A cross-section will be developed with the Bus Rapid Transit (BRT) planning.

(2) A cross-section will be developed with the Light Rail Transit (LRT) planning.

(3) A cross-section will be developed with Downtown Loop planning and future study.

(4) A cross-section with 2-way movement will be developed with Downtown Loop planning and future study.

(5) A One-Way Pair Study is recommended to consider local concerns, define the problems and develop viable solutions.

Back of Table



## Appendix C

### CTP Inventory and Recommendations

#### Interchanges and Grade Separations: Assumptions/ Notes:

- ❖ **Local ID:** If a TIP (Transportation Improvement Program) project number exists it is listed as the ID. If there is no TIP number, the Metropolitan Transportation Plan (MTP) ID is used. If there is no TIP or MTP ID, the following system is used to create a code for each recommended improvement: the first 4 letters of the county name is combined with a unique 4-digit numerical code followed by '-H' for highway. In the case of interchanges and grade separations, the 4-digit numerical code began with "0500."
- ❖ **Facility:** This is the name of the intersecting roadways. Note that interstates, US highways and North Carolina signed route names are used first in the facility name, i.e., before the local roadway. For example, Fordham Boulevard is shown as "US 15-501 (Fordham Blvd)." The order of listing is interstates, US highways, NC routes and then other roadways. Each of these sections is in alphabetical order.
- ❖ **Type:** This indicates the type of facility such as a "GS" (grade separation), "Int" (intersection or interchange), or "Int-ML" (interchange for managed lanes). Most of the intersection/interchange types will likely be built as interchanges but the final design is not known until more detailed study and design is completed. See Highway Map definitions in Appendix B for more details.
- ❖ **Status:** This indicates the long-range planning status of the interchange/intersection: Ex = Existing = no planned improvements; NI = Needs Improvement = planned improvements to an existing facility; and, Rec = Recommended = planned new facility, e.g., interchange replacing an intersection, or a grade separation replacing an at-grade crossing.
- ❖ **Jurisdiction:** This lists the local county and/or jurisdiction, and might include multiple jurisdictions. DurCity = City of Durham; Dur = Durham County; CH = Town of Chapel Hill; Carr = Town of Carrboro; OR = Orange County; Hboro = Town of Hillsborough; and, Chat = Chatham County.
- ❖ **Comments:** For some projects, there is additional information on the facility type, reason for improvements, related studies, or more detailed location information.

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Table 21

HIGHWAY -- INTERCHANGES AND GRADE SEPARATIONS					
ID	Facility	Type	Status	Juris	Comments
<b>Interstates</b>					
--	I-40 I-85/SR 1114 Buckhorn Rd	Int	Ex	OR	--
--	I-40 I-85/SR 1120 Mt Willing Rd	Int	Ex	OR	--
--	I-40/SR 1239 I-85 US 70 Connector	Int	Ex	OR	--
--	I-40 I-85/SR 1134 Dimmocks Mill Rd	GS	Ex	OR	--
--	I-40/I-85	Int	Ex	OR	--
--	I-40/SR 1006 Orange Grove Rd	GS	Ex	OR	--
--	I-40/SR 1009 Old NC 86	Int	Ex	OR	--
--	I-40/SR 1723 New Hope Church Rd	Int	Ex	OR	--
--	I-40/SR 1725 Millhouse Road	GS	Ex	OR	--
--	I-40/Rail	GS	Ex	OR	Near Millhouse Rd
I-3306	I-40/NC 86 interchange upgrade	Int-ML	NI	CH, OR	Upgrade interchange capacity; managed lane access
--	I-40/SR 1732 Sunrise Rd	GS	Ex	CH, OR	--
--	I-40/SR 1734 Erwin Rd	GS	Ex	CH, OR	--
DURH0507-H	I-40/New Hope Common Dr Ext bridge	GS	Rec	DurCity, CH	New Hope Common Dr bridge over I-40; see 15-501 study
I-5702	I-40/US 15-501 interchange improvements	Int-ML	NI	DurCity, CH	Improve current interchange; managed lane access
DURH0508-H	I-40/Danziger Dr Ext bridge	GS	Rec	DurCity, CH	Danziger Dr Ext bridge over I-40; see 15-501 plan
--	I-40/SR 2220 Old Chapel Hill Rd	GS	Ex	DurCity, CH	--
--	I-40/SR 1110 Farrington Rd	GS	Ex	DurCity, Dur	--
DURH0509-H	I-40/SWDD bridge	GS	Rec	DurCity	Grade separation SWDD over I-40
I-5774F	I-40/NC 54 interchange upgrade (slip ramp)	Int-ML	NI	DurCity	Interchange upgrade; coord with I-5774E (Farrington Rd) and I-5702 (I-40 managed lanes)
I-5702	I-40/NC 751	Int-ML	NI	DurCity	Managed lane access
I-5702	I-40 Managed Lane Access Alternative (NC 751)	Int-ML	Rec	DurCity	Managed lane access(alt. to NC 751 access)
I-5702	I-40/Fayetteville interchange upgrade	Int-ML	NI	DurCity	Intch.upgrade; see I-40 feas. st.; mgd lane access
--	I-40/NC 54	GS	Ex	DurCity	--
--	I-40/Barbee Rd	GS	Ex	DurCity	--
--	I-40/NC 55	Int	Ex	DurCity	--
--	I-40/rail line	GS	Ex	DurCity	Near NC 55 interchange
--	I-40/SR 1945 S Alston Ave	GS	Ex	DurCity	--
--	I-40/SR 2028 T W Alexander Dr	GS	Ex	DurCity, Dur	--
I-5702	I-40/NC 147 interchange	Int-ML	NI	DurCity, Dur	Interchange improvements; managed lane access
--	I-40/SR 1999 Davis Dr	Int	Ex	DurCity, Dur	--
--	I-40/Rail	GS	Ex	DurCity, Dur	Near S Miami Blvd interchange
--	I-40/SR 1959 S Miami Rd	Int	Ex	DurCity	--

HIGHWAY -- INTERCHANGES AND GRADE SEPARATIONS					
ID	Facility	Type	Status	Juris	Comments
I-5702	I-40 Managed Lane Access (Miami Blvd - Page Rd)	Int-ML	Rec	DurCity	Managed lane access
--	I-40/SR 1973 Page Rd	Int	Ex	DurCity	--
I-5702	I-40/I-540	Int-ML	NI	DurCity	with I-40 improvements, or stand alone
ORAN0502-H	I-85/US 70 Connector interchange upgrade	Int	NI	OR	Make full access interchange at US 70
--	I-85/SR 1006 Orange Grove Rd	GS	Ex	OR	--
I-5967	I-85/SR 1009 S Churton St	Int	NI	Hboro, OR	Improved with I-85 or as stand alone project
ORAN0503-H	I-85/New Collector-Hillsborough	GS	Rec	Hboro, OR	Bike/ped crossing.
--	I-85/Rail	GS	Ex	Hboro, OR	I-85 and mainline railroad; near NC 86 interchange
ORAN0504-H	I-85/NC 86 interchange upgrade	Int	NI	Hboro, OR	Upgrade interchange capacity & road widths
--	I-85/SR 1709 Lawrence Rd	GS	Ex	OR	--
--	I-85/SR 1712 University Station Rd	GS	Ex	OR	--
--	I-85/SR 1713 Mt Hermon Church Rd	GS	Ex	OR	--
--	I-85/US 70	Int	Ex	OR	--
--	I-85/SR 1400 Sparger Rd	GS	Ex	DurCity	--
--	I-85/NC 147	Int	Ex	DurCity	NC 147 on to I-85
--	I-85/SR 1401 Cole Mill Rd	Int	Ex	DurCity	--
--	I-85/US 15-501	Int	Ex	DurCity	--
--	I-85/SR 1321 Hillandale Rd	Int	Ex	DurCity	--
--	I-85/NC 157 Guess Rd/SR 1322 Guess Rd	Int	Ex	DurCity	--
--	I-85/Broad St	GS	Ex	DurCity	--
--	I-85/US 15-501 N Duke St/SR 1445 N Duke St	Int	Ex	DurCity	--
--	I-85/Washington St	GS	Ex	DurCity	--
--	I-85/W Club Blvd	GS	Ex	DurCity	--
--	I-85/US 15-501 Bus N Roxboro St	Int	Ex	DurCity	--
--	I-85/NC 55 Avondale Dr	Int	Ex	DurCity	--
--	I-85/SR 1671 Camden Ave	GS	Ex	DurCity	I-85 and Cameron
--	I-85/Rail	GS	Ex	DurCity	Near Camden Av
DURH0510-H	I-85/Alston Ave Extension	GS	Rec	DurCity	I-85 and Alston Av Ext
--	I-85/US 70	Int	Ex	DurCity	--
--	I-85/SR 1709 Midland Terrace	GS	Ex	DurCity	--
DURH0511-H	I-85/SR 1671 E Club Blvd	Int	NI	DurCity, Dur	Improved w/I-85 widening, or independent
DURH0512-H	I-85/SR 1699 Glenn School Rd.	Int	NI	DurCity, Dur	Improved w/I-85 widening, or independent
DURH0513-H	I-85/SR 1632 Red Mill Rd	Int	NI	Dur	Improved w/I-85 widening, or independent
--	I-85/SR 1637 Intercept & Rail	GS	Ex	Dur	I-85 / Railroad and Morgan Rd.
DURH0514-H	I-85/SR 1637 Redwood Rd	Int	NI	Dur	Improved w/I-85 widening, or independent

HIGHWAY -- INTERCHANGES AND GRADE SEPARATIONS					
ID	Facility	Type	Status	Juris	Comments
<b>US Highways</b>					
U-5304A	US 15-501/NC 54/Columbia St Interchange	Int	NI	CH	Propose interchange upgrade
U-5304E	US 15-501/Manning Dr	Int	NI	CH	2016-2017 feasibility study
U-5774A	US 15-501/NC 54 Interchange upgrade	Int	NI	CH	Proposed Interchange; U-5774A is same project
U-5550	US 15-501/Ephesus Ch Rd	Int	NI	CH	Intersection upgrade; also TIP U-5304C
--	US 15-501/SR 1010 E Franklin St	Int	Ex	CH	--
ORAN0505-H	US 15-501/Sage Rd	Int	NI	CH	Update current intersection
DURH0532-H	US 15-501/Mt Moriah Rd grade separation	GS	Rec	DurCity	US15-501 fut. intrchg/grade sep. TBD w/corr study.
DURH0533-H	US 15-501/SWDD grade separation	Int	Rec	DurCity	US15-501 fut. intrchg/grade sep. TBD w/corr study.
DURH0534-H	US 15-501/Third Crossing Rd grade separation	GS	Rec	DurCity	US15-501 fut. intrchg/grade sep. TBD w/corr study.
U-5717	US 15-501/Garrett Rd interchange	Int	Rec	DurCity	Interchange - see adopted corridor plan
--	US 15-501/US 15-501 Bus Durham-Chapel Hill Blvd	Int	Ex	DurCity	--
--	US 15-501/SR 1303 Pickett Rd	GS	Ex	DurCity	--
B-5674	US 15-501/SR 1308 W Cornwallis Rd	Int	NI	DurCity	B-5674 in draft 18-27 TIP
--	US 15-501/NC 751 Cameron Blvd	Int	Ex	DurCity	--
DURH0535-H	US 15-501/Morrenne Rd interchange	Int	NI	DurCity	Coord improve. w/NC 147 & H'boro Rd interchanges
--	US 15-501/Rail	GS	Ex	DurCity	Near US 15-501/NC 147 interchange
DURH0536-H	US 15-501/Hillsborough Rd interchange	Int	NI	DurCity	Coord improve w/ NC 147 & Morreene Rd interchanges
--	US 15-501 Bus/NC 751 Academy Rd	Int	Ex	DurCity	--
--	US 15-501 Bus/SR 1127 Chapel Hill Rd	Int	Ex	DurCity	--
DURH0541-H	US 15-501 Bus S Roxboro St/Mainline railroad	GS	NI	DurCity	--
--	US 15-501 Bus S Roxboro St/E Ramseur St	GS	Ex	DurCity	--
--	US 15-501 Bus (Mangum St)/Rail	GS	Ex	DurCity	--
U-5516	US 501/Infinity Rd/Latta Rd	Int	Rec	Durham City	Propose major intersection upgrade; PDEA
--	US 70/Rail	GS	Ex	OR	Near US 70 Connector
--	US 70/SR 1670 Geer St	GS	Ex	DurCity	--
DURH0537-H	US 70/SR 1827 Cheek Rd	Int	NI	DurCity	15mph ramp; safety-modernization
U-0071	US 70/NC 98	Int	NI	DurCity	Rebuild existing interchange
--	US 70/Rail	GS	Ex	DurCity	Near US 70/NC98 interchange
U-0071	US 70/US 70 BUS/Carr Rd interchange	Int	NI	DurCity	Carr Rd/US 70 interchange (incl. in EEC const.)
U-0071	US 70/EEC	Int	Rec	DurCity	Freeway to freeway
U-0071	US 70/Pleasant Rd grade separation	GS	Rec	DurCity, Dur	New grade separation (or interchange)(Lynn Ext?)
U-5720	US 70/Lynn Rd Ext interchange	Int	Rec	DurCity, Dur	New interchange(or grade separation)(Pleasant Rd?)

HIGHWAY -- INTERCHANGES AND GRADE SEPARATIONS					
ID	Facility	Type	Status	Juris	Comments
U-5720	US 70/Miami Blvd interchange	Int	Rec	DurCity, Dur	New interchange to accommodate US 70 freeway; PDEA
DURH0538-H	US 70/Angier Av interchange	Int	Rec	DurCity, Dur	New interchange with extension of Angier Av to NDP
DURH0539-H	US 70/Page Rd Ext/Leesville grade sep.	GS	Rec	DurCity, Dur	New grade separation with US 70 becoming freeway
DURH0540-H	US 70/NDP	Int	Rec	DurCity, Dur	TW Alexander less than 1 mile
--	US 70 Bus Hillsborough Rd/SR 1321 Hillandale Rd	GS	Ex	DurCity	--
--	US 70 Bus Main Street/Campus Dr	GS	Ex	DurCity	--
--	US 70 Bus (Holloway St)/Rail	GS	Ex	DurCity	--
--	US 70 Bus S Miami Blvd/Rail	GS	Ex	DurCity	--
<b>NC Routes</b>					
--	NC 147/SR 1999 Davis Dr	Int ML	Ex	DurCity, Dur	--
--	NC 147/SR 1978 Hopson Rd	Int ML	Ex	DurCity, Dur	--
DURH0517-H	NC 147/NC 54	GS	NI	DurCity, Dur	Functionally obsolete bridge
DURH0518-H	NC 147/SR 1121 E Cornwallis Rd	Int	NI	DurCity, Dur	Functionally obsolete
--	NC 147/SR 2028 T W Alexander Dr	Int	Ex	DurCity, Dur	--
--	NC 147/SR 1954 Ellis Rd	Int	Ex	DurCity, Dur	--
--	NC 147/Glover Rd interchange (None)	GS	Ex	DurCity, Dur	Too expensive; 1 quad built; 1 quad dev't in rev.
U-5934	NC 147/EEC	Int	Rec	DurCity, Dur	Freeway to freeway
--	NC 147/CSX rail line	GS	Ex	DurCity	Near Ellis Rd/Pettigrew St
--	NC 147/SR 1171 Ellis Rd	GS	Ex	DurCity	--
--	NC 147/S Briggs Ave	Int	Ex	DurCity	--
--	NC 147/Bacon St	GS	Ex	DurCity	--
DURH0519-H	NC 147/NC 55 S Alston Ave	Int	NI	DurCity	Functionally obsolete bridge
DURH0520-H	NC 147/Grant St	GS	NI	DurCity	Functionally obsolete bridge
--	NC 147SR 1118 Fayetteville St	Int	Ex	DurCity	--
DURH0521-H	NC 147/US 15-501 Bus N S Roxboro St	Int	NI	DurCity	Functionally obsolete bridge
DURH0522-H	NC 147/US 15-501 Bus (S Mangum St)	GS	NI	DurCity	Functionally obsolete bridge
--	NC 147/Blackwell St	GS	Ex	DurCity	--
DURH0523-H	NC 147/SR 1445 S Duke St	Int	NI	DurCity	Functionally obsolete bridge
DURH0524-H	NC 147/SR 1361 Vickers Ave	GS	NI	DurCity	Functionally obsolete bridge
DURH0525-H	NC 147/SR 1127 W Chapel Hill St	Int	NI	DurCity	Functionally obsolete bridge
--	NC 147/S Buchanan Blvd	GS	Ex	DurCity	--
--	NC 147/Campus Dr	GS	Ex	DurCity	--
--	NC 147/SR 1322 Broad St/Swift Ave	Int	Ex	DurCity	--
--	NC 147/SR 1320 Erwin Rd	GS	Ex	DurCity	--
DURH0526-H	NC 147/Anderson St	GS	NI	DurCity	Functionally obsolete bridge

HIGHWAY -- INTERCHANGES AND GRADE SEPARATIONS					
ID	Facility	Type	Status	Juris	Comments
--	NC 147/Elba St	Int	Ex	DurCity	--
DURH0527-H	NC 147/Rail	GS	NI	DurCity	Functionally obsolete bridge; DUMC access
--	NC 147/SR 1321 Fulton St/Hillandale Rd	Int	Ex	DurCity	--
DURH0528-H	NC 147/S Lasalle St	GS	NI	DurCity	Functionally obsolete bridge
DURH0529-H	NC 147/US 15-501 interchange	Int	NI	DurCity	Coord improve. w/H'boro Rd & Morrenne interchanges
--	NC 147/SR 1314 Neal Rd	GS	Ex	DurCity	--
--	NC 147/Rail	GS	Ex	DurCity	Near I-85/NC 147 interchange
--	NC 147/US 70 Bus Hillsborough Rd	GS	Ex	DurCity	NC 147 overpass US 70 Bus (Hillsborough Rd)
--	NC 147/US 70 Bus Hillsborough Rd	GS	Ex	DurCity	NC 147 overpass US 70 Bus (H'boro Rd)
--	NC 54/SR 1005 Jones Ferry Rd	Int	Ex	Carr	--
--	NC 54/SR 1919 Smith Level Rd	Int	Ex	Carr	--
U-5774B	NC 54/Barbee Chapel Rd interchange	Int	NI	CH	NC 54 Study=interchange but CH does not want it
U-5774D	NC 54/Falconbridge Rd interchange	Int	Rec	DurCity	Interchange based on NC 54 corridor study
U-5774E	NC 54/Farrington Rd bridge (coord. slip ramp)	GS	Rec	DurCity	Grade sep Farrington over NC 54; coord. w/U-5774D (I-40/slip ramp)
--	NC 54/Mainline railroad	GS	Ex	DurCity, Dur	--
--	NC 540/SR 2104 Slater Rd	GS	Ex	Dur	--
DURH0530-H	NC 55/MLK Pkwy interchange	Int	Rec	DurCity	Interchange -- see feasibility study
U-3308	NC 55/E Pettigrew St.	GS	NI	DurCity	Part of U-3308 (Alston Av improvements)
U-3308	NC 55 (Alston Av)/Rail	GS	NI	DurCity	Part of U-3308 (Alston Av improvements)
--	NC 55 (Avondale Dr)/Rail	GS	Ex	DurCity	--
R-5825	NC 751/O'Kelly Ch Rd	Int	NI	Chat	Upgrade, realign intersection; TIP R-5825
--	NC 751/Rail	GS	Ex	OR	Near US 70/Old NC 10 intersection
--	NC 86/Rail	GS	Ex	OR	Near NC 86/Old NC 10 intersection
<b>Secondary and Local Roads</b>					
DURH0501-H	Briggs Ave Ext/CSX rail	GS	Rec	DurCity	Grade separate future Briggs Av Ext & CSX rail
DURH0502-H	Briggs Av/NS Rail bridges (2)	GS	Rec	DurCity	Grade separate Briggs/Guthrie over rail; see TSS
--	Campus Drive/Mainline railroad	GS	Ex	DurCity	--
--	Churton St SR 1009/Rail	GS	Ex	Hboro, OR	--
DURH0503-H	Cornwallis Rd/NS Rail bridge	GS	Rec	DurCity, Dur	Grade separate Cornwallis under rail; see TSS
ORAN0501-H	Dimmocks Mill Rd SR 1396/Rail	GS	NI	Hboro	In SPOT 4.0
--	E Geer St SR 1670/Rail	GS	Ex	DurCity	Near Avondale Dr intersection
--	E Geer St SR 1670/Rail	GS	Ex	DurCity, Dur	Near Junction Rd intersection
U-0071	EEC/E Pettigrew Extension	GS	Rec	DurCity, Dur	EEC plans for this underpass?
U-0071	EEC/Rail	GS	Rec	DurCity, Dur	EEC over railroad tracks
U-0071	EEC/SR 1926 Angier Ave	GS	Rec	DurCity	EEC over Angier Ave



HIGHWAY -- INTERCHANGES AND GRADE SEPARATIONS					
ID	Facility	Type	Status	Juris	Comments
DURH0504-H	Ellis Rd/NS Rail bridge & road (west)	GS	Rec	DurCity	Grade separate Ellis/NS rail; See TSS alternatives
DURH0505-H	Ellis Rd/NS Rail bridge & realignment (east)	GS	Rec	DurCity	Grade separate Ellis Rd over rail; see TSS
--	Erwin Rd SR 1320/Rail	GS	Ex	DurCity	--
DURH0506-H	Glover Rd/NS Rail bridge	GS	Rec	DurCity, Dur	Grade separate Glover Rd over rail; see TSS
DURH0542-H	Gregson St SR 1327/Mainline railroad	GS	NI	DurCity	--
--	Hillandale Rd SR 1321/Rail	GS	Ex	DurCity	--
--	Hopson Rd/Rail grade separation	GS	Ex	DurCity, Dur	Grade separate Hopson Rd and main rail line
--	Neal Rd SR 1314/Rail	GS	Ex	DurCity	Recommended in TSS; near Hillsborough Rd
DURH0531-H	Neal Rd/NS Rail bridge	GS	Rec	DurCity	Grade separate Neil Rd over rails; see TSS
--	Old NC 10 SR 1710/Rail	GS	Ex	OR	Near Buckboard Dr
--	Old NC 10 SR 1710/Rail	GS	Ex	OR	Near University Station Rd
--	Old NC 10 SR 1710/Rail	GS	Ex	OR	Near Old NC 10/Hillsborough Rd transition
U-5848	Orange Grove Connector/Rail	GS	Rec	OR	--
--	Taylor St/Rail	GS	Ex	DurCity	--
--	Trinity Ave/Rail	GS	Ex	DurCity	--
--	TW Alexander Dr SR 2028/Rail	GS	Ex	DurCity, Dur	Near NC 55
--	TW Alexander Dr SR 2028/Rail	GS	Ex	DurCity, Dur	NC 147
--	W Chapel Hill St SR 1127/Duke Beltline railroad	GS	Ex	DurCity	--
--	W Chapel Hill St SR 1127/Mainline railroad	GS	Ex	DurCity	--
DURH0515-H	MLK Pkwy Ext/CSX rail	GS	Rec	DurCity	Bridge -- grade separation
DURH0516-H	MLK Pkwy Extension/S Alston Av	GS	Rec	DurCity	Bridge -- grade separation

## Appendix C

### CTP Inventory and Recommendations

#### Public Transportation and Rail: Assumptions/ Notes:

- ❖ **Local ID:** This Local ID is the same as the one used for the Prioritization Project Submittal Tool. If a TIP project number or 2040 MTP project number exists it is listed as the ID. Otherwise, the following system is used to create a code for each recommended improvement: the first 4 letters of the county name is combined with a 4 digit unique numerical code followed by ‘-T’ for public transportation, or ‘-R’ for rail modes. If a different code is used along a route it indicates separate projects will probably be requested. Also, upper case alphabetic characters (i.e. ‘A’, ‘B’, or ‘C’) are included after the numeric portion of the code if it is anticipated that project segmentation or phasing will be recommended.
- ❖ **Agency:** Agencies or Operators listed are based on agencies currently involved or expected to be involved in planning and/or operations of service or facility.
- ❖ **Existing and Proposed Type:** For Public Transportation, the existing and proposed Types of Public Transportation include Regular Bus routes, Operational Strategies (e.g. Express Bus routes), Park and Ride Lots, and Transit Centers. For the proposed Types of Public Transportation, it could also be listed as ADQ (Adequate), meaning no improvement is recommended for an existing facility.

For Rail, the existing Types of Rail include Freight, Passenger, Rail Station, Bus Station, and Park and Ride. For the proposed Types of Rail, it could also be listed as ADQ (Adequate), ADQ – Corridor Protection (*with limits*), Corridor Protection, Fixed Guideway (Bus Rapid Transit, Commuter Rail, or Light Rail Transit), Rail Stop (Commuter Rail, D-O LRT, or Light Rail), or Multimodal Connector (D-O LRT).

See Public Transportation and Rail Map definitions in Appendix B for more details.

- ❖ **Existing and Proposed Headway:** For existing Bus Routes, general headways are given as Regular, Partial High, High and Peak with estimated AM Peak Headway and Off Peak Headway in minutes (min.) based on information received from the local transit agencies. For the proposed Bus Routes, headways could also be listed as Needs Improvement or ADQ (Adequate).
- ❖ **Existing and Proposed ROW:** The estimated existing or proposed Rail Right-of-Way is based on data from NCDOT Rail Division or GoTriangle (for the Durham-Orange Light Rail Transit, D-O LRT). These Right-of-Way amounts are approximate and may vary.
- ❖ **Proposals for Other Modes:** If there is an improvement recommended for another mode of transportation that relates to the given recommendation, it is indicated by an alphabetic code (H= highway, T= public transportation, R= rail, B= bicycle, P= pedestrian, and M= multi-use path).

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# PUBLIC TRANSPORTATION

Table 22

PUBLIC TRANSPORTATION <sup>1</sup>											
Local ID	Facility/ Route	Section (From - To)	Agency	Dist. (mi)	Existing System		AM Peak Headway (min.)	Off Peak Headway (min.)	Proposed System		Other Modes
					Type	Headway			Type	Headway (Needs Improvement)	
MTP-12, 13	CHT A	Weiner St - Manning Dr	CHT	3.7	Regular Bus	Regular	32	43	Regular Bus	(Needs Improvement)	--
ORAN0101-T	CHT Carrboro BRT Feeder	NC 86 (MLK Jr Blvd) - N Greensboro St	CHT	3.8	--	--	10	20	Regular Bus	Regular	--
MTP-19, 20	CHT Circ Gateway Shuttle	Gateway Station Park and Ride - Farrington Rd	CHT	2.5	--	--	30	60	Regular Bus	Regular	--
MTP-21, 22	CHT Circ Jones Ferry	Jones Ferry Rd - NC 54 - Mason Farm Rd	CHT	3.4	--	--	30	60	Regular Bus	Regular	--
MTP-23, 24	CHT Circ University Mall	Gateway Station Park and Ride - University Mall	CHT	3.6	--	--	30	60	Regular Bus	Regular	--
MTP-25, 26	CHT Circ Witfield-Mt Moriah	Gateway Station Park and Ride - Mt Moriah Rd - Whitfield Rd	CHT	5.4	--	--	30	60	Regular Bus	Regular	--
--	CHT CL	Sage Rd - E Franklin St - UNC Hospital	CHT	8.6	Regular Bus	Regular	60	0	ADQ	ADQ	--
--	CHT CM	UNC F Parking Lot - Cameron Ave - Family Practice - Jones Ferry Park and Ride	CHT	4.7	Regular Bus	Regular	47	49	ADQ	ADQ	--
--	CHT CW	Pittsboro St - W Main St - Jones Ferry Park and Ride	CHT	7.1	Regular Bus	Regular	36	55	ADQ	ADQ	--
--	CHT D	Providence - E Franklin St - Smith Level Rd	CHT	12.6	Regular Bus	Regular	21	33	ADQ	ADQ	--
--	CHT DX	Providence - E Franklin St - Smith Level Rd	CHT	11.7	Regular Bus	Regular	45	0	ADQ	ADQ	--
ORAN0102-T	CHT E	University Mall - Estes Dr - E Weaver St	CHT	5.8	--	--	20	30	Regular Bus	Regular	--
ORAN0103-T	CHT Estes BRT Feeder	Estes Dr (NC 86 (MLK Jr Blvd) - US 15-501 (Fordham Blvd))	CHT	2.2	--	--	10	20	Regular Bus	Regular	--
--	CHT F	Colony Woods Dr - Franklin St - Old Fayetteville Rd (McDougle Elementary)	CHT	11.1	Regular Bus	Regular	32	53	ADQ	ADQ	--
ORAN0104-T	CHT Friday Center Feeder	Friday Center Dr Park and Ride - Meadowmont - Downing Creek	CHT	5.5	--	--	10	20	Regular Bus	Regular	--
MTP-43, 44	CHT G	Estes Dr - Manning Dr	CHT	5.3	Regular Bus	Regular	34	42	Regular Bus	(Needs Improvement)	--
MTP-45, 46	CHT Gateway Carolina North	Gateway Station Park and Ride - Carolina North/NC 86 (MLK Jr Blvd)	CHT	6.7	--	--	10	20	Regular Bus	Regular	--
ORAN0105-T	CHT Gateway Feeder 1	Gateway Station Park and Ride - US 15-501 - Weaver Dairy Rd	CHT	7.4	--	--	10	20	Regular Bus	Regular	--
ORAN0106-T	CHT Gateway Feeder 2	Gateway Station Park and Ride - Weaver Dairy Rd Ext	CHT	7.4	--	--	10	20	Regular Bus	Regular	--
ORAN0107-T	CHT Gateway Feeder 3	Gateway Station Park and Ride - Estes Dr/University Mall	CHT	6.5	--	--	10	20	Regular Bus	Regular	--
ORAN0108-T	CHT Gateway Hamilton Feeder	Gateway Station Park and Ride - Hamilton Rd	CHT	8.6	--	--	10	20	Regular Bus	Regular	--
ORAN0109-T	CHT Gateway UNC Main	Gateway Station Park and Ride - UNC Main Campus	CHT	5.3	--	--	10	20	Regular Bus	Regular	--
ORAN0110-T	CHT Greene Tract	NC 86 (MLK Jr Blvd) - Rogers Rd	CHT	1.7	--	--	5	10	Regular Bus	Regular	--
ORAN0111-T	CHT Hamiton Feeder 1	Ephesus Church Rd - Hamilton Rd	CHT	5.8	--	--	10	20	Regular Bus	Regular	--
MTP-47, 48	CHT HS	Varsity Theater - High School Rd - Eubanks Rd	CHT	7.8	Regular Bus	Regular	30	60	Regular Bus	(Needs Improvement)	--

# PUBLIC TRANSPORTATION

PUBLIC TRANSPORTATION <sup>1</sup>											
Local ID	Facility/ Route	Section (From - To)	Agency	Dist. (mi)	Existing System		AM Peak Headway (min.)	Off Peak Headway (min.)	Proposed System		Other Modes
					Type	Headway			Type	Headway	
--	CHT J	S Greensboro Rd - NC 86 (S Columbia St) - Rock Haven Rd (Rock Creek Apartments)	CHT	8.7	Regular Bus	Regular	15	18	ADQ	ADQ	--
ORAN0112-T	CHT Mason Farm Feeder	Mason Farm Rd-Carrboro - US 15-501	CHT	30.7	--	--	10	20	Regular Bus	Regular	--
MTP-55, 56	CHT N	Village Dr - NC 86 (Columbia St) - Manning Dr	CHT	4.6	Regular Bus	Regular	20	30	Regular Bus	(Needs Improvement)	--
ORAN0113-T	CHT NU	RR Park and Ride - Manning Dr	CHT	4.6	Regular Bus	Regular	20	30	Regular Bus	(Needs Improvement)	--
--	CHT RU	Pittsboro St - Family Practice - UNC F Parking Lot	CHT	3.2	Regular Bus	Regular	16	15	ADQ	ADQ	--
ORAN0114-T	CHT SV	Southern Village Circulator	CHT	1.2	--	--	30	60	Regular Bus	Regular	--
MTP-67, 68	CHT T	Old Durham Rd - Weaver Dairy Dr - Homestead Rd	CHT	6.3	--	--	30	42	Regular Bus	Regular	--
--	CHT U	Bowles Dr - E Franklin St	CHT	3.6	Regular Bus	Regular	15	15	ADQ	ADQ	--
MTP-73, 74	CHT V	Meadowmont - Manning Dr	CHT	5.4	Regular Bus	Regular	30	60	Regular Bus	(Needs Improvement)	--
--	CTN PX	Pittsboro - US 15-501 - UNC Hospital (Chapel Hill) - Manning Dr	CTN	18.2	Regular Bus	Regular	37	0	ADQ	ADQ	--
--	DUKE C1	West Campus - East Campus	DUKE	1.5	Regular Bus	High	5	5	ADQ	ADQ	--
--	DUKE C2	East Campus - West Campus	DUKE	4.2	Regular Bus	Regular	10	10	ADQ	ADQ	--
--	DUKE C3	East Campus - Science Dr	DUKE	3.8	Regular Bus	Regular	15	15	ADQ	ADQ	--
--	DUKE C6	Duke Chapel - East Campus	DUKE	2.1	Regular Bus	Regular	30	30	ADQ	ADQ	--
--	DUKE H1	PG3 Parking Garage - Research Dr (Entry11)	DUKE	1.0	Regular Bus	Regular	10	20	ADQ	ADQ	--
--	DUKE H2	Duke Hospital North - PG3 Parking Garage	DUKE	0.3	Regular Bus	Regular	10	0	ADQ	ADQ	--
--	DUKE H3	Hillsborough Rd - Duke Hospital North	DUKE	1.4	Regular Bus	Regular	13	20	ADQ	ADQ	--
--	DUKE H5	Erwin Rd (Hock Plaza) - Broad St	DUKE	2.0	Regular Bus	Regular	15	15	ADQ	ADQ	--
--	DUKE H6	Research Dr (Entry11) - LaSalle St Park and Ride	DUKE	2.4	Regular Bus	Regular	20	0	ADQ	ADQ	--
--	DUKE H6	LaSalle St Park and Ride - Research Dr (Entry11)	DUKE	1.6	Regular Bus	Regular	20	0	ADQ	ADQ	--
--	DUKE LL	LaSalle St Park and Ride - Morreene Rd - US 70 Bus (Hillsborough Rd)	DUKE	5.7	Regular Bus	Regular	30	30	ADQ	ADQ	--
--	DUKE PR1	Bassett Dr - Research Dr (Entry11)	DUKE	1.3	Regular Bus	Regular	24	24	ADQ	ADQ	--
DURH0101-T	GoDurham 1	Durham Station - Northgate - North Pointe - Guess Rd - Willowdale	GoDurham	7.8	Regular Bus	Partial High	60	60	Regular Bus	(Needs Improvement)	--
DURH0102-T	GoDurham 10	Chapel Hill Rd - South Square - Patterson Place Park and Ride - New Hope Commons	GoDurham	9.2	--	--	60	60	Regular Bus	Regular	--
DURH0103-T	GoDurham 13	Forest Hills - The Boulevard - New Hope Commons	GoDurham	10.9	--	--	10	30	Regular Bus	Regular	--
MTP-187, 188	GoDurham 15	Durham Station - Angier Ave - Brier Creek	GoDurham	11.3	--	--	60	60	Regular Bus	Regular	--
DURH0104-T	GoDurham 21	Carver St - Ben Franklin Blvd - Hebron Rd	GoDurham	5.7	--	--	10	30	Regular Bus	Regular	--

## PUBLIC TRANSPORTATION

PUBLIC TRANSPORTATION <sup>1</sup>											
Local ID	Facility/ Route	Section (From - To)	Agency	Dist. (mi)	Existing System		AM Peak Headway (min.)	Off Peak Headway (min.)	Proposed System		Other Modes
					Type	Headway			Type	Headway	
DURH0105-T	GoDurham 23	Alston Ave - Taylor St - The Village	GoDurham	4.7	--	--	10	30	Regular Bus	Regular, Peak High	--
DURH0106-T	GoDurham 24	NC 54 - Southpoint - RTP	GoDurham	11.1	--	--	10	30	Regular Bus	Regular	--
DURH0107-T	GoDurham 25	NC 55 (E Club Blvd - NC 54)	GoDurham	10.3	Regular Bus	Regular	10	30	Regular Bus	(Needs Improvement)	--
DURH0108-T	GoDurham 26	Southpoint - Duke/VA Hospital - Hillandale Rd	GoDurham	15.6	--	--	10	30	Regular Bus	Regular	--
DURH0109-T	GoDurham 27	MLK Parkway - South Square	GoDurham	6.1	--	--	10	30	Regular Bus	Regular	--
DURH0110-T	GoDurham 29	Avondale Dr (NC 55) - Horton Rd - Rose of Sharon Rd (Riverside HS)	GoDurham	9.0	Regular Bus	Regular	10	30	Regular Bus	(Needs Improvement)	--
DURH0111-T	GoDurham 2N	E Geer St - The Village	GoDurham	4.1	--	--	10	30	Regular Bus	Partial High	--
DURH0112-T	GoDurham 2S	E Main St - Briggs Ave - The Village	GoDurham	3.8	Regular Bus	Partial High	10	30	Regular Bus	(Needs Improvement)	--
DURH0113-T	GoDurham 31	Hillsborough Rd - Duke Hospital - Club Blvd	GoDurham	11.2	Regular Bus	Regular	10	30	Regular Bus	(Needs Improvement)	--
DURH0114-T	GoDurham 34	Leigh Village - Woodcroft - RTP	GoDurham	10.8	--	--	10	30	Regular Bus	Regular	--
DURH0115-T	GoDurham 36	Duke/VA Hospital - Crest St - American Village	GoDurham	3.1	--	--	30	60	Regular Bus	Regular	--
DURH0116-T	GoDurham 3G	The Village - Geer St E - Glenview Station	GoDurham	6.2	--	--	10	30	Regular Bus	Partial High	--
DURH0117-T	GoDurham 3M	The Village - NC 98 - Miami Blvd	GoDurham	13.4	--	--	10	30	Regular Bus	Partial High	--
DURH0118-T	GoDurham 3S	The Village - NC 98 - Southern HS	GoDurham	6.2	Regular Bus	Partial High	10	30	Regular Bus	(Needs Improvement)	--
DURH0119-T	GoDurham 4	N Roxboro Rd - Durham Regional Hospital - Northern HS	GoDurham	8.8	--	--	30	60	Regular Bus	Partial High	--
DURH0120-T	GoDurham 5	Southpoint - Fayetteville St - NCCU - Duke	GoDurham	10.3	--	--	30	60	Regular Bus	High	--
DURH0121-T	GoDurham 7	S Roxboro St - Weaver St - Leigh Village	GoDurham	10.4	Regular Bus	Regular	10	30	Regular Bus	(Needs Improvement)	--
DURH0122-T	GoDurham 8	Lawson St - NCCU - Durham Tech	GoDurham	6.1	--	--	10	30	Regular Bus	Regular	--
DURH0123-T	GoDurham 9	Durham Station - W Main St - Broad St - E Carver St	GoDurham	5.8	--	--	10	30	Regular Bus	Regular	--
--	GoTriangle 46	RTP Shuttle Northeast	GoTriangle	4.8	Regular Bus	Regular	30	60	ADQ	ADQ	--
--	GoTriangle 47	RTP Shuttle Northwest	GoTriangle	3.5	Regular Bus	Regular	30	30	ADQ	ADQ	--
--	GoTriangle 420	Hillsborough - Chapel Hill	GoTriangle	16.7	Regular Bus	Regular	30	35	ADQ	ADQ	--
--	GoTriangle 700	Durham - RTP	GoTriangle	13.7	Regular Bus	Regular	30	60	ADQ	ADQ	--
--	GoTriangle 800	Chapel Hill - Southpoint - RTP	GoTriangle	15.1	Regular Bus	Regular	10	30	ADQ	ADQ	--
MTP-222, 223	GoTriangle BDX	Butner - Durham Express	GoTriangle	20.0	--	--	10	30	Operational Strategies (Express Bus)	Peak	--
--	GoTriangle CRX	Chapel Hill - Raleigh Express	GoTriangle	31.8	Operational Strategies (Express Bus)	Peak	20	55	ADQ	ADQ	--
DURH0124-T	GoTriangle CRX Spur	Spur to Leigh Village from NC 54	GoTriangle	0.4	--	--	20	55	Operational Strategies (Express Bus)	Peak	--

# PUBLIC TRANSPORTATION

PUBLIC TRANSPORTATION <sup>1</sup>											
Local ID	Facility/ Route	Section (From - To)	Agency	Dist. (mi)	Existing System		AM Peak Headway (min.)	Off Peak Headway (min.)	Proposed System		Other Modes
					Type	Headway			Type	Headway	
--	GoTriangle DRX	Durham - Raleigh Express	GoTriangle	28.5	Operational Strategies (Express Bus)	Peak	25	85	ADQ	ADQ	--
--	GoTriangle ODX	Orange - Durham Express	GoTriangle	24.1	Operational Strategies (Express Bus)	Peak	60	60	ADQ	ADQ	--
MTP-216, 217	GoTriangle RDX	Rougemont - Durham Express	GoTriangle	20.3	--	--	10	30	Operational Strategies (Express Bus)	Peak	--
--	OPT Hillsb Circ	Hillsborough Circulator	OPT	18.9	Regular Bus	Regular	60	0	ADQ	ADQ	--
--	OPT Orange-Chapel Hill Midday Connector	Cedar Grove Community Center to UNC Hospital	OPT	26.3	Regular Bus	Regular	0	60	ADQ	ADQ	--
ORAN0115-T	OPT Orange-Alamance Connector (Fixed-Route)	North Hills Shopping Center to Tanger Outlet Mebane	OPT	12.1	--	--	0	60	Regular Bus	Regular	--
ORAN0116-T	OPT Efland-Hillsborough Commuter Loop (Fixed-Route)	Efland-Cheeks Community Center to UNC Hospital Hillsborough Campus	OPT	22.1	--	--	60	0	Operational Strategies (Express Bus)	Peak	--
ORAN0117-T	OPT Southern Orange County (Deviated Fixed Route)	Southern Orange County Deviated Fixed Route	OPT	38.0	--	--	0	60	Regular Bus	Regular	--
ORAN0118-T	OPT Northwestern Orange County (Deviated Fixed Route)	Northwestern Orange County Deviated Fixed Route	OPT	44.1	--	--	0	60	Regular Bus	Regular	--
ORAN0119-T	OPT Northeastern Orange County (Deviated Fixed Route)	New Bethel Church to Walmart/Home Depot	OPT	28.4	--	--	0	60	Regular Bus	Regular	--
DURH0125-T	Roxboro to Triangle Region	Roxboro - Triangle Region Express	PATS	--	--	--	--	--	Operational Strategies (Express Bus)	Peak	--
ORAN0119-T	White Cross and NC 54 [General Location]	Near White Cross and NC 54 [General Location], Orange Co	CHT/OPT	--	--	--	--	--	Park and Ride	--	--
CHAT0101-T	CHT Proposed Park and Ride (Chatham County)	Near US 15-501 and Jack Bennett Rd, Chatham Co	CHT	--	--	--	--	--	Park and Ride	--	--
CHAT0102-T	CHT Proposed Park and Ride (Chatham County)	Near US 15-501 and Lystra Rd, Chatham Co	CHT	--	--	--	--	--	Park and Ride	--	--
ORAN0120-T	CHT Proposed Park and Ride (Orange County)	Near E Lakeview Dr and US 15-501 (Chapel Hill Blvd), Orange Co	CHT	--	--	--	--	--	Park and Ride	--	--
ORAN0121-T	CHT Proposed Park and Ride (Orange County)	Near NC 54 and Downing Creek, Orange Co	CHT	--	--	--	--	--	Park and Ride	--	--
CHAT0103-T	CHT Proposed Park and Ride (Chatham County)	Near US 15-501 and Smith Level Rd, Chatham Co	CHT	--	--	--	--	--	Park and Ride	--	--
--	725 MLK Jr Blvd. Park and Ride	At 725 MLK Jr Blvd, Orange Co	CHT	--	Park and Ride	--	--	--	ADQ	--	--
--	Carrboro Plaza Park Ride Lot	At Carrboro Plaza, Orange Co	CHT	--	Park and Ride	--	--	--	ADQ	--	--
--	Chatham County Park and Ride	At US 15-501 and Old Lystra Rd, Chatham Co	CHT	--	Park and Ride	--	--	--	ADQ	--	--
--	Eubanks Park and Ride	At Eubanks Rd, Orange Co	CHT	--	Park and Ride	--	--	--	ADQ	--	--
--	Franklin Street Park and Ride	At Franklin Street, Orange Co	CHT	--	Park and Ride	--	--	--	ADQ	--	--



# PUBLIC TRANSPORTATION

PUBLIC TRANSPORTATION <sup>1</sup>											
Local ID	Facility/ Route	Section (From - To)	Agency	Dist. (mi)	Existing System		AM Peak Headway (min.)	Off Peak Headway (min.)	Proposed System		Other Modes
					Type	Headway			Type	Headway	
--	Friday Center Drive Park and Ride	At Friday Center Drive, Orange Co	CHT	--	Park and Ride	--	--	--	ADQ	--	R
--	Hedrick Park and Ride	At Hedrick, Orange Co	CHT	--	Park and Ride	--	--	--	ADQ	--	--
--	Jones Ferry Park and Ride	At Jones Ferry Rd, Orange Co	CHT	--	Park and Ride	--	--	--	ADQ	--	--
--	NC 54 Park and Ride	At NC 54, Orange Co	CHT	--	Park and Ride	--	--	--	ADQ	--	--
--	Southern Village Park and Ride	At Southern Village, Orange Co	CHT	--	Park and Ride	--	--	--	ADQ	--	--
--	751 Garage	At 751 Garage, Durham Co	DUKE	--	Park and Ride	--	--	--	ADQ	--	--
--	Blue Zone/Green Zone (Surface Lots)	At Blue Zone/Green Zone (Surface Lots), Durham Co	DUKE	--	Park and Ride	--	--	--	ADQ	--	--
--	R1 - Greystone-Rutherford/New Lease Lots	At R1 - Greystone-Rutherford/New Lease Lots, Durham Co	DUKE	--	Park and Ride	--	--	--	ADQ	--	--
--	R1 - Hillsborough Road	At R1 - Hillsborough Road, Durham Co	DUKE	--	Park and Ride	--	--	--	ADQ	--	--
--	R2 - Best Products Lot	At R2 - Best Products Lot, Durham Co	DUKE	--	Park and Ride	--	--	--	ADQ	--	--
TE-5205	Alston Avenue Station Park and Ride (Parking Deck)	At Alston Avenue Station (Parking Deck), Durham Co	GoTriangle	--	--	--	--	--	Park and Ride	--	R
TE-5205	Dillard Street Station Park and Ride (North and South Lots)	At Dillard Street Station (North and South Lots), Durham Co	GoTriangle	--	--	--	--	--	Park and Ride	--	--
TE-5205	Gateway Station Park and Ride	At Gateway Station, Durham Co	GoTriangle	--	--	--	--	--	Park and Ride	--	R
DURH0126-T	Hope Valley Commons Shopping Center Park and Ride	At NC 751 and NC 54, at Hope Valley Commons Shopping Center, Durham Co	GoTriangle	--	--	--	--	--	Park and Ride	--	--
TE-5205	Leigh Village Station Park and Ride	At Leigh Village Station, Durham Co	GoTriangle	--	--	--	--	--	Park and Ride	--	R
TE-5205	Martin Luther King Jr. Pkwy Station Park and Ride	At Martin Luther King Jr. Pkwy Station, Durham Co	GoTriangle	--	--	--	--	--	Park and Ride	--	R
DURH0127-T	Rougemont Park and Ride	At Rougemont, Durham Co	GoTriangle	--	--	--	--	--	Park and Ride	--	--
--	American Tobacco North Park and Ride	At W Pettigrew St, Durham Co	GoTriangle/ GoDurham	--	Park and Ride	--	--	--	ADQ	--	--
DURH0128-T	N Roxboro Rd and Latta Rd Park and Ride	At N Roxboro Rd and Latta Rd, Durham Co	GoTriangle/ GoDurham	--	--	--	--	--	Park and Ride	--	--
--	Patterson Place Park and Ride	At Patterson Place, Durham Co	GoTriangle/ GoDurham	--	Park and Ride	--	--	--	ADQ	--	--
TE-5205	South Square Station Park and Ride	At South Square Station, Durham Co	GoTriangle/ GoDurham	--	--	--	--	--	Park and Ride	--	R
--	Durham Tech OCC Park and Ride	At Durham Tech OCC, Orange Co	OPT/ Hillsborough/ GoTriangle	--	Park and Ride	--	--	--	ADQ	--	--
DURH0129-T	Hillsborough Train Station Park and Ride	At Orange Grove Rd Connector, Hillsborough, Orange Co	OPT/ Hillsborough	--	--	--	--	--	Park and Ride	--	R
--	New Hope Church Park and Ride	At New Hope Church, at US 70 and Orange High School Rd, Hillsborough, Orange Co	OPT/ Hillsborough/ GoTriangle	--	Park and Ride	--	--	--	ADQ	--	--
DURH0130-T	US 70 and Pleasant Green Park and Ride	At US 70 and Pleasant Green, Orange Co	OPT/ Hillsborough	--	--	--	--	--	Park and Ride	--	--

## PUBLIC TRANSPORTATION

PUBLIC TRANSPORTATION <sup>1</sup>											
Local ID	Facility/ Route	Section (From - To)	Agency	Dist. (mi)	Existing System		AM Peak Headway (min.)	Off Peak Headway (min.)	Proposed System		Other Modes
					Type	Headway			Type	Headway	
--	Durham Station (Amtrak) Park and Ride	At Durham Rail Station, Durham Co	Rail	--	Park and Ride	--	--	--	ADQ	--	R
DURH0131-T	Northern Durham County (NTC)	At US 501 and Snow Hill Rd, Durham Co	GoTriangle	--	--	--	--	--	Transit Center	--	--
DURH0132-T	Park Center Transit Center Park and Ride	At NC 54, Park Center Transit Center, RTP, Durham Co	GoTriangle/ GoDurham	--	--	--	--	--	Transit Center & Park and Ride	--	--
--	Regional Transit Center	At Slater Rd, Durham Co	GoTriangle	--	Transit Center	--	--	--	ADQ	--	--
TG-5255 B <sup>2</sup>	Southpoint (NTC)	At Southpoint (NTC), Durham Co	GoTriangle/ GoDurham	--	Transit Center	--	--	--	ADQ	--	--
DURH0133-T	The Village (NTC)	At The Village (Hardee St and Fidelity Dr), Durham Co	GoTriangle	--	--	--	--	--	Transit Center	--	--
DURH0134-T	US 70 Transfer Center	At US 70 and Faucette Mill Rd, Hillsborough, Orange Co	OPT/ CHT/ GoTriangle	--	Transit Center	--	--	--	Park and Ride	--	--

<sup>1</sup> Only major public transportation routes and proposals are shown here. For further documentation of the public transportation system, refer to the local transit agencies.

<sup>2</sup> TIP# TG-5255 is a project to "Establish Neighborhood Transit Centers in Durham. (GoTriangle Transit)

B. Neighborhood Transit Center in South Durham in connection with Southpoint Park-and-Ride facility.

E. Neighborhood Transit Center in Southwest Durham in connection with Patterson Place Park-and-Ride facility.

# RAIL

Table 23

RAIL <sup>1</sup>													
Local ID	Facility/ Route	Section (From - To)	Agency (Operator)	Class	Speed Limit (mph)	Dist. (mi)	Existing System			Proposed System			Other Modes
							Type	ROW (ft)	Trains per day	Type	ROW (ft)	Trains per day	
--	CSX SDS-line (D&S Spur)	Genlee, Wake Co to East Durham NS Crossing [MP SDS10.7-SDS2.3]	CSX	Class 1	10	8	Freight	Unknown	Varies	ADQ - Corridor Protection	ADQ	ADQ	--
--	CSX SB-line (Joyland Lead)	W Chapel Hill St to Joyland, Durham [MP SB151.0-SB154.9]	CSX	Class 1	10	2.5	Freight	Unknown	Varies	ADQ	ADQ	ADQ	M
--	NS J-line (State University Railroad)	Glenn to Carrboro, Orange Co [MP H46-J10]	NS	Short Line	10	10.2	Freight	Unknown	Varies	ADQ - Corridor Protection (Eubanks Rd - Hillsborough)	ADQ	ADQ	--
--	NS D-line	Oxford, Granville Co to East Durham [MP D53.15-D86.4]	NS	Class 1	25-35	4	Freight	Unknown	Varies	ADQ	ADQ	ADQ	M
--	NS H-line (NCRR)	Wake Co to Alamance Co [MP H65.5-H32] [STRACNET Corridor]	NS	Class 1	40-55	33.5	Freight & Passenger	approx 200	5-6	ADQ - Corridor Protection (Durham - Hillsborough/ Mebane)	ADQ	ADQ	--
--	NS L-line (Timberlake corridor)	Downtown Durham paralleling US 501 to I-85	NS	--	N/A	2	Freight	Unknown	--	ADQ - Corridor Protection	--	--	M
--	NS L-line (Timberlake corridor)	I-85 to Person Co	NS	--	N/A	21	Inactive	Unknown	--	Corridor Protection (Durham - Treyburn)	--	--	M
--	NS DP-line (Duke Beltline)	Blackwell St to Avondale Dr in downtown Durham	NS	--	N/A	2	Inactive	Unknown	--	Corridor Protection	--	--	M
--	NCDOT DD-line (American Tobacco Trail)	NC 147 (Durham Freeway) to NC 54	NCDOT	--	N/A	6.5	Rails-to-Trails (Inactive)	Unknown	--	ADQ - Corridor Preserved	ADQ	--	M
--	NCDOT DD-line (American Tobacco Trail)	Along Riddle Rd (SR 1171) from D&S Spur toward Fayetteville Rd (SR 1118)	NCDOT	--	N/A	1.8	Rails-to-Trails (Inactive)	Unknown	--	ADQ - Corridor Preserved	ADQ	--	M
--	NCDOT DD-line (American Tobacco Trail)	South Durham to Cary, Chatham Co	NCDOT	--	N/A	6.4	Rails-to-Trails (Inactive)	Unknown	--	ADQ - Corridor Preserved	ADQ	--	M
ORAN0101-R	CHT BRT 15501 [US 15-501, NC 86 (S Columbia St), Mason Farm Rd]	Chatham County Park and Ride on US 15-501 to Mt Moriah Rd, Durham	CHT	--	35-45	10.3	--	--	--	Fixed Guideway (Bus Rapid Transit)	--	High Frequency	--
ORAN0102-R	CHT BRT 54 Local EB [NC 54]	Along NC 54 from Raleigh St, Chapel Hill to I-40, Durham	CHT	--	25-45	7.7	--	--	--	Fixed Guideway (Bus Rapid Transit)	--	High Frequency	--
ORAN0103-R	CHT BRT 54 West [NC 54, NC 86 (S Columbia St)]	Park and Ride near White Cross and NC 54 to NC 86 (S Columbia St), Chapel Hill, Orange Co	CHT	--	25-45	9.1	--	--	--	Fixed Guideway (Bus Rapid Transit)	--	High Frequency	--
ORAN0104-R	CHT BRT North-South Corridor [US 15-501, NC 86 (S Columbia St), Eubanks Rd]	Southern Village Park and Ride on US 15-501 to Eubanks Park and Ride, Chapel Hill, Orange Co	CHT	--	20-45	8.8	--	--	--	Fixed Guideway (Bus Rapid Transit)	--	High Frequency	--
TE-4903B, DURH0001-R	CR Long [NS H-line (NCRR)]	MPO Boundary in Orange Co to Wake Co	GoTriangle	--	--	33.5	--	--	--	Fixed Guideway (Commuter Rail)	--	Regular Frequency	--

# RAIL

RAIL <sup>1</sup>													
Local ID	Facility/ Route	Section (From - To)	Agency (Operator)	Class	Speed Limit (mph)	Dist. (mi)	Existing System			Proposed System			Other Modes
							Type	ROW (ft)	Trains per day	Type	ROW (ft)	Trains per day	
TE-5205	D-O LRT NEPA Preferred Alternative [Mason Farm Rd, US 15-501 (Fordham Blvd), NC 54, I-40, University Dr, Erwin Rd, E Pettigrew St, NC 55 (S Alston Ave)]	UNC Hospital on Mason Farm Rd, Chapel Hill, Orange Co to NCCU-Durham Tech on Alston Ave, Durham	GoTriangle	--	avg 20-35	17.9	--	--	--	Fixed Guideway (Light Rail Transit)	approx 28-62	High Frequency	M
ORAN0105-R	LRT CHT Connector	Connects LRT D-O 2 Long West to Carolina North, Chapel Hill, Orange Co	--	--	--	1.0	--	--	--	Fixed Guideway (Light Rail Transit)	--	Regular Frequency	--
DURH0002-R	LRT D-O 2 Long East [NS H-line (NCRR)]	Connects D-O LRT NEPA Preferred Alt at Alston Ave Station in Durham to Wake Co	--	--	--	16.7	--	--	--	Fixed Guideway (Light Rail Transit)	--	Regular Frequency	--
ORAN0106-R	Fixed Guideway Extension West [Mason Farm Rd, Pittsboro St, NC 86 (S Columbia St), W Franklin St, NS J-line (State University Railroad)]	Connects D-O LRT NEPA Preferred Alt termini at UNC Hospital Station on Mason Farm Rd to Eubanks Park and Ride, Chapel Hill, Orange Co	--	--	--	6.9	--	--	--	Fixed Guideway	--	Regular Frequency	--
ORAN0107-R	Fixed Guideway Extension 2 West [NS J-line (State University Railroad)]	Connects Eubanks Park and Ride, Chapel Hill to NS H-line (NCRR), Orange Co	--	--	--	5.6	--	--	--	Fixed Guideway	--	Regular Frequency	--
TE-4903B	Durham Station (DNC) [Amtrak, Commuter Rail]	At W Main St, Durham, Durham Co	NS	--	--	--	Commuter Rail Station	--	--	ADQ - Rail Stop (Commuter Rail)	--	--	T
DURH0003-R	Briggs Ave Station [CR Long]	At S Briggs Ave, Durham, Durham Co, NC	--	--	--	--	--	--	--	Rail Stop (Commuter Rail)	--	--	
ORAN0108-R	Efland Station [CR Long]	Near Southern Dr, Efland, NC	--	--	--	--	--	--	--	Rail Stop (Commuter Rail)	--	--	
P-5701	Hillsborough Train Station	At Orange Grove Rd Connector, Orange Co	--	--	--	--	--	--	--	Rail Stop (Commuter Rail)	--	--	T
TE-4903B	W Main St Station [CR Long]	At W Main St, Durham, Durham Co, NC	GoTriangle	--	--	--	--	--	--	Rail Stop (Commuter Rail)	--	--	
TE-4903B	North RTP Station [CR Long]	At S Miami Blvd, North of E Cornwallis Rd, Durham, Durham Co, NC	GoTriangle	--	--	--	--	--	--	Rail Stop (Commuter Rail)	--	--	
ORAN0109-R	US 70/I-85 Orange Co Station [CR Long]	North of Old NC 10 and East of Murphy School Rd, Orange Co	--	--	--	--	--	--	--	Rail Stop (Commuter Rail)	--	--	
TE-5205	Alston Avenue Station [D-O LRT Station, Eastern Terminus, Durham]	At Pettigrew St, West of Alston Avenue, Durham, Durham Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	T
TE-5205	Buchanan Boulevard Station [D-O LRT Station]	At Buchanan Boulevard, North of NC 147, Durham, Durham Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	--
TE-5205	Dillard Street Station [D-O LRT Station]	At Dillard Street and Pettigrew St, Durham, Durham Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	T

# RAIL

RAIL <sup>1</sup>													
Local ID	Facility/ Route	Section (From - To)	Agency (Operator)	Class	Speed Limit (mph)	Dist. (mi)	Existing System			Proposed System			Other Modes
							Type	ROW (ft)	Trains per day	Type	ROW (ft)	Trains per day	
TE-5205	Duke / VA Medical Centers Station [D-O LRT Station]	At Erwin Rd, East of Trent Dr and Duke/VA Medical Centers, Durham, Durham Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	--
TE-5205	Durham Station [D-O LRT Station]	At Durham Station Transit Center, Pettigrew St and Chapel Hill St, Durham, Durham Co	GoTriangle	--	--	--	Bus Station	--	--	Multimodal Connector (D-O LRT)	--	--	--
TE-5205	Friday Center Drive Station [D-O LRT Station]	At Friday Center Drive, Chapel Hill, Orange Co	GoTriangle	--	--	--	Park and Ride	--	--	Rail Stop (D-O LRT)	--	--	T
TE-5205	Gateway Station [D-O LRT Station]	At Gateway, Old Chapel Hill Rd and White Oak Rd, Chapel Hill, Durham Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	T
TE-5205	Hamilton Road Station [D-O LRT Station]	At Hamilton Road, Chapel Hill, Orange Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	--
TE-5205	LaSalle Street Station [D-O LRT Station]	At Erwin Rd and LaSalle Street, Durham Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	--
TE-5205	Leigh Village Station [D-O LRT Station]	At Leigh Village, Durham Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	T
TE-5205	Martin Luther King Jr. Parkway Station [D-O LRT Station]	At Martin Luther King Jr. Parkway and University Dr, Durham, Durham Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	T
TE-5205	Ninth Street Station [D-O LRT Station]	At Erwin Rd, South of Ninth Street, Durham, Durham Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	--
TE-5205	Patterson Place Station [D-O LRT Station]	At Patterson Place, McFarland Dr, Durham, Durham Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	T
TE-5205	South Square Station [D-O LRT Station]	At South Square, Shannon Rd, Durham, Durham Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	T
TE-5205	UNC Hospitals Station [D-O LRT Station, Western Terminus, Chapel Hill]	At Mason Farm Rd, Chapel Hill, Orange Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	--
TE-5205	Mason Farm Road Station [D-O LRT Station]	At Mason Farm Road, Chapel Hill, Orange Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	--
TE-5205	Woodmont Station [D-O LRT Station]	At Woodmont, Stancell Dr, Chapel Hill, Durham Co	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	--
TE-5205	NCCU-Durham Tech at Lawson Station	At Lawson St, Durham, NC	GoTriangle	--	--	--	--	--	--	Rail Stop (D-O LRT)	--	--	
DURH0004-R	Angier Ave Station [LRT D-O 2 Long East]	At Angier Ave and Glover Rd, Durham, Durham Co, NC	--	--	--	--	--	--	--	Rail Stop (Light Rail)	--	--	
ORAN0110-R	Brewer Ln Station [LRT D-O 2 Long West]	At Brewer Ln, Carrboro, NC	--	--	--	--	--	--	--	Rail Stop (Light Rail)	--	--	
ORAN0111-R	Cameron Ave Station [LRT D-O 2 Long West]	At Cameron Ave and NC 86 (S Columbia St), Chapel Hill, NC	--	--	--	--	--	--	--	Rail Stop (Light Rail)	--	--	
ORAN0112-R	Church St Station [LRT D-O 2 Long West]	At W Franklin St and Church St, Chapel Hill, NC	--	--	--	--	--	--	--	Rail Stop (Light Rail)	--	--	
ORAN0113-R	Eubanks Rd Station [LRT D-O 2 Long West]	At Seawell School Rd, Carrboro, NC	--	--	--	--	--	--	--	Rail Stop (Light Rail)	--	--	

## RAIL

RAIL <sup>1</sup>													
Local ID	Facility/ Route	Section (From - To)	Agency (Operator)	Class	Speed Limit (mph)	Dist. (mi)	Existing System			Proposed System			Other Modes
							Type	ROW (ft)	Trains per day	Type	ROW (ft)	Trains per day	
ORAN0114-R	Merritt Mill Rd Station [LRT D-O 2 Long West]	At W Franklin St, East of Merritt Mill Rd, Chapel Hill, NC	--	--	--	--	--	--	--	Rail Stop (Light Rail)	--	--	
ORAN0115-R	Seawell School Rd Station [LRT D-O 2 Long West]	At W Franklin St and Church St, Chapel Hill, NC	--	--	--	--	--	--	--	Rail Stop (Light Rail)	--	--	
DURH0005-R	Triangle Metro Center [LRT D-O 2 Long East]	Near NC 54 (S Miami Blvd), Durham, Durham Co, NC	--	--	--	--	--	--	--	Rail Stop (Light Rail)	--	--	
ORAN0116-R	Weaver Dairy Rd Ext Station [LRT D-O 2 Long West]	At Weaver Dairy Rd Ext, Chapel Hill, NC	--	--	--	--	--	--	--	Rail Stop (Light Rail)	--	--	
DURH0006-R	Blackwell-Mangum St Station	Near Blackwell St and Mangum St, Durham, Durham Co, NC	GoTriangle/ GoDurham	--	--	--	--	--	--	Rail Stop (Light Rail)	--	--	

<sup>1</sup> Only major rail line systems and rail/fixed guideway proposals are shown here. For further documentation of the railroad system and rail/fixed guideway, refer to local rail and transit agencies.

## Appendix D

### Typical Cross Sections

Cross section requirements for roadways vary according to the capacity and level of service to be provided. Universal standards in the design of roadways are not practical. Each roadway section must be individually analyzed and its cross section determined based on the volume and type of projected traffic, existing capacity, desired level of service, and available right-of-way. These cross sections are typical for facilities on new location and where right-of-way constraints are not critical. For widening projects and urban projects with limited right-of-way, special cross sections should be developed that meet the needs of the project.

The comprehensive planning and design "typical" highway cross sections, as depicted on the following pages, were updated on May 5, 2014 in response to the Strategic Transportation Investments<sup>1</sup> (STI) law (House Bill 817) and are also consistent with SPOTOnline (used for project prioritization<sup>2</sup>), NCDOT's GIS-based web application for providing automated, near real-time prioritization scores and project costs. This guidance establishes design elements that emphasize safety, mobility, complete streets<sup>3</sup>, and accessibility for multiple modes of travel. These "typical" highway cross sections should be used as guidelines for comprehensive transportation planning, project planning and project design activities. The specific and final cross section details and right of way limits for projects will be established through the preparation of the National Environmental Policy Act<sup>4</sup> (NEPA) documentation and through final design preparation.

On all existing and proposed roadways delineated on the CTP, adequate right-of-way should be protected or acquired for the recommended cross sections. In addition to cross section and right-of-way recommendations for improvements, Appendix C may recommend ultimate needed right-of-way for the following situations:

- ❖ roadways which may require widening after the current planning period,
- ❖ roadways which are borderline adequate and accelerated traffic growth could render them deficient,
- ❖ roadways where an urban curb and gutter cross section may be locally desirable because of urban development or redevelopment, and
- ❖ roadways which may need to accommodate an additional transportation mode.

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<sup>1</sup> For more information on STI, go to: <http://www.ncdot.gov/strategictransportationinvestments/>.

<sup>2</sup> For more information on prioritization, go to: <https://connect.ncdot.gov/projects/planning/Pages/StrategicPrioritization.aspx>.

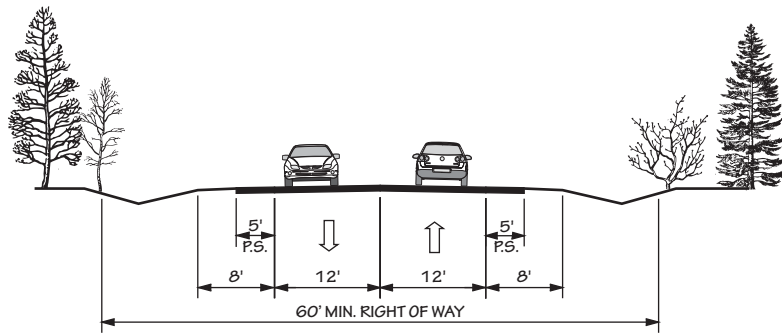
<sup>3</sup> For more information on Complete Streets, go to: <http://www.completestreetsnc.org/>.

<sup>4</sup> For more information on NEPA, go to: <http://ceq.hss.doe.gov/>.



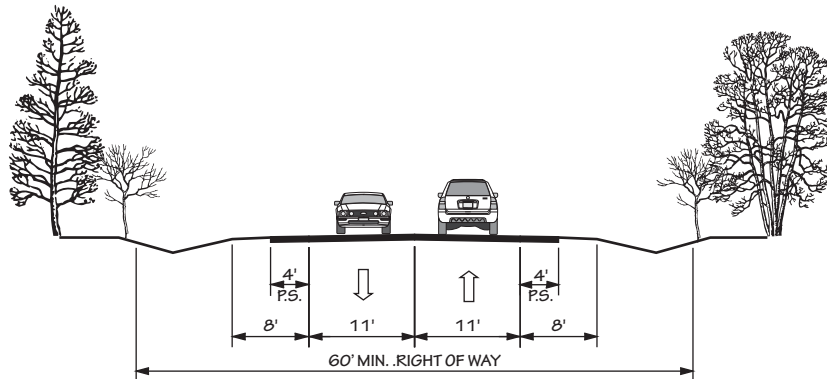
# **FIGURE 29** **“TYPICAL” HIGHWAY CROSS SECTIONS**

2A



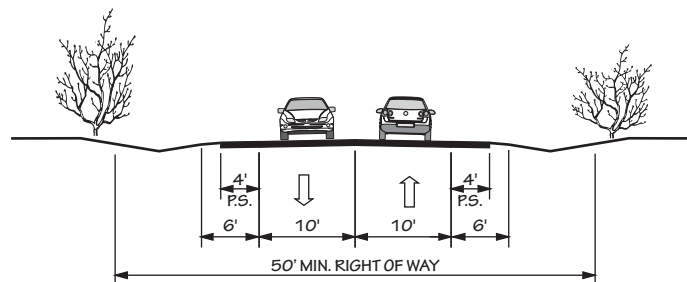
**2 LANE UNDIVIDED WITH PAVED SHOULDERS**  
**POSTED SPEED 55 MPH**

2B



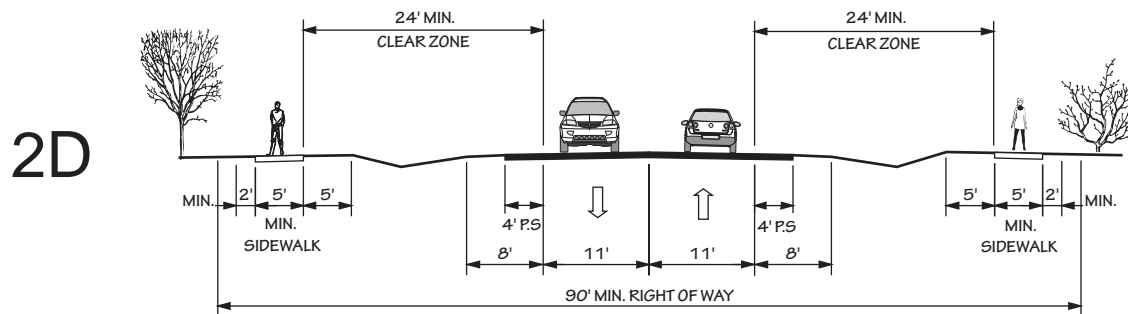
**2 LANES UNDIVIDED**  
**POSTED SPEED 45 MPH OR LESS**

2C

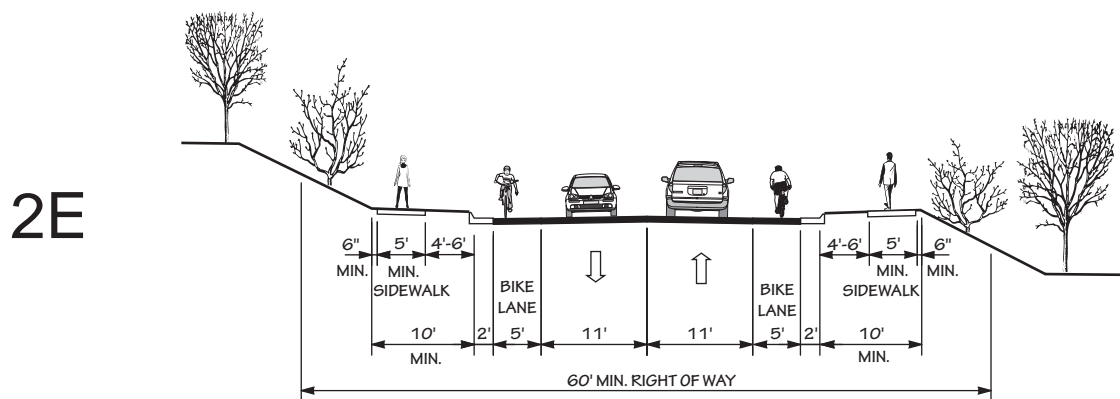


**2 LANE UNDIVIDED WITH PAVED SHOULDERS**  
**POSTED SPEED 25 - 35 MPH**

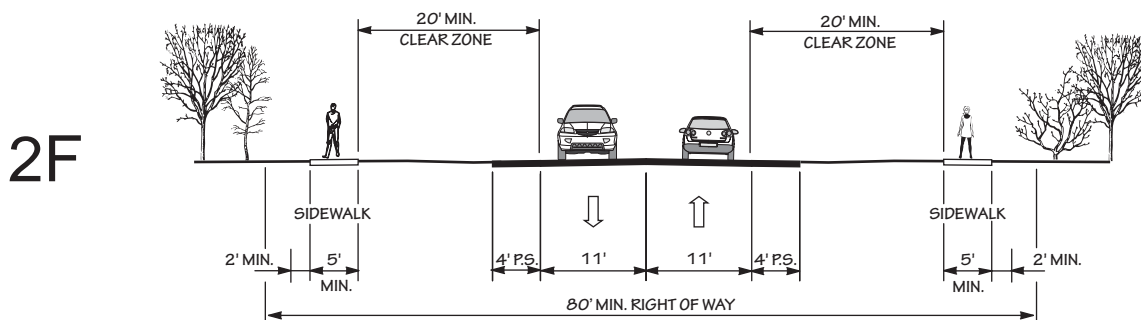
# “TYPICAL” HIGHWAY CROSS SECTIONS



**2 LANE UNDIVIDED WITH PAVED SHOULDERS AND SIDEWALKS**  
**POSTED SPEED 25-45 MPH**

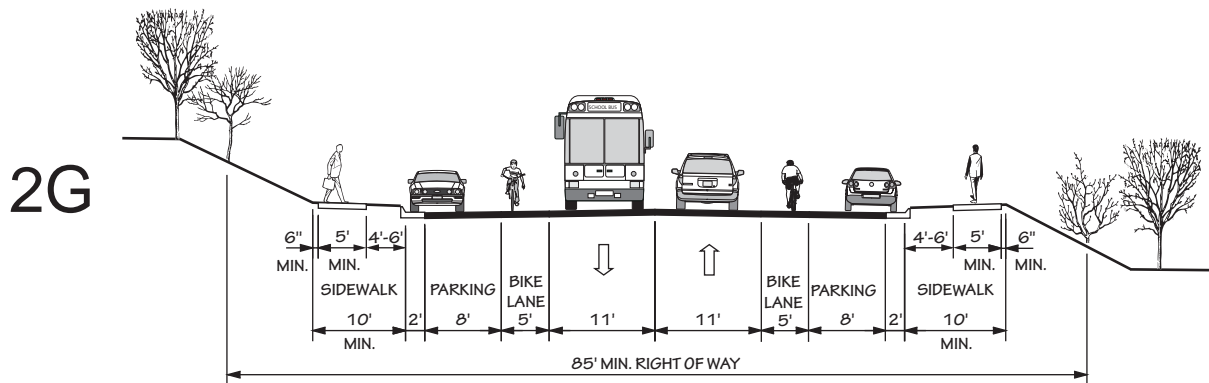


**2 LANE UNDIVIDED WITH CURB & GUTTER, BIKE LANES, AND SIDEWALKS**  
**POSTED SPEED 25-45 MPH**

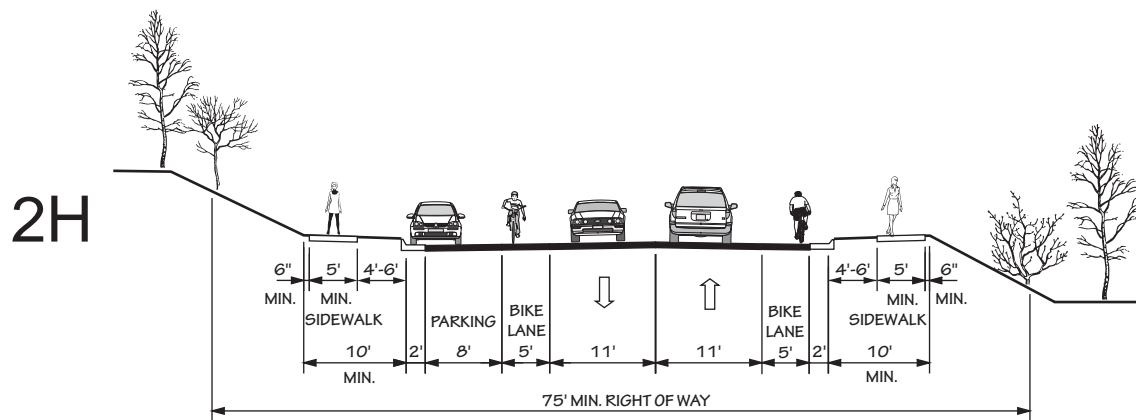


**2 LANE UNDIVIDED WITH PAVED SHOULDERS AND SIDEWALKS**  
**IN CEMA COUNTIES**  
**POSTED SPEED 25-45 MPH**

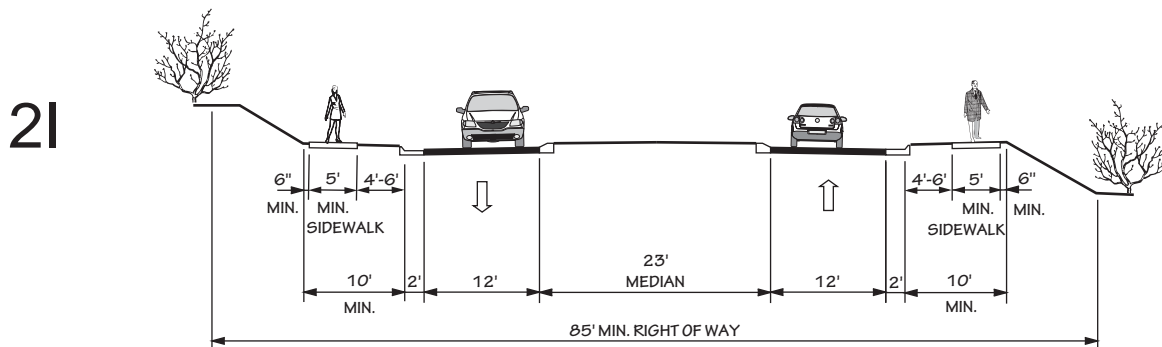
# “TYPICAL” HIGHWAY CROSS SECTIONS



2 LANE UNDIVIDED WITH CURB & GUTTER, PARKING BOTH SIDES,  
BIKE LANES, AND SIDEWALKS  
POSTED SPEED 25-45 MPH



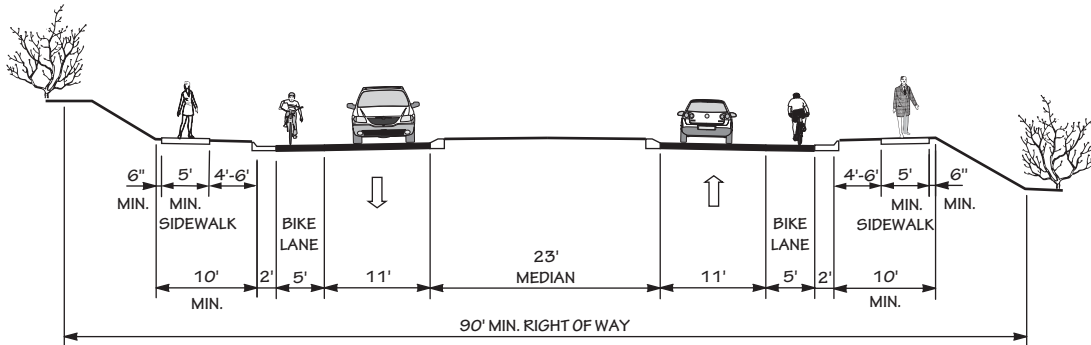
2 LANE UNDIVIDED WITH CURB & GUTTER, PARKING ONE SIDE,  
BIKE LANES, AND SIDEWALKS  
POSTED SPEED 25-45 MPH



2 LANE DIVIDED (23' RAISED MEDIAN)  
WITH CURB & GUTTER AND SIDEWALKS  
POSTED SPEED 25-45 MPH

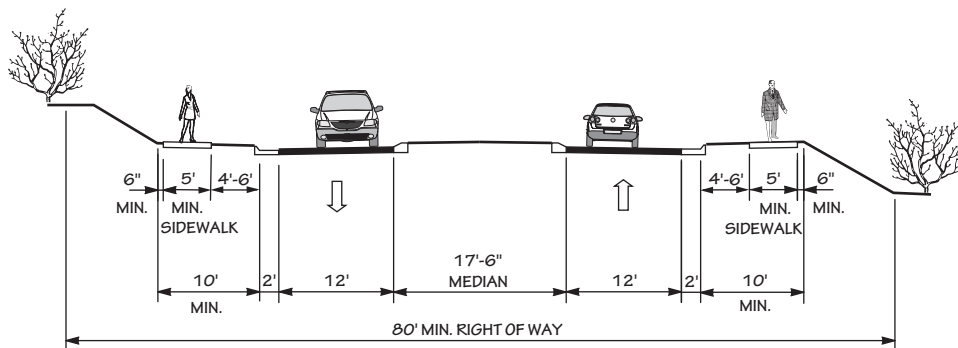
# **“TYPICAL” HIGHWAY CROSS SECTIONS**

**2J**



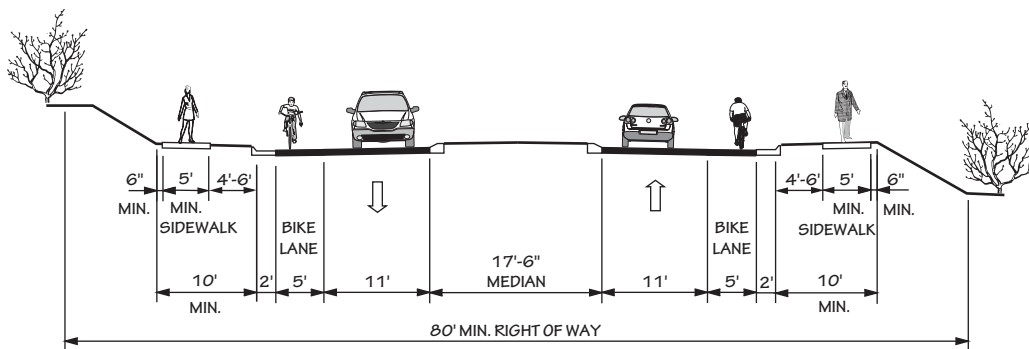
**2 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER,  
BIKE LANES, AND SIDEWALKS**  
POSTED SPEED 25-45 MPH

**2K**



**2 LANE DIVIDED (17'-6" RAISED MEDIAN)  
WITH CURB & GUTTER AND SIDEWALKS**  
POSTED SPEED 25-45 MPH

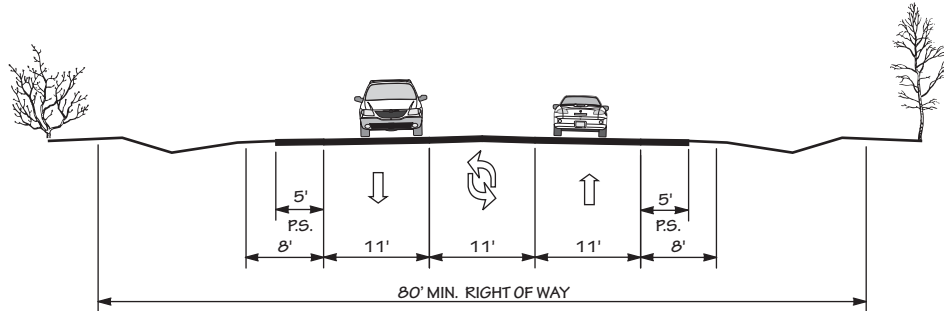
**2L**



**2 LANE DIVIDED (17'-6" RAISED MEDIAN)  
WITH CURB & GUTTER, BIKE LANES, AND SIDEWALKS**  
POSTED SPEED 25-45 MPH

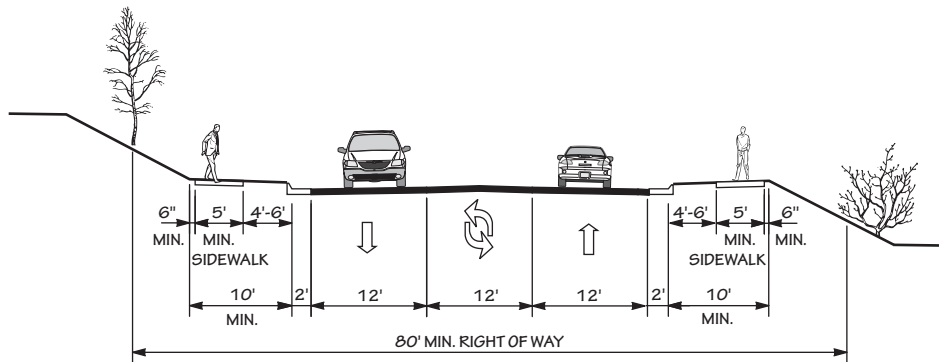
# **“TYPICAL” HIGHWAY CROSS SECTIONS**

3A



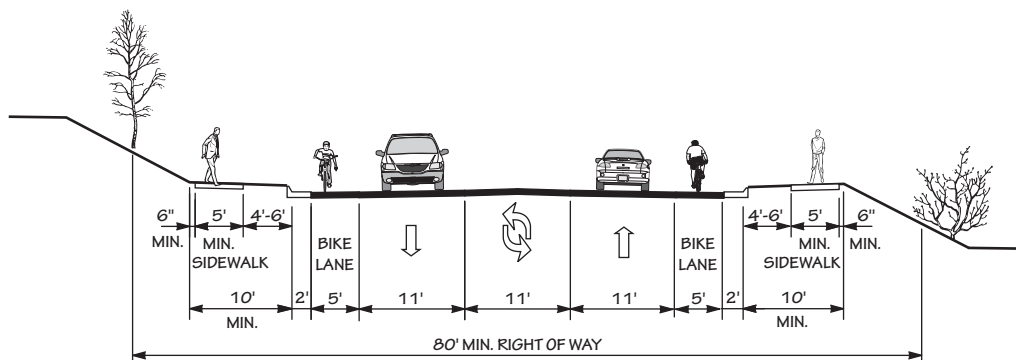
2 LANE WITH TWO WAY LEFT TURN LANE, AND PAVED SHOULDERS  
POSTED SPEED 25-55 MPH

3B



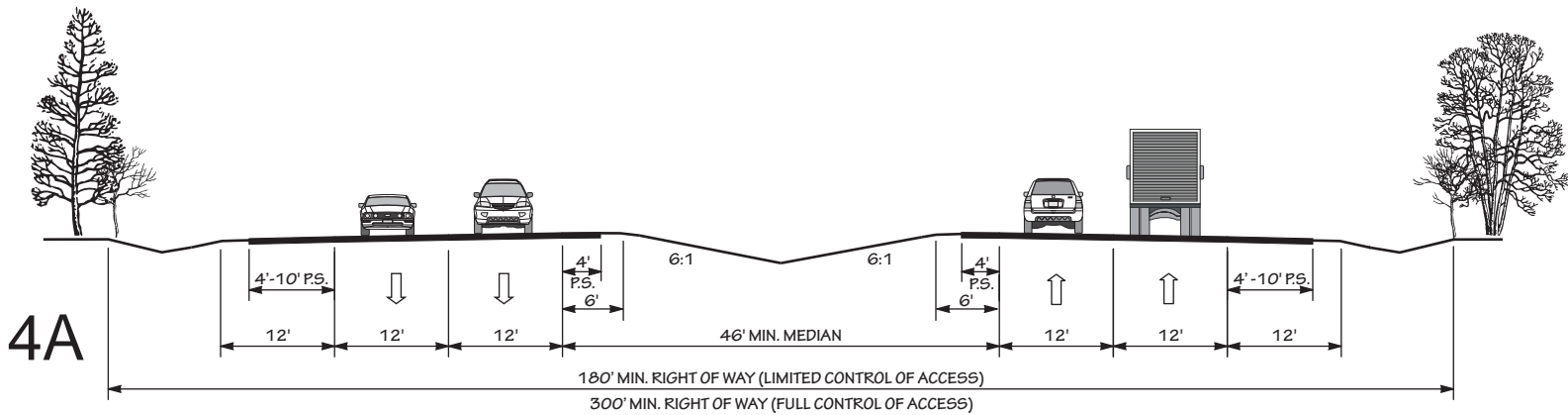
2 LANE WITH TWO WAY LEFT TURN LANE, CURB & GUTTER,  
AND SIDEWALKS  
POSTED SPEED 25-45 MPH

3C

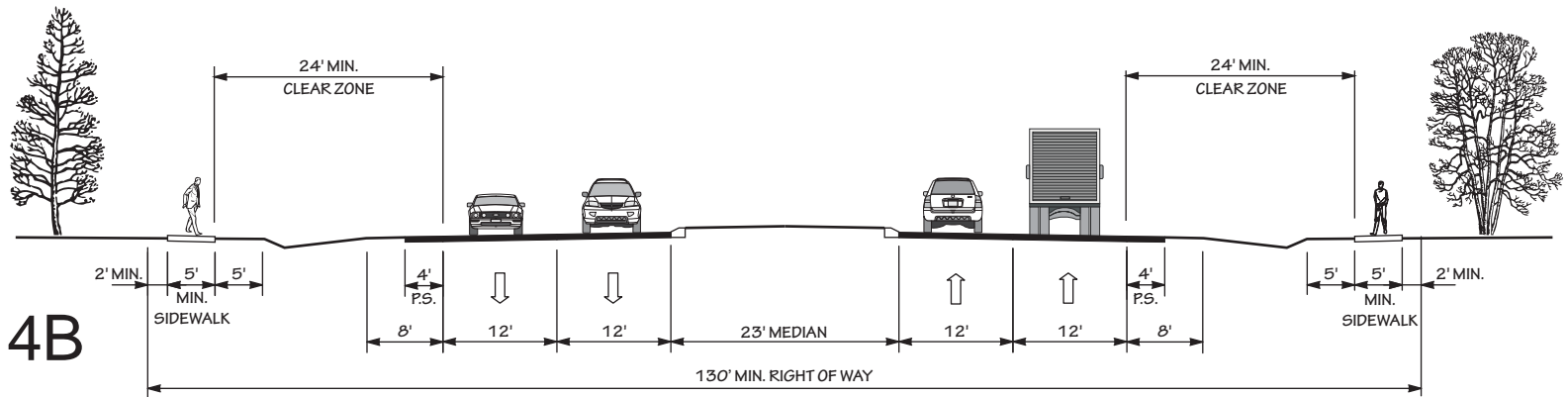


2 LANE WITH TWO WAY LEFT TURN LANE, CURB & GUTTER,  
BIKE LANES, AND SIDEWALKS  
POSTED SPEED 25-45 MPH

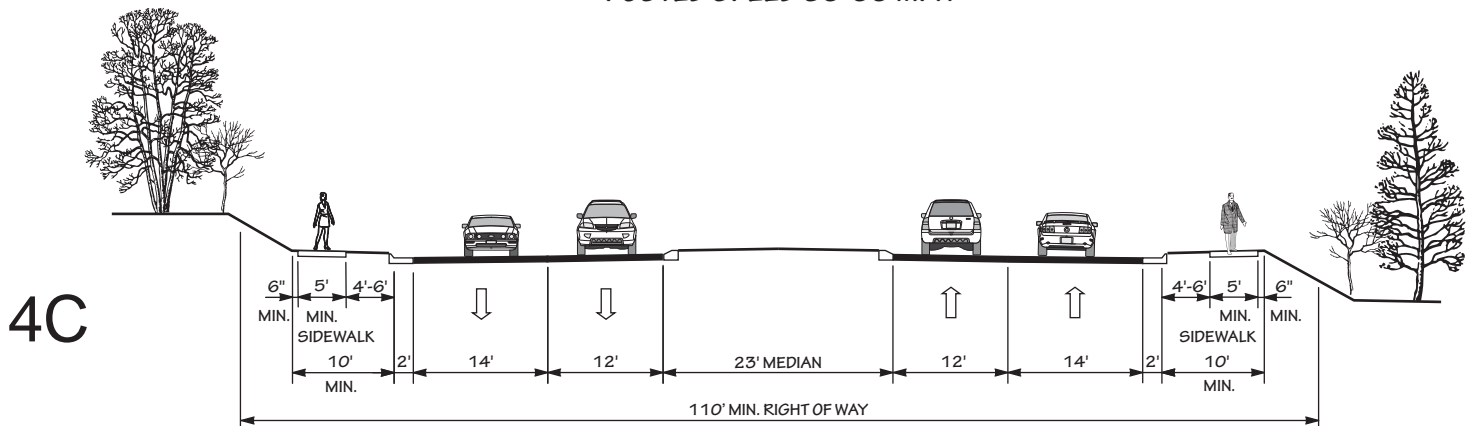
# “TYPICAL” HIGHWAY CROSS SECTIONS



**4 LANE DIVIDED (46' DEPRESSED MEDIAN) WITH PAVED SHOULDERS**  
POSTED SPEED 45-70 MPH

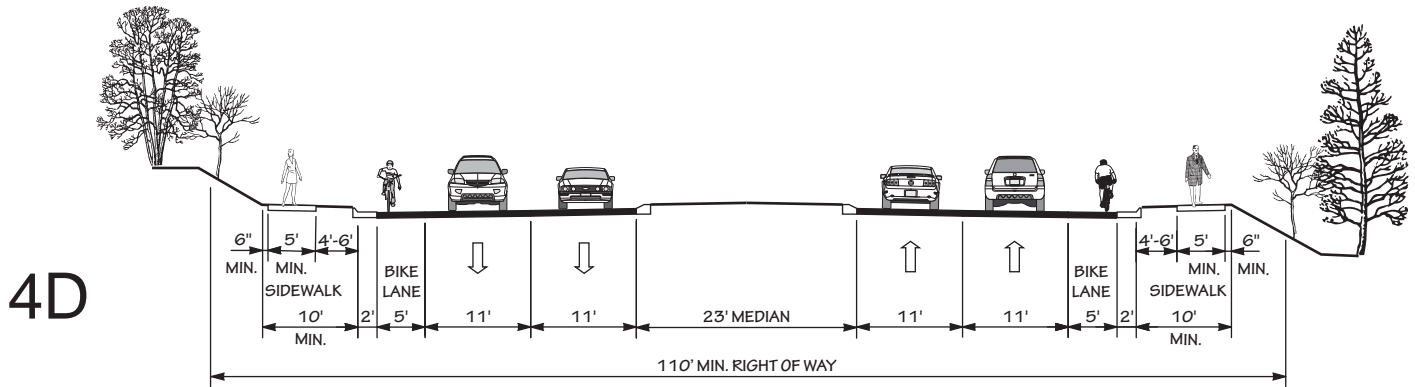


**4 LANE DIVIDED (23' RAISED MEDIAN) WITH PAVED SHOULDERS AND SIDEWALKS**  
POSTED SPEED 35-55 MPH

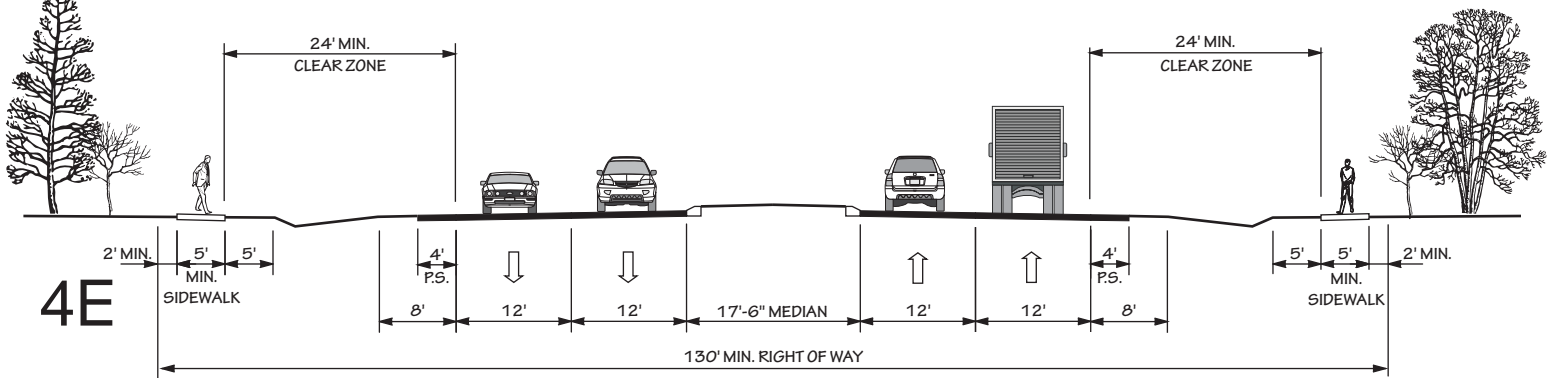


**4 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER, WIDE OUTSIDE LANES, AND SIDEWALKS**  
POSTED SPEED 35-45 MPH

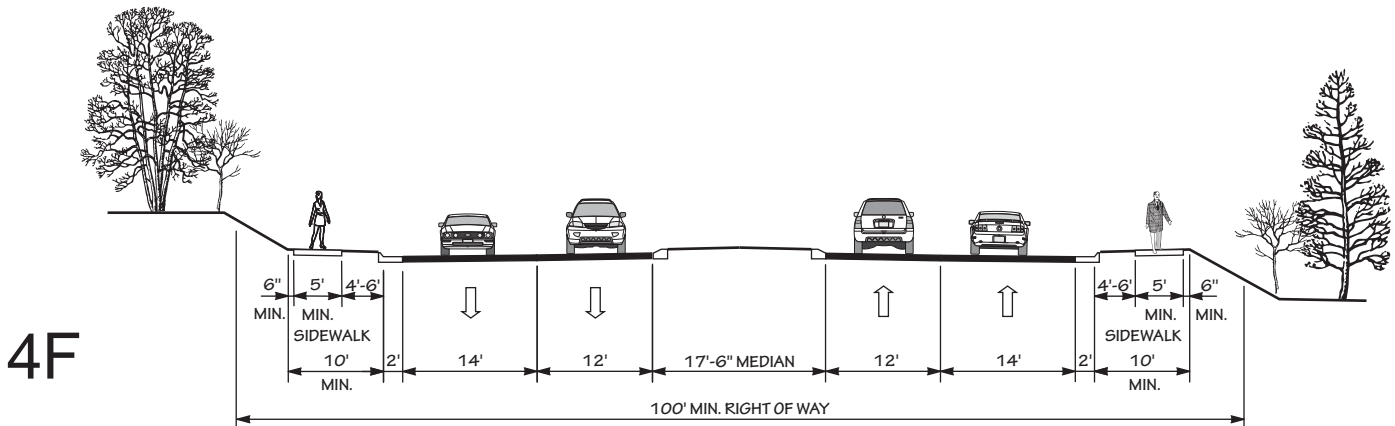
# **“TYPICAL” HIGHWAY CROSS SECTIONS**



**4 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER,  
BIKE LANES AND SIDEWALKS  
POSTED SPEED 35-45 MPH**

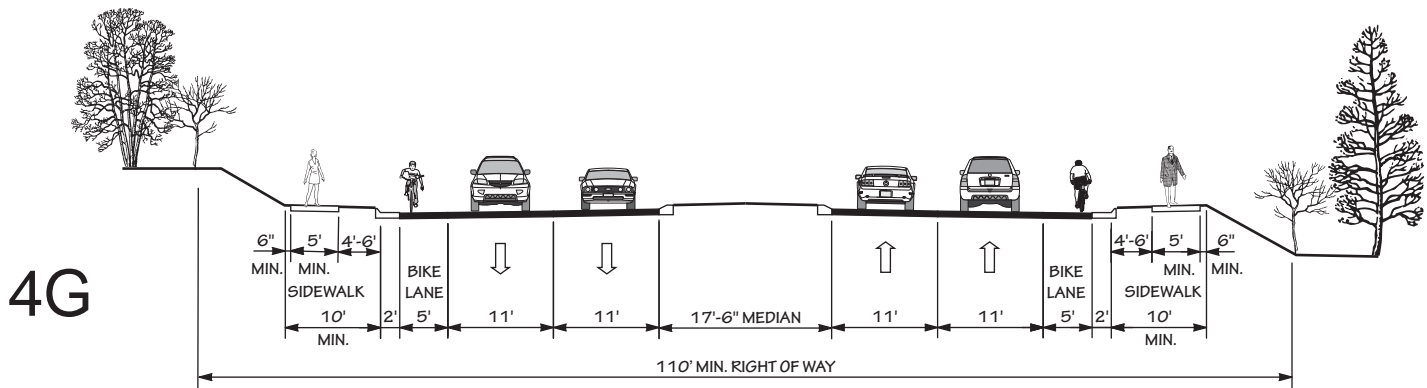


**4 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH  
PAVED SHOULDERS AND SIDEWALKS  
POSTED SPEED 35-55 MPH**

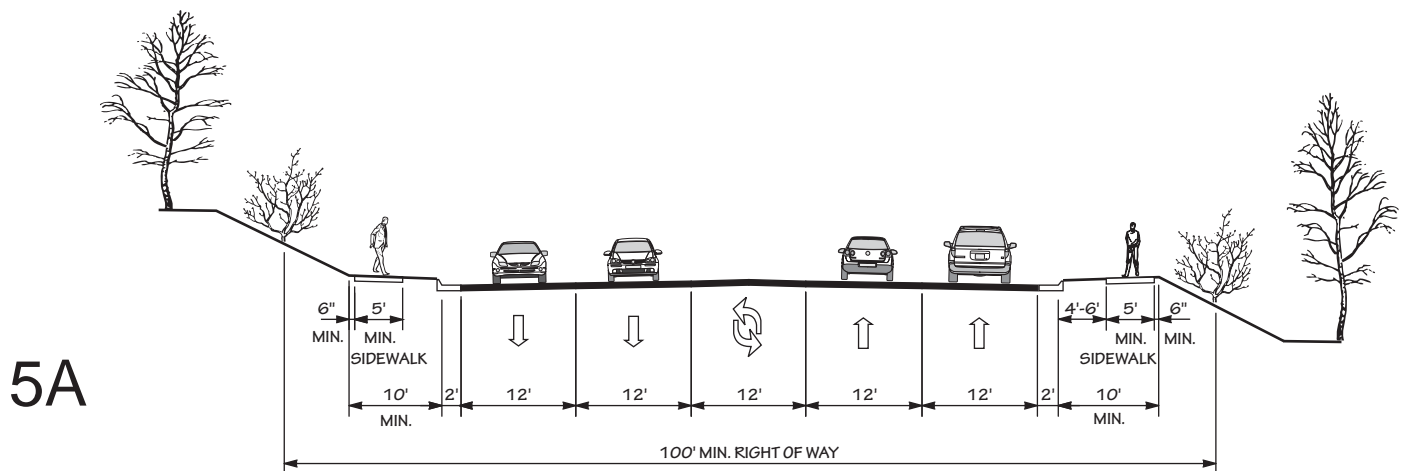


**4 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH CURB & GUTTER,  
WIDE OUTSIDE LANES AND SIDEWALKS  
POSTED SPEED 35-45 MPH**

# “TYPICAL” HIGHWAY CROSS SECTIONS



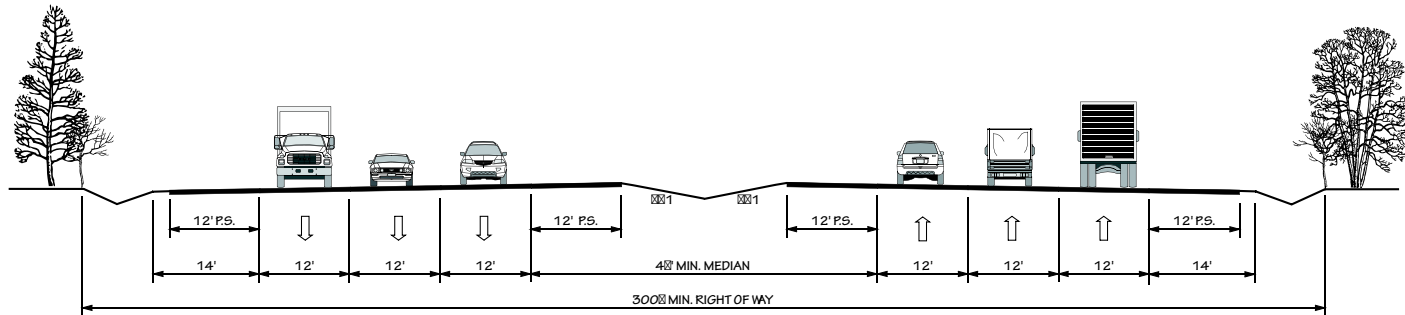
**4 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH CURB & GUTTER,  
BIKE LANES, AND SIDEWALKS  
POSTED SPEED 35-45 MPH**



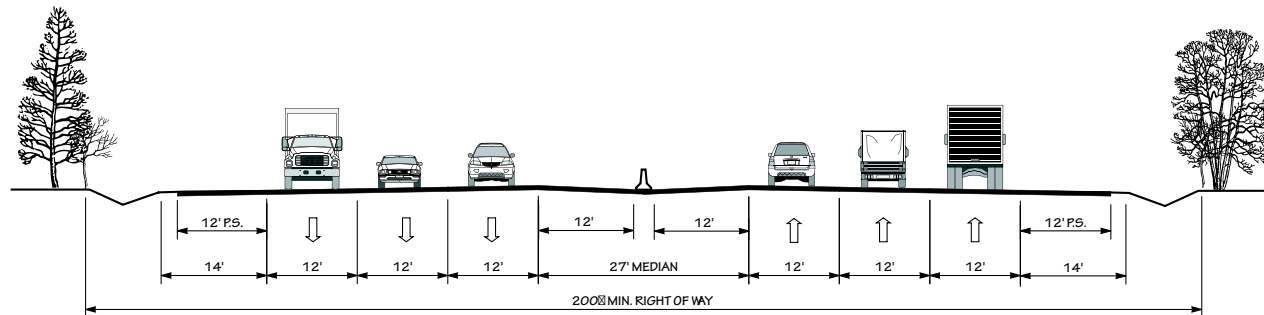
**4 LANE WITH TWO WAY LEFT TURN LANE, CURB & GUTTER,  
AND SIDEWALKS  
POSTED SPEED 35-45 MPH**



## “TYPICAL” HIGHWAY CROSS SECTIONS

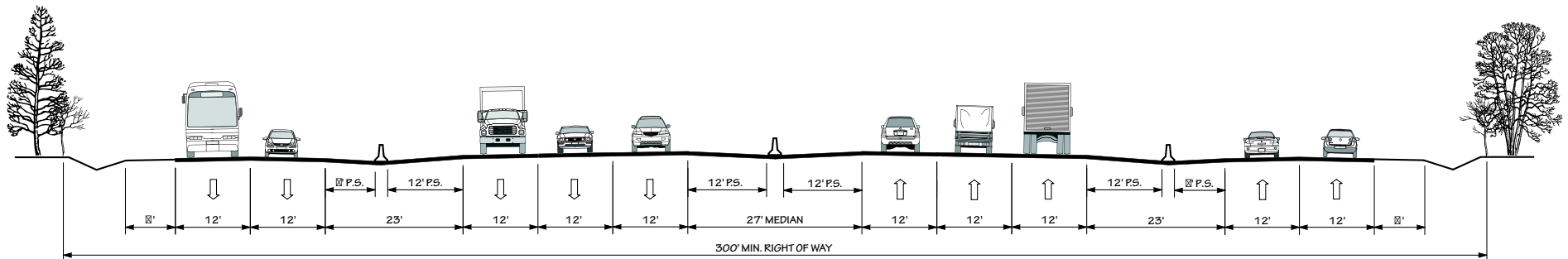


**6A**      6 LANE DIVIDED (46' DEPRESSED MEDIAN) WITH PAVED SHOULDERS  
 POSTED SPEED 45-70 MPH



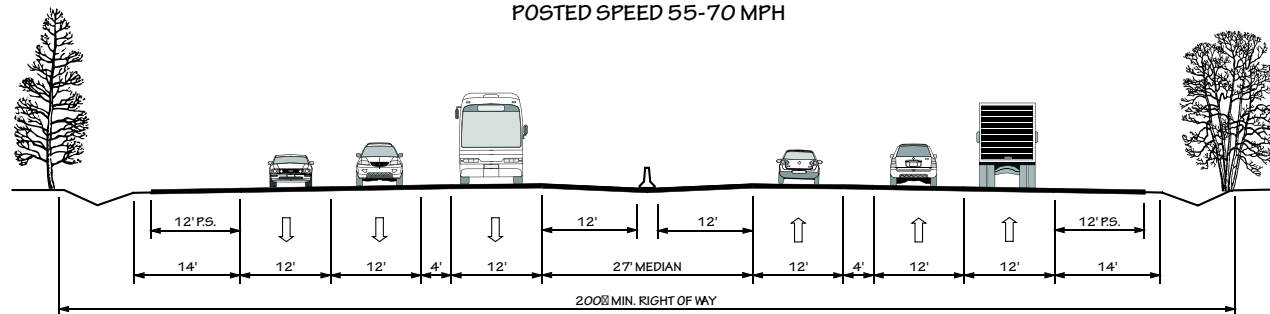
**6B**      6 LANE DIVIDED (27' MEDIAN WITH JERSEY BARRIER)  
 WITH PAVED SHOULDERS  
 POSTED SPEED 55-70 MPH

## “TYPICAL” HIGHWAY CROSS SECTIONS



6C

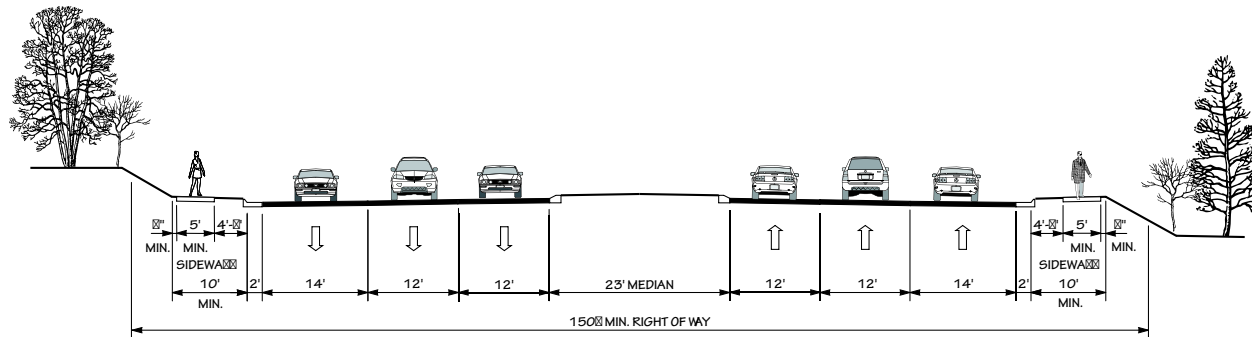
**6 LANE FREEWAY (27' MEDIAN WITH JERSEY BARRIER) WITH PAVED SHOULDERS  
AND 2 LANE ONE-WAY SERVICE ROADS EACH SIDE**  
POSTED SPEED 55-70 MPH



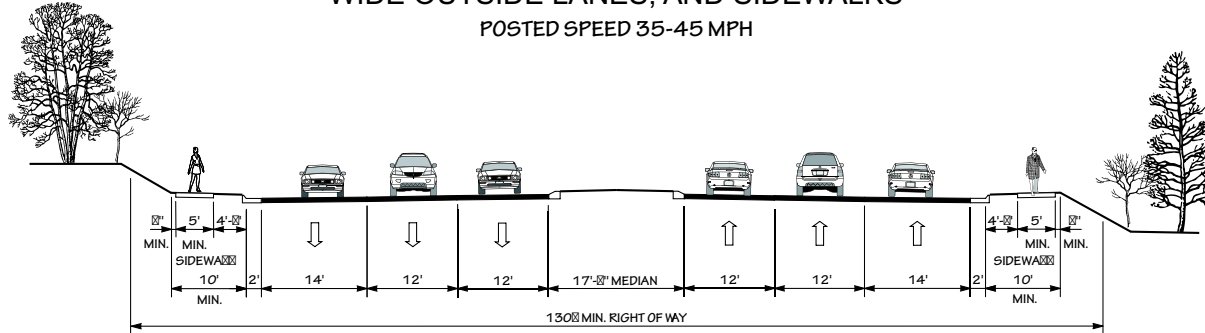
6D

**6 LANE FREEWAY (4 GENERAL PURPOSE LANES, 2 MANAGED LANES, AND 27' MEDIAN  
WITH JERSEY BARRIER) WITH PAVED SHOULDERS**  
POSTED SPEED 55-70 MPH

## “TYPICAL” HIGHWAY CROSS SECTIONS

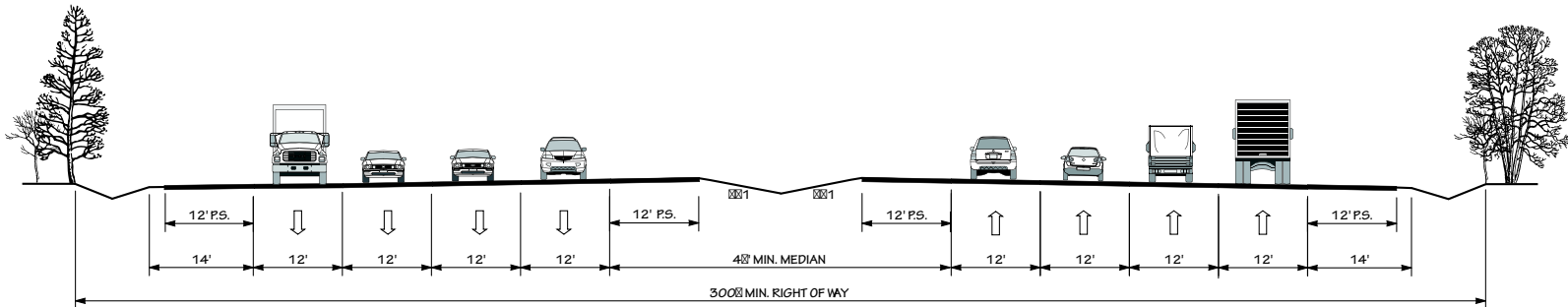


**6E**      6 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER,  
WIDE OUTSIDE LANES, AND SIDEWALKS  
POSTED SPEED 35-45 MPH



**6F**      6 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH CURB & GUTTER,  
WIDE OUTSIDE LANES, AND SIDEWALKS  
POSTED SPEED 35-45 MPH

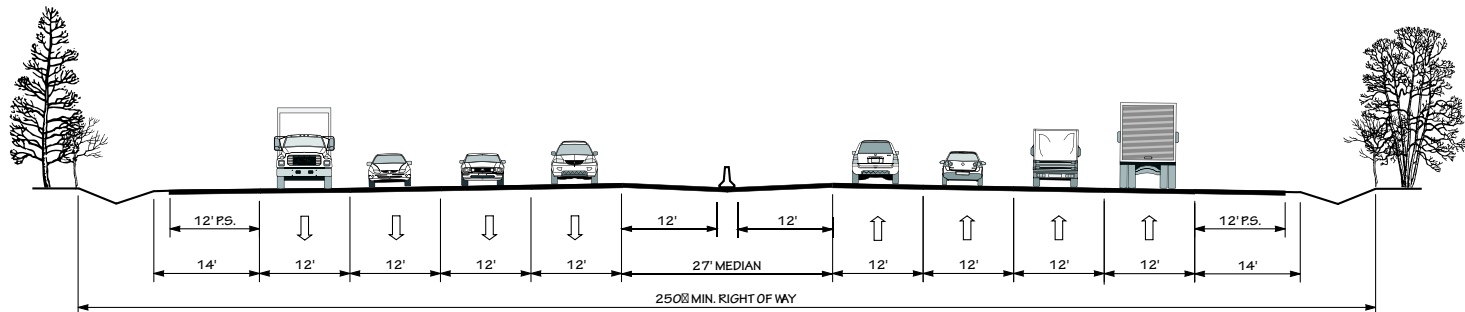
## “TYPICAL” HIGHWAY CROSS SECTIONS



8A

8 LANE DIVIDED (46' DEPRESSED MEDIAN) WITH PAVED SHOULDERS

POSTED SPEED 45-70 MPH

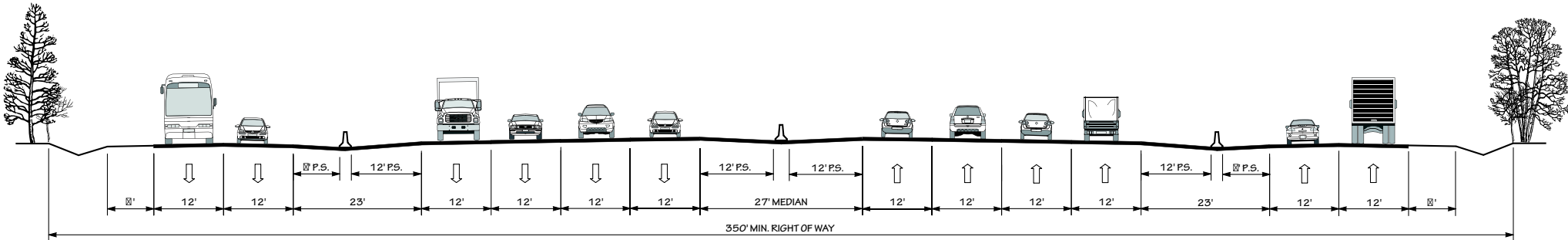


8B

8 LANE DIVIDED (27' MEDIAN WITH JERSEY BARRIER)  
WITH PAVED SHOULDERS

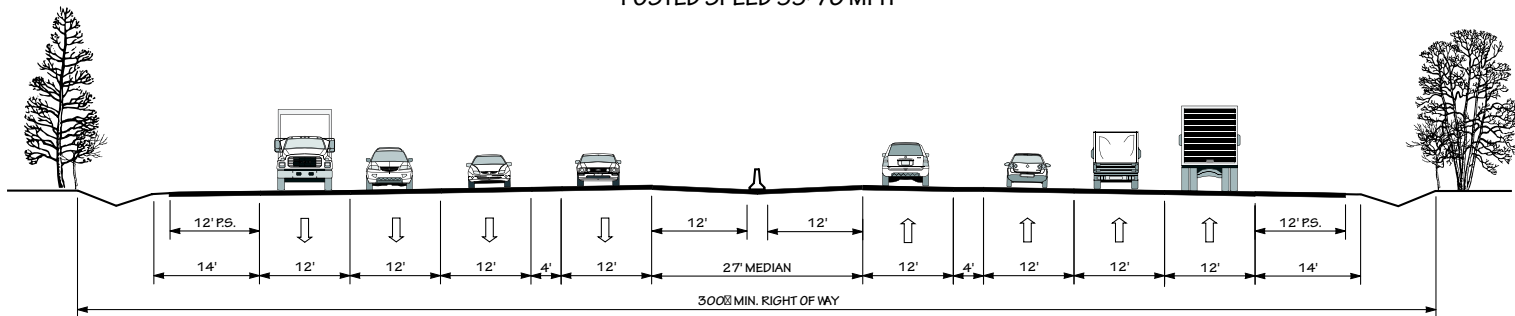
POSTED SPEED 55-70 MPH

## “TYPICAL” HIGHWAY CROSS SECTIONS



**8C**

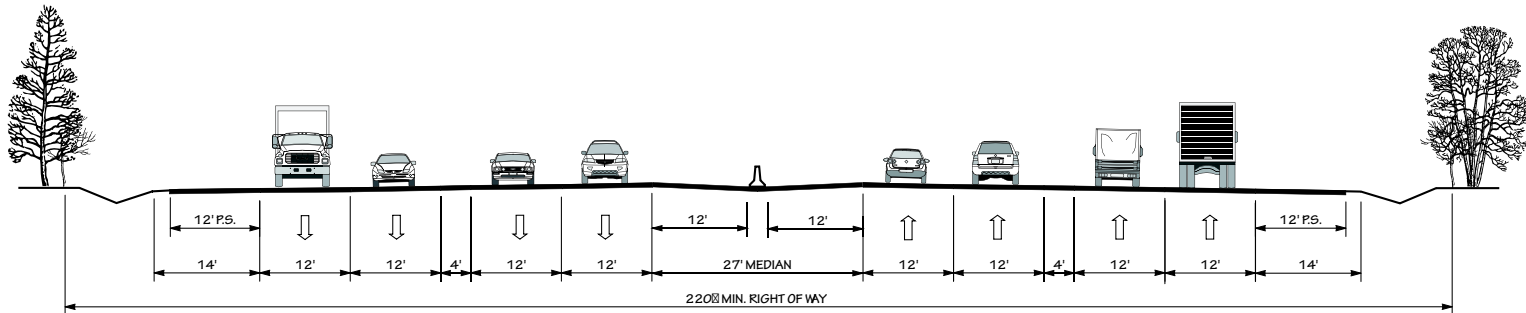
**8 LANE FREEWAY (27' MEDIAN WITH JERSEY BARRIER) WITH PAVED SHOULDERS  
AND 2 LANE ONE-WAY SERVICE ROADS EACH SIDE  
POSTED SPEED 55-70 MPH**



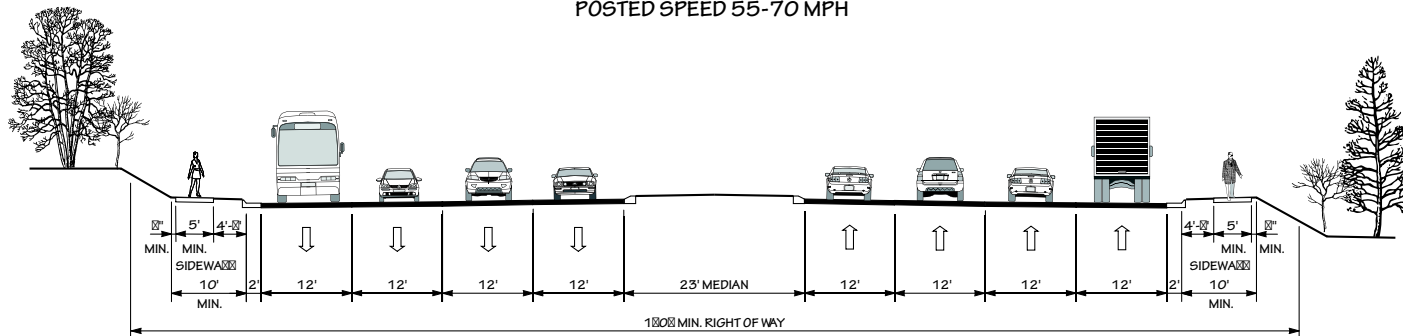
**8D**

**8 LANE FREEWAY (6 GENERAL PURPOSE LANES, 2 MANAGED LANES, AND 27' MEDIAN  
WITH JERSEY BARRIER) WITH PAVED SHOULDERS  
POSTED SPEED 55-70 MPH**

## “TYPICAL” HIGHWAY CROSS SECTIONS

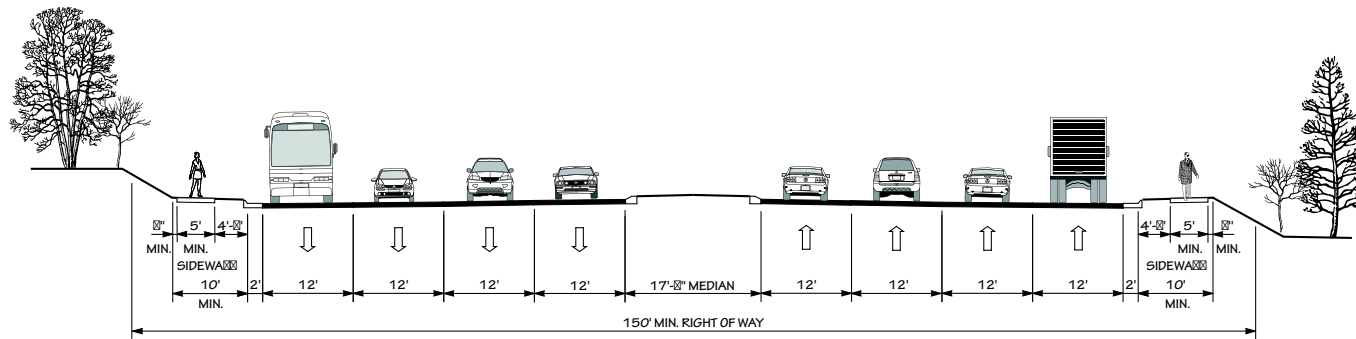


**8E**      8 LANE FREEWAY (4 GENERAL PURPOSE LANES, 4 MANAGED LANES, AND 27' MEDIAN  
WITH JERSEY BARRIER) WITH PAVED SHOULDERS  
POSTED SPEED 55-70 MPH



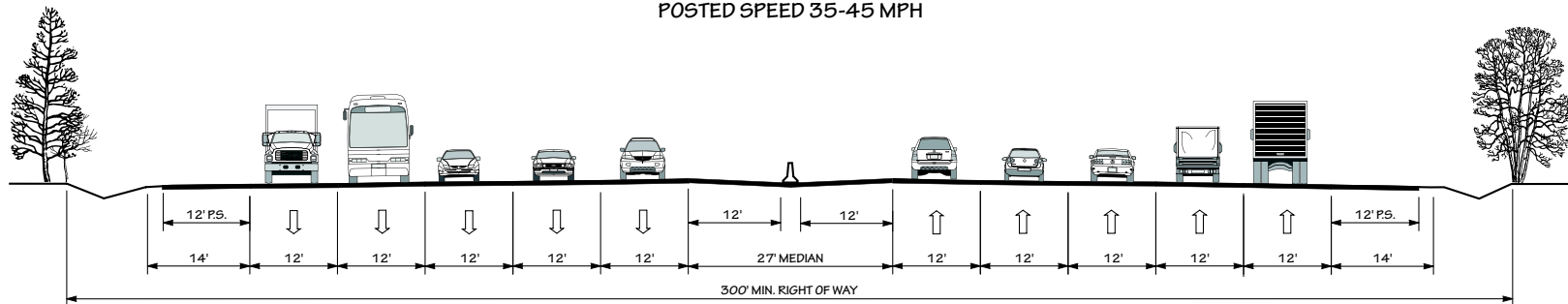
**8F**      8 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER,  
AND SIDEWALKS  
POSTED SPEED 35-45 MPH

## “TYPICAL” HIGHWAY CROSS SECTIONS



**8G**

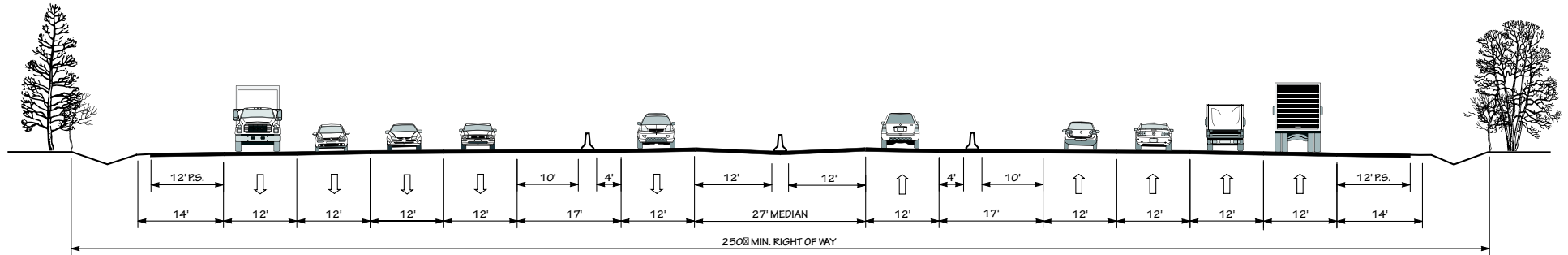
8 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH CURB & GUTTER,  
AND SIDEWALKS  
POSTED SPEED 35-45 MPH



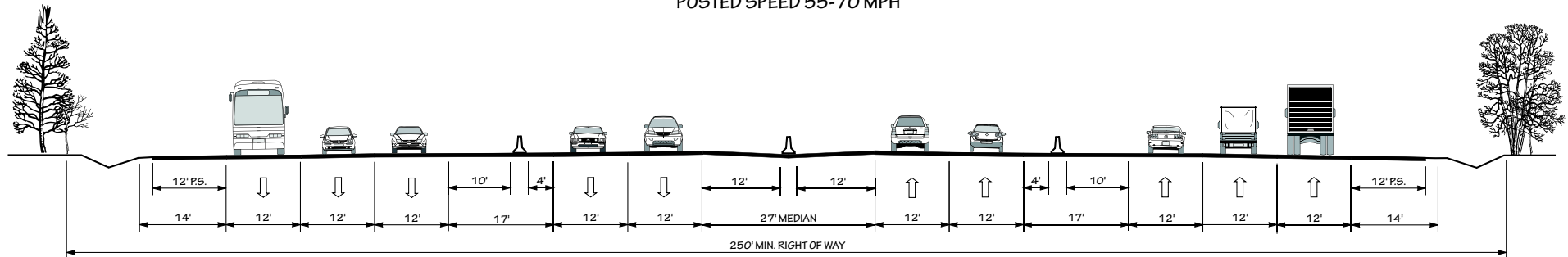
**10A**

10 LANE DIVIDED (27' MEDIAN WITH JERSEY BARRIER)  
WITH PAVED SHOULDERS  
POSTED SPEED 55-70 MPH

## “TYPICAL” HIGHWAY CROSS SECTIONS



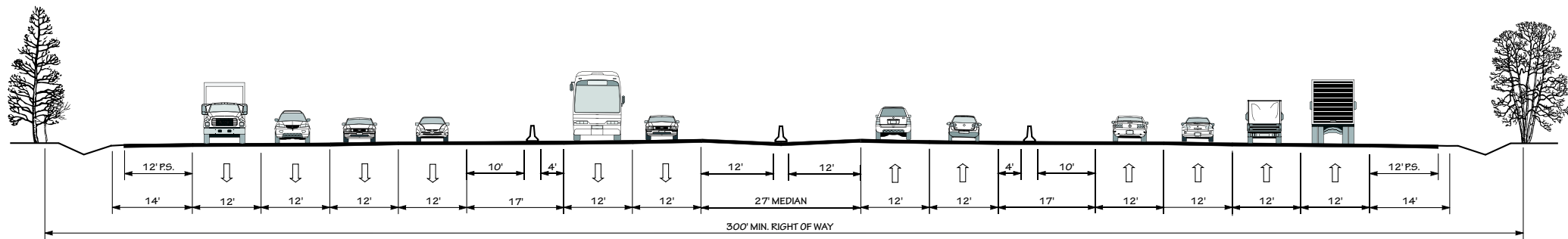
**10B** 10 LANE FREEWAY (8 GENERAL PURPOSE LANES, 2 MANAGED LANES, AND 27' MEDIAN WITH JERSEY BARRIER) WITH PAVED SHOULDERS  
POSTED SPEED 55-70 MPH



**10C** 10 LANE FREEWAY (6 GENERAL PURPOSE LANES, 4 MANAGED LANES, AND 27' MEDIAN WITH JERSEY BARRIER) WITH PAVED SHOULDERS  
POSTED SPEED 55-70 MPH

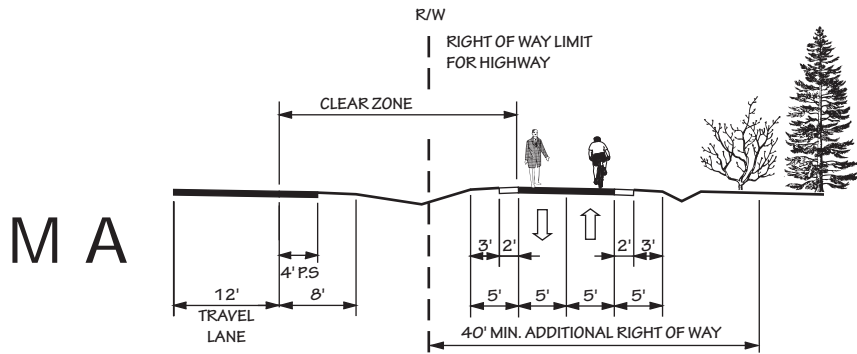


## “TYPICAL” HIGHWAY CROSS SECTIONS

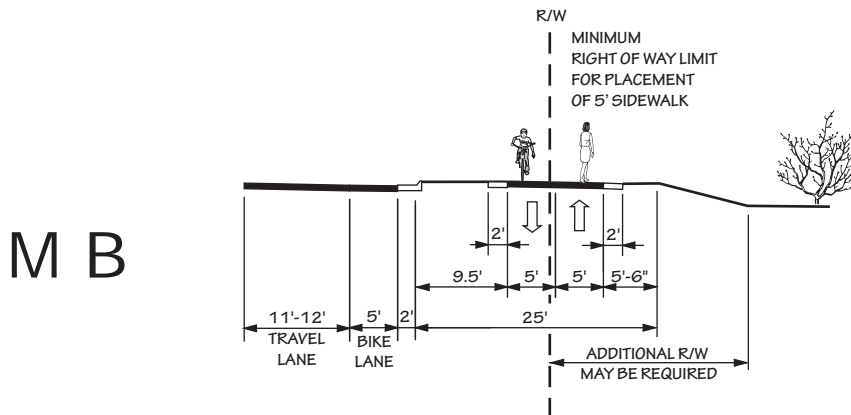


**12A** 12 LANE FREEWAY (8 GENERAL PURPOSE LANES, 4 MANAGED LANES, AND 27' MEDIAN  
WITH JERSEY BARRIER) WITH PAVED SHOULDERS  
POSTED SPEED 55-70 MPH

# “TYPICAL” HIGHWAY CROSS SECTIONS



**MULTI - USE PATH  
ADJACENT TO RIGHT OF WAY OR SEPARATE PATHWAY**



**MULTI - USE PATH ADJACENT TO CURB AND GUTTER**

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## Appendix E

### Level of Service Definitions

The relationship of travel demand compared to the roadway capacity determines the level of service (LOS) of a roadway. Six levels of service identify the range of possible conditions. Designations range from LOS A, which represents the best operating conditions, to LOS F, which represents the worst operating conditions.

Design requirements for roadways vary according to the desired capacity and level of service. LOS D indicates “practical capacity” of a roadway, or the capacity at which the public begins to express dissatisfaction. Recommended improvements and overall design of the transportation plan were based upon achieving a minimum LOS D on existing facilities. The six levels of service are described below and illustrated in Figure 30.

- ❖ **LOS A**: Describes free-flow operations. Free Flow Speed (FFS) prevails and vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed.
- ❖ **LOS B**: Represents reasonably free-flow operations, and FFS is maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.
- ❖ **LOS C**: Provides for flow with speeds near the FFS. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service quality will be significant. Queues may be expected to form behind significant blockages.
- ❖ **LOS D**: The level at which speeds begin to decline with increasing flows, with density increasing more quickly. Freedom to maneuver within the traffic stream is seriously limited and drivers experience reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.
- ❖ **LOS E**: Describes operation at capacity. Operations at this level are highly volatile because there are virtually no usable gaps within the traffic stream, leaving little room to maneuver within the traffic stream. Any disruption to the traffic stream, such as vehicles entering from a ramp or a vehicle changing lanes, can establish a disruption wave that propagates throughout the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown and substantial queuing. The physical and psychological comfort afforded to drivers is poor.
- ❖ **LOS F**: Describes breakdown, or unstable flow. Such conditions exist within queues forming behind bottlenecks.

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Figure 30 - Level of Service Illustrations

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LOS A



LOS B



LOS C



LOS D



LOS E



LOS F

Source: 2010 Highway Capacity Manual, Exhibit 11-4

## **Appendix F**

### **Bridge Deficiency Assessment**

The Transportation Improvement Program (TIP) development process for bridge projects involves consideration of several evaluation methods in order to prioritize needed improvements. A sufficiency index is used to determine whether a bridge is sufficient to remain in service, or to what extent it is deficient. The index is a percentage in which 100 percent represents an entirely sufficient bridge and zero represents an entirely insufficient or deficient bridge. Factors evaluated in calculating the index are listed below.

- ❖ structural adequacy and safety
- ❖ serviceability and functional obsolescence
- ❖ essentiality for public use
- ❖ type of structure
- ❖ traffic safety features

The NCDOT Structures Management Unit inspects all bridges in North Carolina at least once every two years. A sufficiency rating for each bridge is calculated and establishes the eligibility and priority for replacement. Bridges having the highest priority are replaced as federal and state funds become available.

A bridge is considered deficient if it is either structurally deficient (SD) or functionally obsolete (FO). Structurally deficient means there are elements of the bridge that need to be monitored and/or repaired. The fact that a bridge is "structurally deficient" does not imply that it is likely to collapse or that it is unsafe. It means the bridge must be monitored, inspected and repaired/replaced at an appropriate time to maintain its structural integrity. A functionally obsolete bridge is one that was built to standards that are not used today. These bridges are not automatically rated as structurally deficient, nor are they inherently unsafe. Functionally obsolete bridges are those that do not have adequate lane widths, shoulder widths, or vertical clearances to serve current traffic demand or to meet the current geometric standards, or those that may be occasionally flooded.

A bridge must be classified as deficient in order to qualify for federal replacement funds. Additionally, the sufficiency rating must be less than 50% to qualify for replacement or less than 80% to qualify for rehabilitation under federal funding. Deficient bridges located on roads evaluated as a part of the CTP are listed in Table 24. For more details on deficient bridges within the planning area, contact the Structures Management Unit using the information in Appendix A.

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**Bridge Terms:**  
*Structurally Deficient* – This means that while the bridge remains safe, it must be monitored, inspected and repaired/replaced at an appropriate time to maintain its structural integrity.  
*Functionally Obsolete* - This means the bridge is safe, but was built to standards that are not used today. The bridge needs to be replaced to meet current and future traffic demands.

Figure 31

## Deficient Bridges

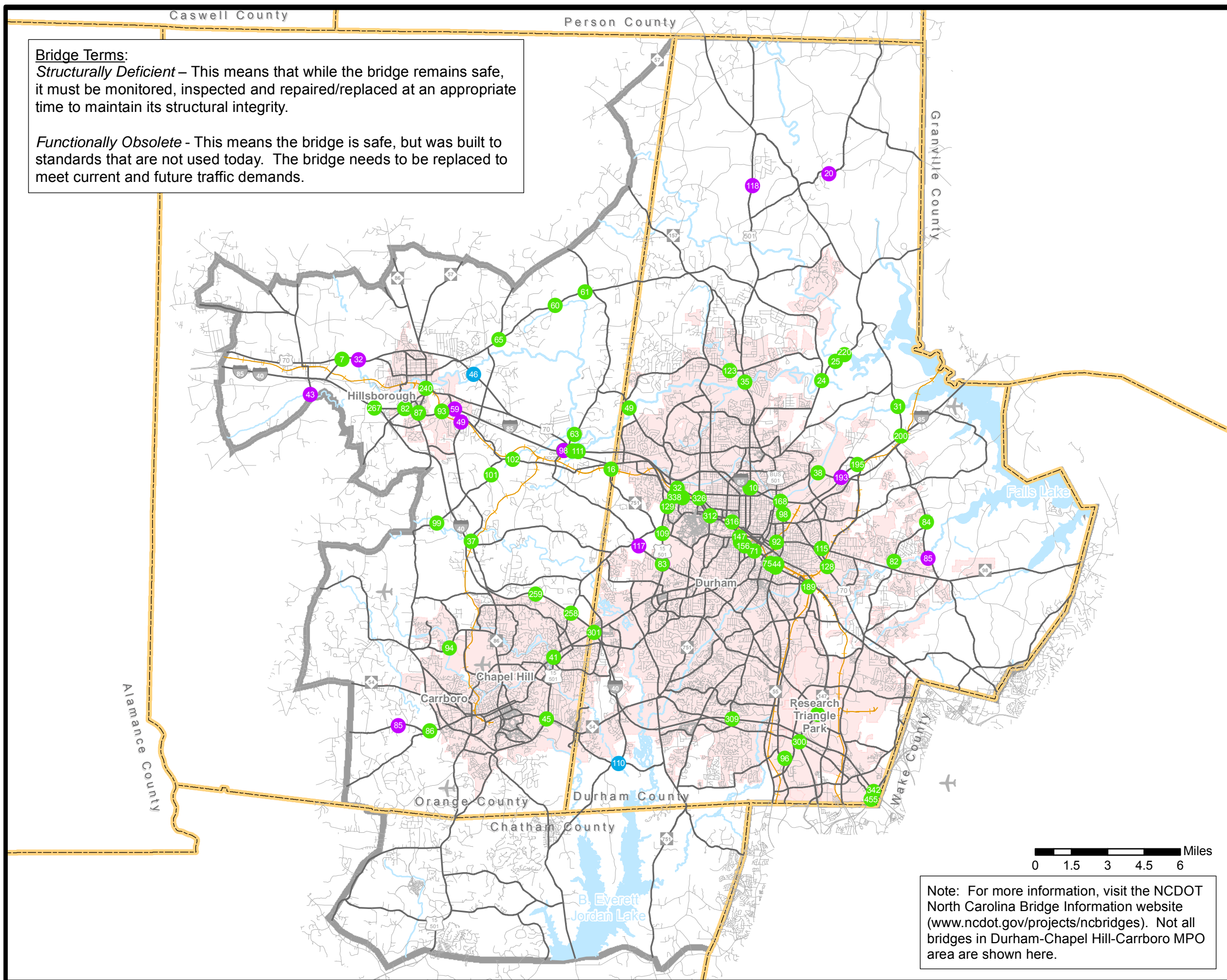
### Durham-Chapel Hill-Carrboro MPO

Chatham, Durham and Orange Counties  
North Carolina

### Comprehensive Transportation Plan

Map date: December 4, 2014

- Legend**
- Bridge Condition**
- Functionally Obsolete (# Bridge Number)
  - Structurally Deficient (# Bridge Number)
  - Structurally Deficient & Functionally Obsolete (# Bridge Number)
  - Airports
  - Study Roads
  - Roads
  - Railroads
  - Rivers and Streams
  - Water Bodies
  - Municipal Boundaries
  - County Boundary
  - MPO Planning Boundary
- Base map date: September 18, 2009





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Figure 32

Deficient Bridges  
(Insets)

Durham-Chapel Hill-  
Carrboro MPO

Chatham, Durham and Orange Counties  
North Carolina

Comprehensive  
Transportation Plan

Map date: December 4, 2014

Legend

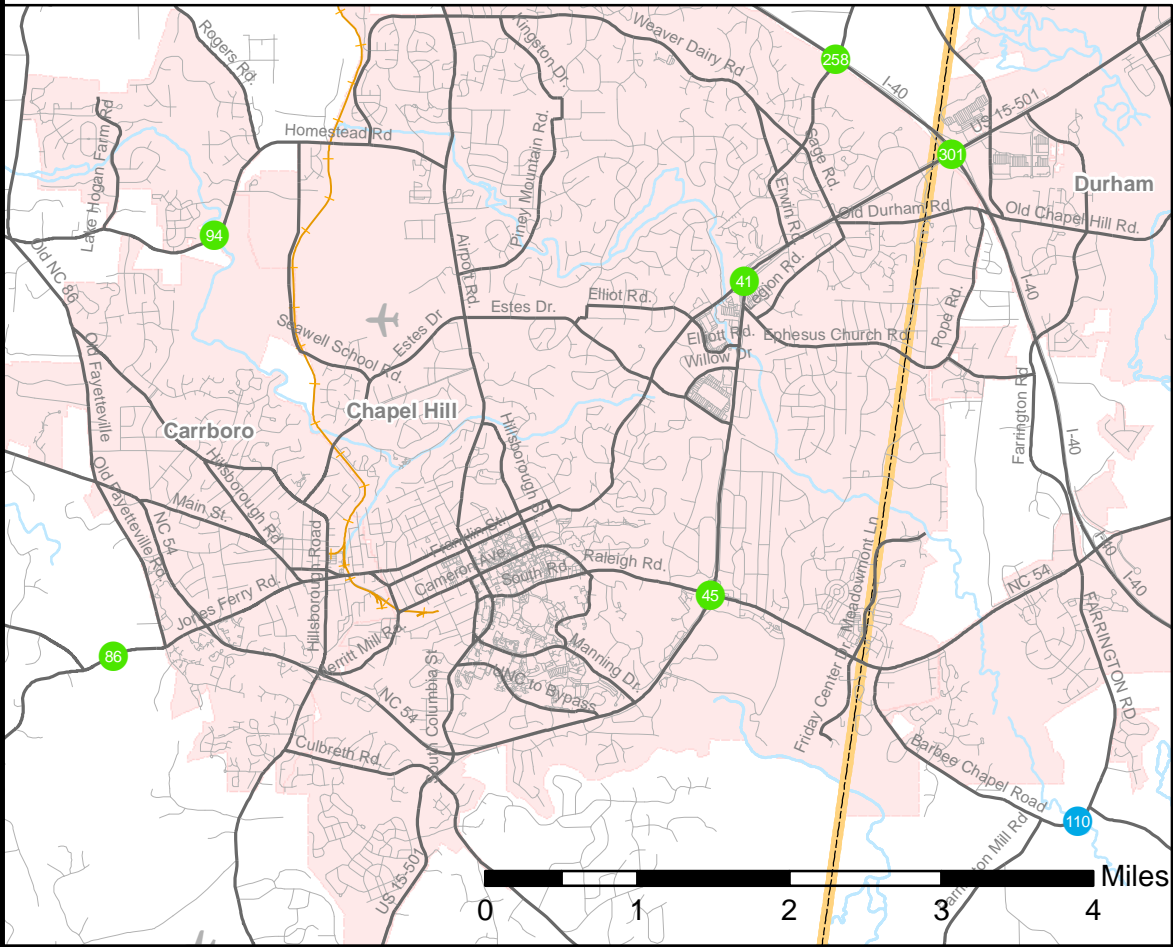
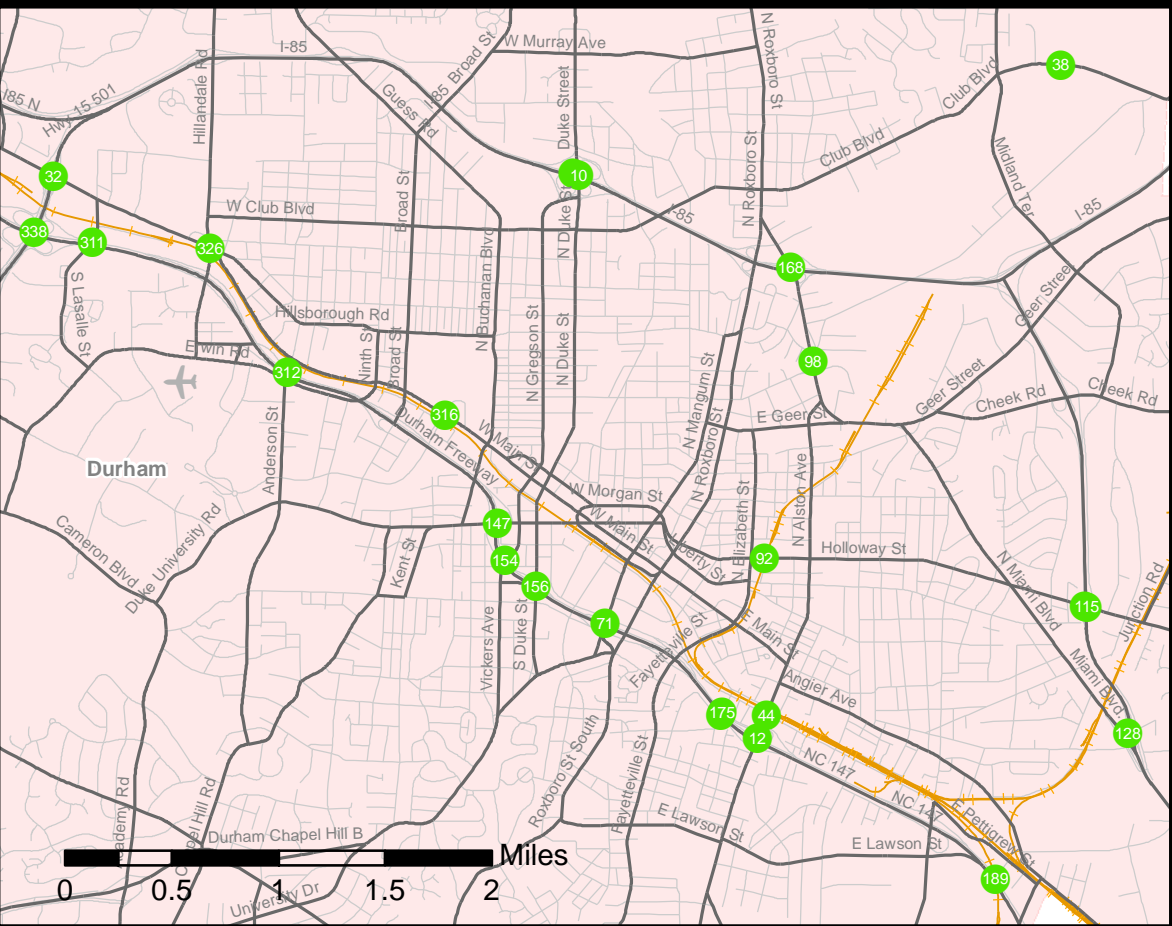
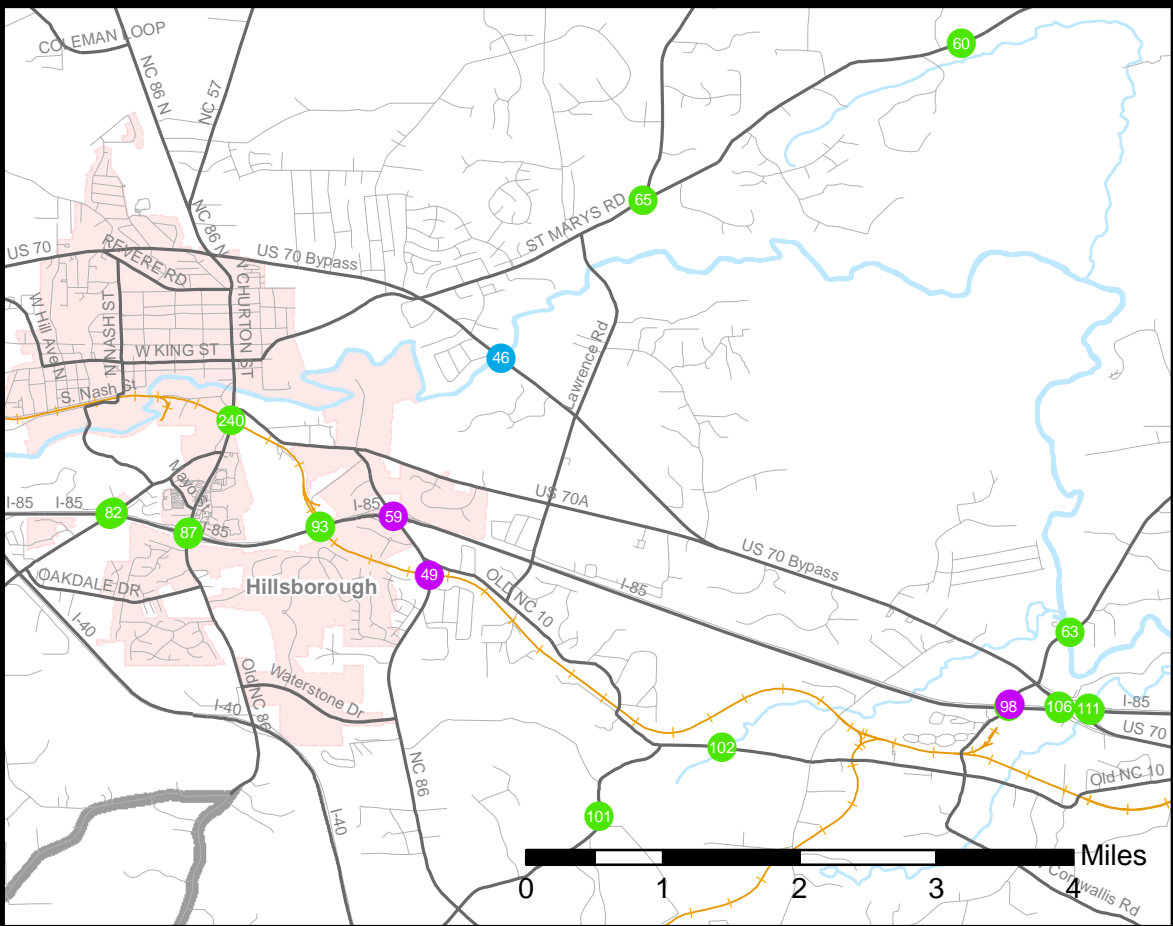
Bridge Condition

- Functionally Obsolete  
(# Bridge Number)
- Structurally Deficient  
(# Bridge Number)
- Structurally Deficient &  
Functionally Obsolete  
(# Bridge Number)

- Airports
- Study Roads
- Roads
- Railroads
- Rivers and Streams
- Water Bodies
- Municipal Boundaries
- County Boundary
- MPO Planning  
Boundary



Base map date: September 18, 2009



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**Table 24 - Deficient Bridges**

Bridge Number	Facility	Feature	Condition	Local ID
	<u>Durham County</u>			
10	US 501 N	I-85 & US 501	FO	--
12	NC 55	NC 147	FO	DURH0519-H
20	BAHAMA RD (SR 1616)	DIAL CREEK (LAKE MICHIE)	SD & FO	B-4943
24	OLD OXFORD RD (SR 1004)	ENO RIVER	FO	--
25	OLD OXFORD RD (SR 1004)	LITTLE CREEK	FO	--
31	RED MILL RD (SR 1632)	ELLERBEE CREEK	FO	--
32	US 70 BUS	US 15 BYP/US 501 BYP	FO	DURH0536-H
35	US 501	ENO RIVER	FO	--
38	E CLUB BLVD (SR 1669)	ELLERBEE CREEK	FO	--
44	PETTIGREW ST	NC 55	FO	--
49	COLE MILL RD (SR 1401)	ENO RIVER	FO	--
71	US 15/501 S	NC 147	FO	--
80	US 15/US 501 NBL	W CORNWALLIS RD (SR 1308)	SD & FO	B-5674
82	N MINERAL SPRINGS (SR 1815)	LICK CREEK	FO	--
83	US 15/US 501	W CORNWALLIS RD (SR 1308)	FO	--
84	FLETCHERS CHAPEL RD (SR 1815)	CHUNKY PIPE CREEK	FO	--
85	STALLINGS RD (SR 1814)	LITTLE LICK CREEK	SD & FO	--
92	US 70 BUS & NC 98	NORFOLK & WESTERN RR	FO	--
96	S ALSTON AVE (SR 1945)	BURDENS CREEK	FO	--
98	NC 55	NORFOLK & SOUTHER	FO	--
106	US 70 EBL	NC 98	FO	--
109	US 15 BYP/US 501 NBL	NC 751	FO	--
110	FARRINGTON RD (SR 1110)	LITTLE CREEK	SD	--
115	US70 WBL	NC 98	FO	U-0071
117	W CORNWALLIS RD (SR 1308)	MUD CREEK	SD & FO	--
118	US 501	POND	SD & FO	--
123	LATTA RD (SR 1448)	CREEK	FO	--
128	US 70 BUS WB	US 70 BYP EBL	FO	U-0071
129	MORRENE RD (SR 1317)	US 15 BYP/US 501 BYP	FO	DURH0535-H
147	W CHAPEL HILL ST (SR 1127)	NC 147	FO	DURH0525-H

Bridge Number	Facility	Feature	Condition	Local ID
154	VICKERS AVE (SR 1361)	NC 147	FO	--
156	S DUKE ST (SR 1445)	NC 147	FO	DURH0523-H
168	I-85 SB & US 15 SB	NC 55	FO	--
173	NC 147 SBL	GRANT ST	FO	--
175	NC 147 NBL	GRANT ST	FO	--
189	NC 147 NBL	SOUTHERN RAILROAD	FO	--
193	E CLUB BLVD (SR 1671)	I-85/US15	SD & FO	DURH0511-H
195	GLENN SCHOOL RD (SR 1675)	I-85	FO	DURH0512-H
200	I-85 NBL & US 15	RED MILL RD (SR 1632)	FO	DURH0513-H
206	E CORNWALLIS RD (SR 1121)	NC 147	FO	DURH0518-H
220	OLD OXFORD RD (SR 1004)	CREEK	FO	--
300	NC 54	NC 147	FO	DURH0517-H
301	US 15/501	I-40	FO	I-5702
309	BARBEE RD (SR 1106)	I-40	FO	--
311	LASALLE ST	NC 147	FO	--
312	ANDERSON ST	NC 147	FO	--
316	US 70 BUS (W MAIN ST)	CAMPUS DRIVE	FO	--
326	US 70 BUS (HILLSBOROUGH RD)	HILLANDALE RD (SR 1321)	FO	--
338	NC 147 N	US 15/501 BYP	FO	DURH0529-H
342	I-540	I-40 & NW EXPRESSWAY	FO	I-5702
425	US 501 (N GREGSON ST)	I-85	FO	--
455	SLATER RD (SR 2104)	I-540	FO	--
	<u>Orange County</u>			
7	US 70 EBL	I-85/US 70 CONNECTOR WBL (SR 1239)	FO	MTP-206
16	NC 751	SOUTHERN RAILROAD	FO	--
32	US 70	ENO RIVER	SD & FO	--
37	NC 86	NEW HOPE CREEK	FO	--
41	E FRANKLIN ST NBL (SR 1010)	US 15/501 SBL	FO	--
43	MT WILLING RD (SR 1120)	SEVEN MILE CREEK	SD & FO	--
45	US 15/501 SBL	NC 54	FO	U-5774 A
46	US 70	ENO RIVER	SD	B-4962
49	NC 86	SOUTHERN RAILWAY	SD & FO	--
59	NC 86	I-85	SD & FO	ORAN0504-H
60	ST MARYS RD (SR 1002)	CREEK	FO	--
61	ST MARYS RD (SR 1002)	CREEK	FO	--
63	PLEASANT GREEN RD (SR 1567)	ENO RIVER	FO	--
65	ST MARYS RD (SR 1002)	PRONG ENO RIVER	FO	--

Bridge Number	Facility	Feature	Condition	Local ID
81	I-85 NBL	ORANGE GROVE RD (SR 1006)	FO	--
82	I-85 SBL	ORANGE GROVE RD (SR 1006)	FO	--
83	I-85 NBL	OLD NC 86 (SR 1009)	FO	--
85	OLD GREENSBORO RD (SR 1005)	PHIL'S CREEK	SD & FO	B-5348
86	JONES FERRY RD (SR 1005)	UNIVERSITY LAKE	FO	--
87	I-85 SBL	OLD NC 86 (SR 1009)	FO	I-5967
91	I-85 NBL	SOUTHERN RAILROAD	FO	--
93	I-85 SBL	SOUTHERN RAILROAD	FO	--
94	HOMESTEAD RD (SR 1777)	BOLIN CREEK	FO	--
98	I-85 NBL	MT HERMAN CHURCH RD (SR 1713)	FO	--
99	NEW HOPE CHURCH RD (SR 1723)	NEW HOPE CREEK	FO	--
100	I-85 SBL	MT HERMAN CHURCH RD (SR 1713)	SD & FO	--
101	NEW HOPE CHURCH RD (SR 1723)	STONEY CREEK	FO	--
102	OLD NC 10 (SR 1710)	STONEY CREEK	FO	--
103	I-85 NBL	US 70 EBL	FO	--
106	I-85 SBL	US 70 EBL	FO	--
110	I-85 SBL & US 70 EBL	US 70 BUS WBL	FO	--
111	I-85 SBL	US 70 BUS WBL	FO	--
240	S CHURTON ST (SR 1009)	SOUTHERN RAILROAD	FO	--
258	ERWIN RD (SR 1734)	I-40	FO	--
259	SUNRISE LN (SR 1732)	I-40	FO	--
267	I-85 RAMP	I-40 EBL & I-85	FO	--

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## **Appendix G**

### **Socio-Economic Data Forecasting Methodology**

#### **Purpose**

The Socio-Economic (SE) Data depicts the total population and employment from the years 2010 through 2040. Households and employment are the generators and attractors of trips, and thus understanding the forecasted location of these units helps to interpret where travel demand will likely grow in the future. SE Data is a critical input into the Triangle Regional Model (TRM), which among other measurements compares the supply and demand for travel facilities and services, such as roadways and transit, and is used as the principal tool for identifying future transportation deficiencies.

#### **Content**

- ❖ Guide totals are on page G-2,
- ❖ Land Use model information is on page G-3,
- ❖ County household growth maps are on pages G-4 through G-6, and
- ❖ County employment growth maps are on pages G-7 through G-9.



## Guide Totals

The following two tables depict the county-level population and employment guide totals used in the land use modeling for the CTP. These are the same values that were used for the 2040 Metropolitan Transportation Plan (2040 MTP). Although the MPO is in the process of updating the SE Data and land use model (i.e., Community Visualization), the model update will not be completed in time for use in developing this CTP. Therefore, the current SE Data and land use model will be used.

- ❖ Population -- The population forecast is from the North Carolina Office of State Budget and Management (OSBM) and is based on their May 2011 reporting.
- ❖ Employment -- The employment forecast uses base data from the North Carolina Employment Security Commission and growth data from Woods and Poole Economics.

(Note: Chatham County and Person County values are only for the area within the modeling boundary.)

Table 25

Population			
--Guide Totals--	2040 LRTP		
Jurisdiction	2010	2040	Annual Rate
Durham County	268,925	432,571	1.6%
Orange County	134,325	197,675	1.3%
Chatham County	38,991	71,672	2.0%
Person County	31,845	44,784	1.1%
<b>Total</b>	<b>474,086</b>	<b>746,702</b>	<b>1.5%</b>

Table 26

Employment			
--Guide Totals--	2040 LRTP		
Jurisdiction	2010	2040	Annual Rate
Durham County	194,770	306,637	1.5%
Orange County	70,491	119,787	1.8%
Chatham County	10,011	19,509	2.2%
Person County	8,791	13,093	1.3%
<b>Total</b>	<b>284,063</b>	<b>459,026</b>	<b>1.6%</b>

## **Land Use Model**

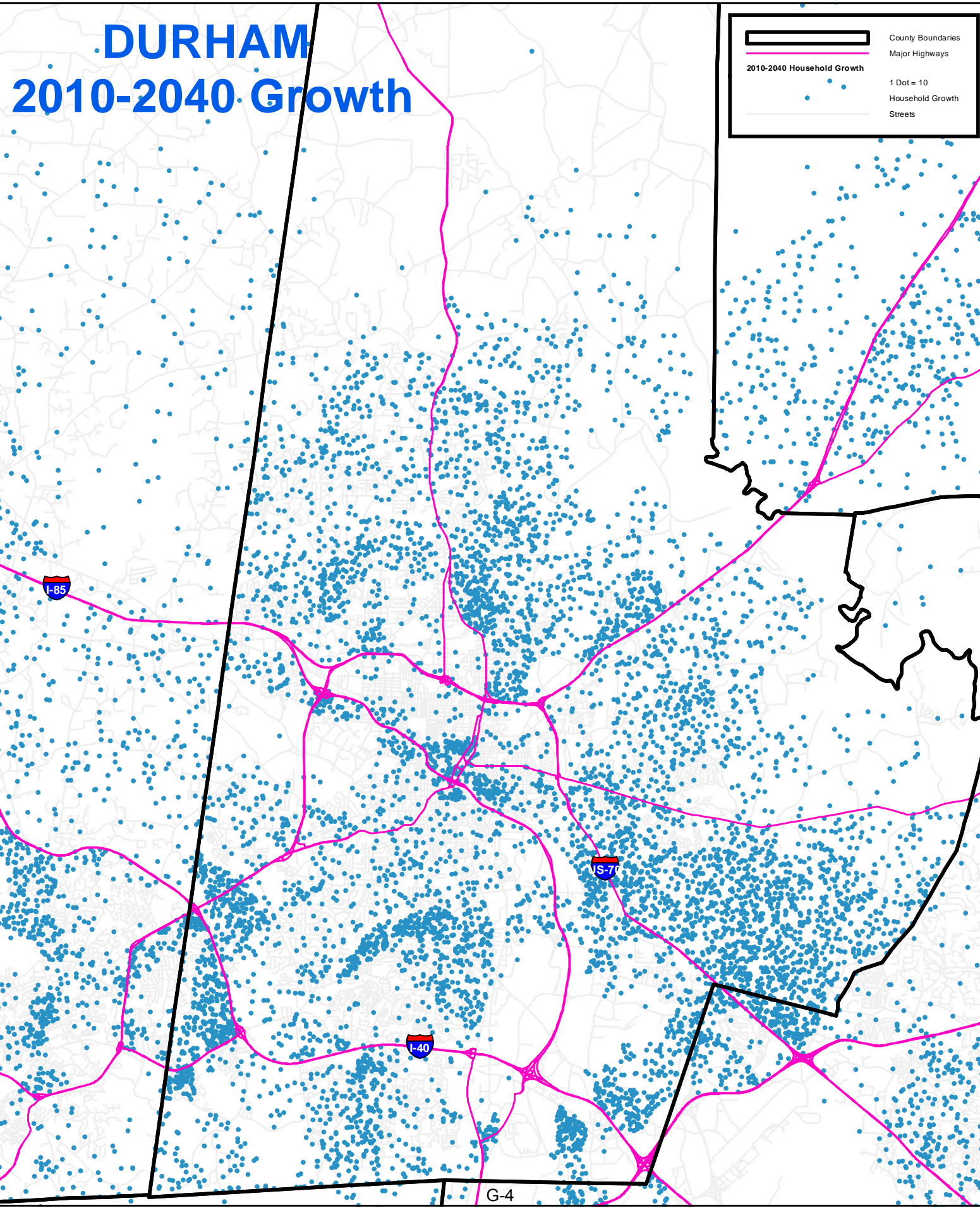
The DCHC MPO used the Community Visualization land use modeling process to create a land use scenario using the long-range comprehensive plans of the various jurisdictions and counties of the Triangle region. The current zoning for the jurisdiction or county was used if a long-range plan was not adopted. Detailed information is available on the process and results of the Community Visualization model at the following Triangle J Council of Government Web Page: <http://bit.ly/2nqbkdf>.

The six maps on the following pages display the growth distribution of households and employment from 2011 through 2040. Each dot represents ten households or jobs.

The Deficiency Analysis Web page for the 2040 MTP provides detailed information on the development and results of this SE Data forecast. It includes population and employment growth and totals by jurisdiction, and maps that show both the growth and 2040 density by both grids and dot density. The Web page can be found at the following link: <http://bit.ly/2oNafMR>.

# SE Data--Household

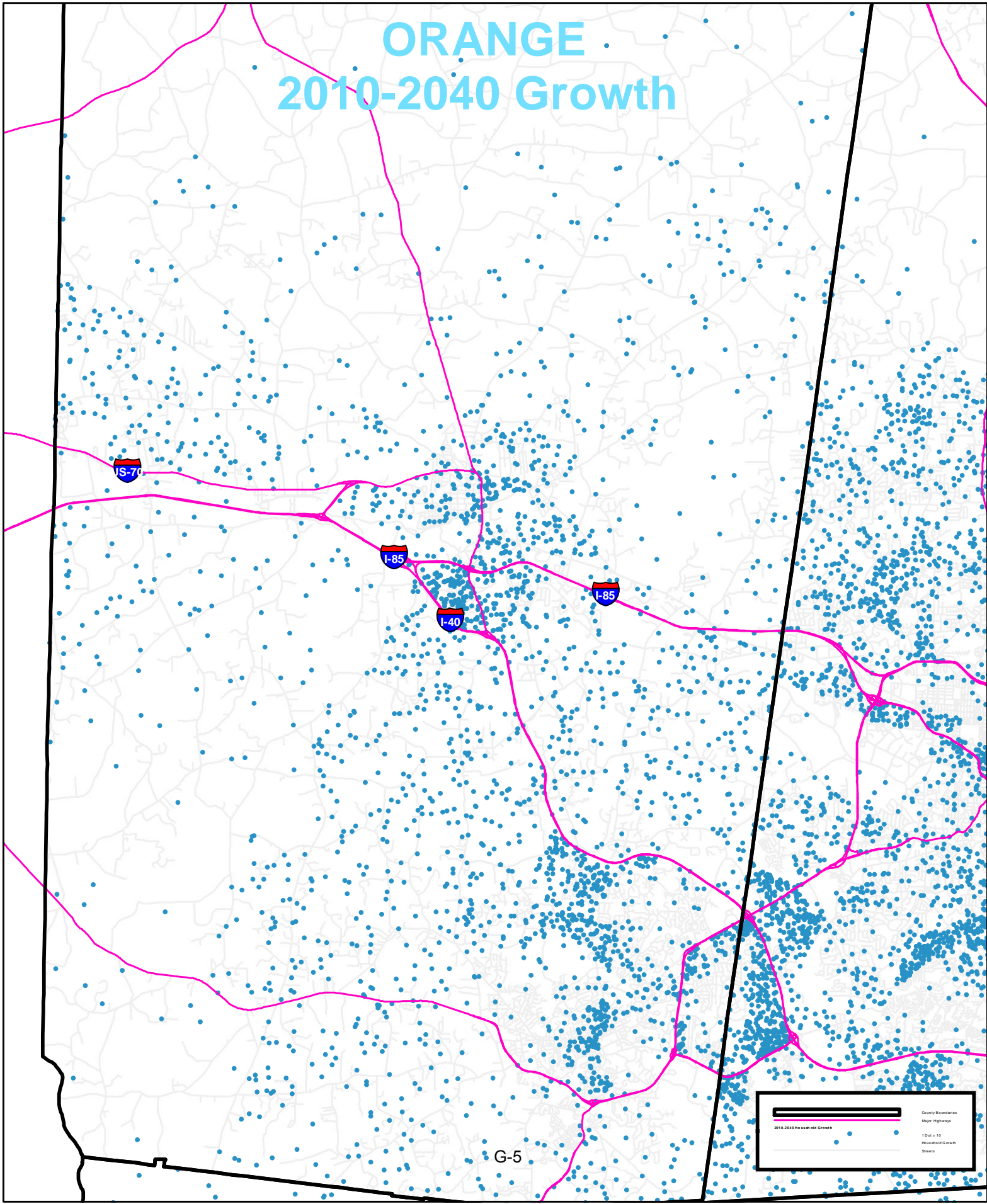
Figure 33





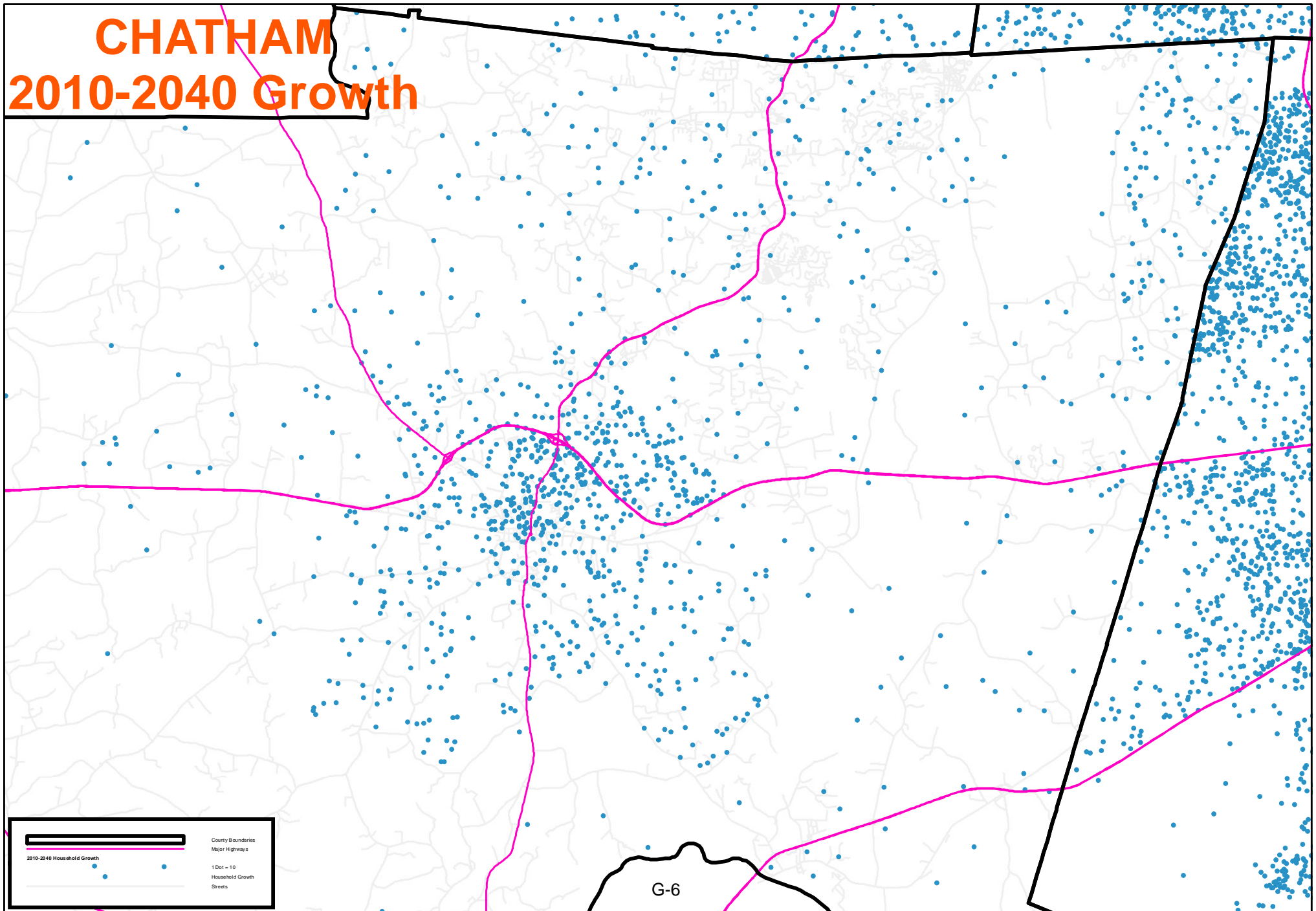
# SE Data--Household

Figure 34



# SE Data--Household

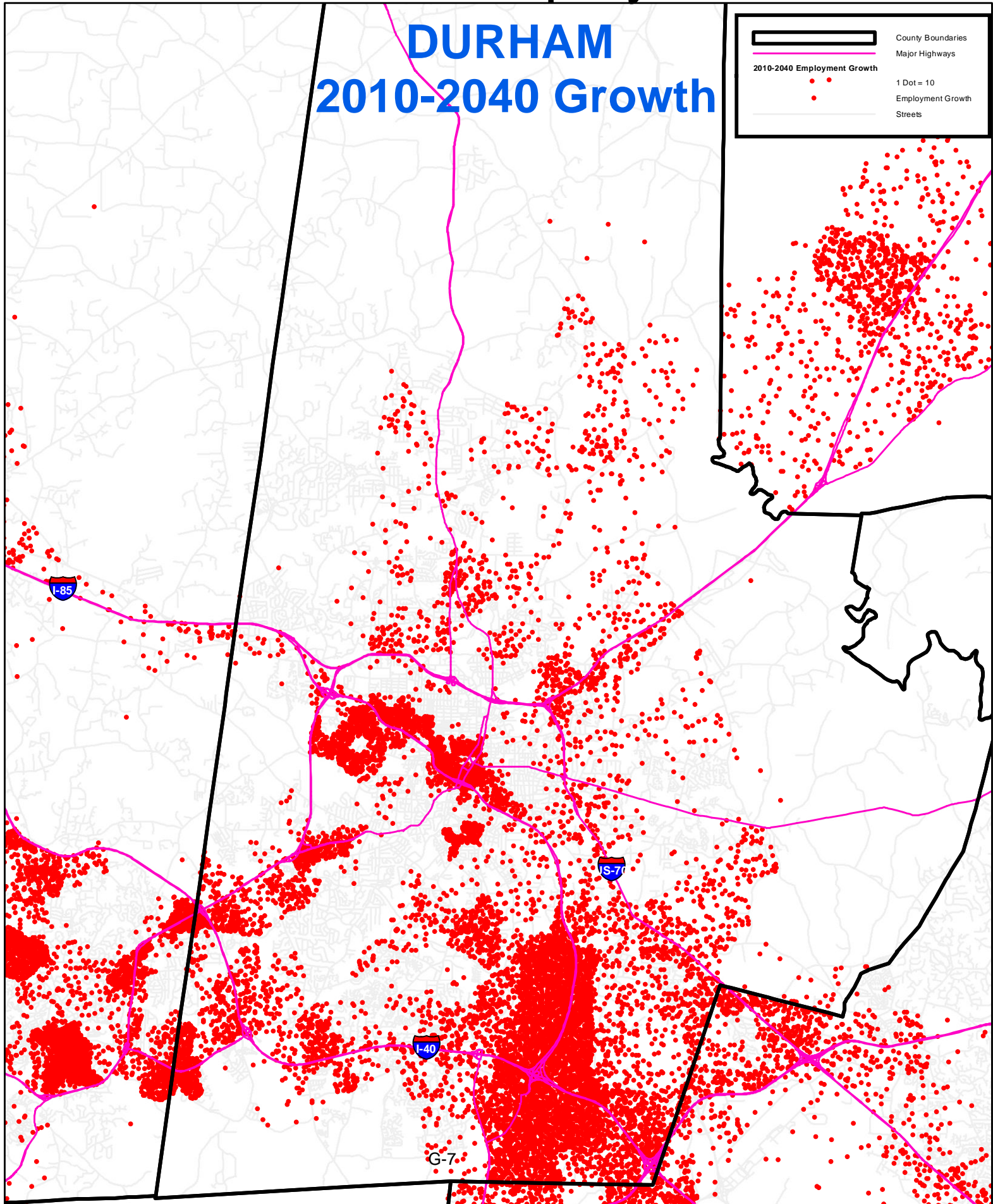
Figure 35





# SE Data--Employment

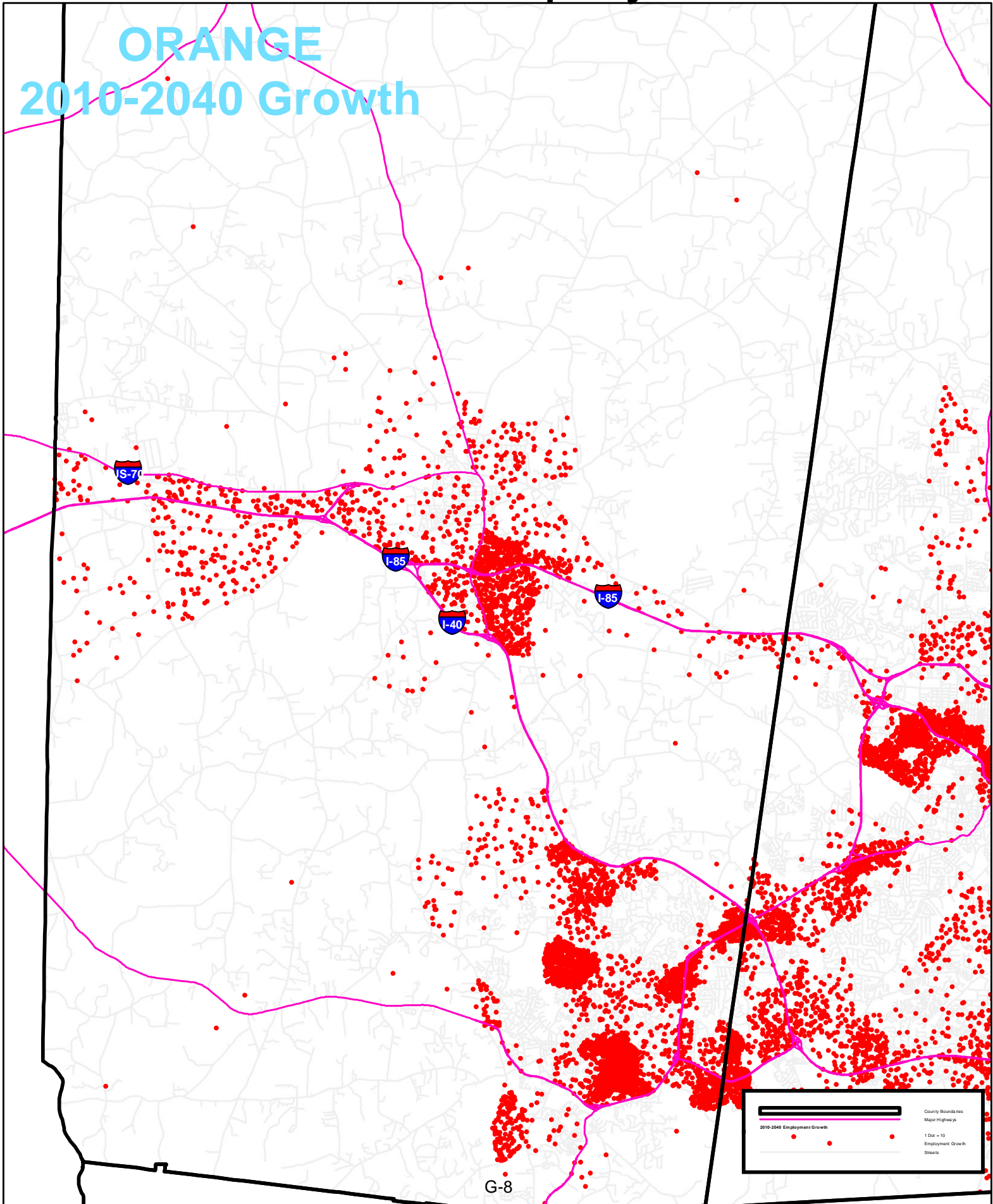
Figure 36



# SE Data--Employment

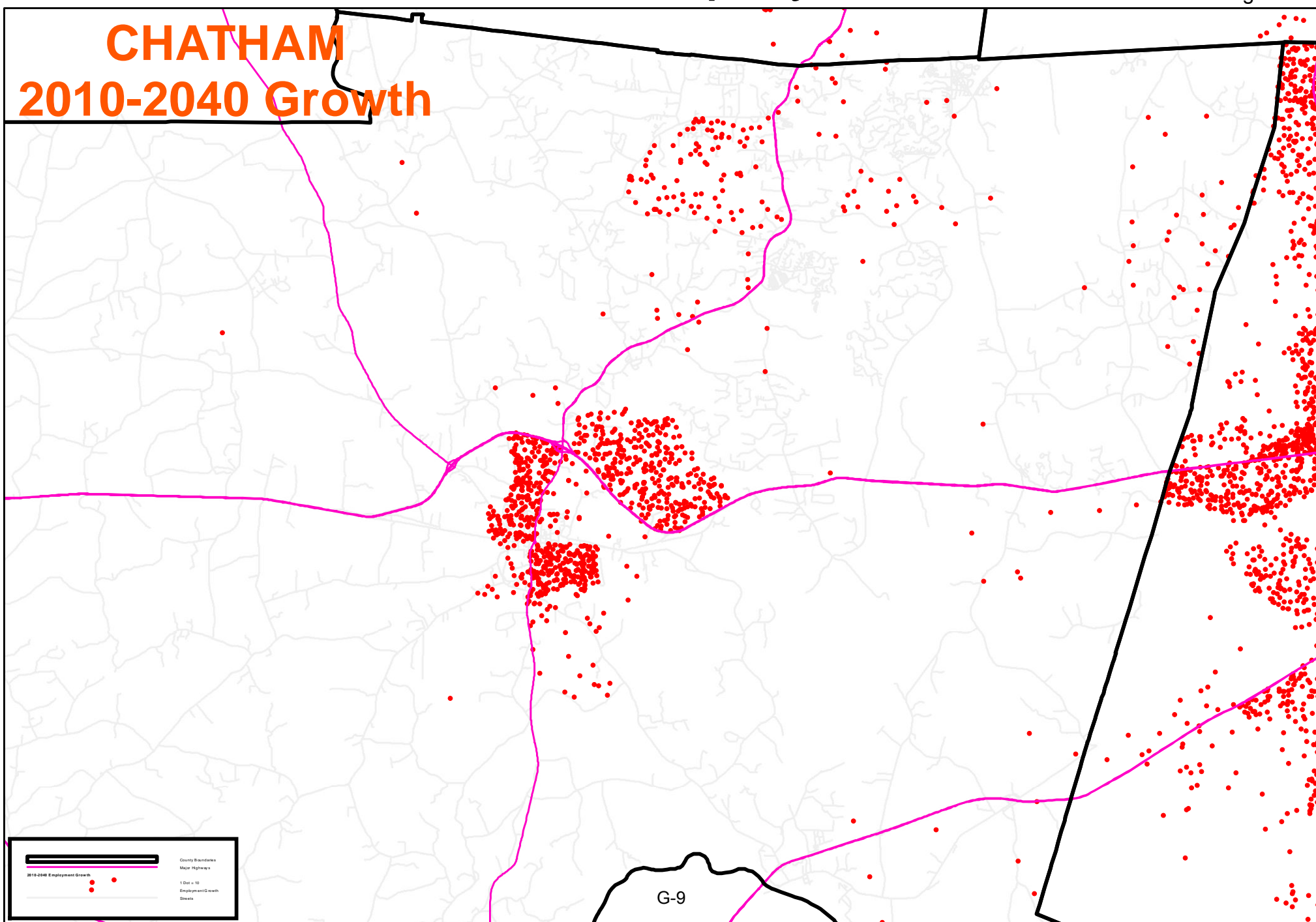
Figure 37

ORANGE  
2010-2040 Growth



# SE Data--Employment

Figure 38





Back of Figure

## **Appendix H**

### **Public Involvement**

This appendix documents the public involvement process and includes a listing of the CTP subcommittee members, the Goals and Objectives, the Goals and Objectives survey, and public meetings held during the development of the CTP.

#### **List of CTP Subcommittee Members**

At the start of this CTP study, the CTP subcommittee was formed from the membership of the MPO Technical Committee. These members were responsible for capturing the transportation needs of the community related to all modes of transportation and for guiding the development of the CTP. A list of subcommittee members for the DCHC MPO's CTP is given below.

- ❖ Julie Bogle, NCDOT Planning Branch
- ❖ Scott Walston, NCDOT Planning Branch
- ❖ David Keilson, NCDOT Division 5
- ❖ Ed Lewis, NCDOT Division 7
- ❖ Darius Sturdivant, NCDOT Division 8
- ❖ Bryan Kluchar, NCDOT Division 8
- ❖ Andy Henry, DCHC MPO
- ❖ Felix Nwoko, DCHC MPO
- ❖ Ellen Beckmann, City of Durham
- ❖ Bryan Poole, City of Durham
- ❖ Dale McKeel, City of Durham/DCHC MPO
- ❖ Geoff Green, GoTriangle/GoDurham
- ❖ Erik Landfried, GoTriangle/GoDurham
- ❖ Mila Vega, Chapel Hill Transit
- ❖ Bergen Watterson, Town of Carrboro
- ❖ Tina Moon, Town of Carrboro
- ❖ Kayla Seibel, Town of Chapel Hill
- ❖ David Bonk, Town of Chapel Hill
- ❖ Margaret Hauth, Town of Hillsborough
- ❖ Max Bushell, Orange County
- ❖ Tom Altieri, Orange County
- ❖ Brett Martin, Orange County
- ❖ Scott Whiteman, Durham County
- ❖ Cara Coppola, Chatham County
- ❖ Corey Liles, Research Triangle Foundation
- ❖ Alison Carpenter, Duke University
- ❖ John Hodges-Copple, Triangle J Council of Governments

## **CTP Vision, Goals, and Objectives**

The MPO developed a Vision and Goals and Objectives for the 2040 MTP, and adopted them on June 12, 2012. The MPO committed substantial resources to develop the Goals document and therefore used it to guide the development of the CTP. There are two convenient sources for a copy:

- ❖ Chapter 4, pages 19 through 23, of the *2040 Metropolitan Transportation Plan* (adopted May 8, 2013). See the “Adopted MTP” tab of the following MPO Web page for a copy:  
<http://www.dchcmpo.org/programs/transport/2040mtp/default.asp>.
- ❖ A standalone copy is available at the MPO’s Goals, Objectives & Targets Web page: <http://www.dchcmpo.org/programs/transport/2040mtp/goals.asp>.

## **Goals and Objectives Survey**

In the spring of 2012, the MPO conducted a survey before developing the Goals and Objectives to help inform the MPO about what is important to the citizens of the planning area. About 225 people completed the survey, providing information on where transportation investments should be made, what policies should be implemented, and how to accommodate future growth. A summary, called *Goals and Objectives Survey Results*, is available at the at the MPO’s Goals, Objectives & Targets Web page: <http://www.dchcmpo.org/programs/transport/2040mtp/goals.asp>.

## **Public Meetings**

Brief summaries of public meetings held within the planning area and in Pittsboro are given on the following pages.

Table 27: Public Involvement

<b>Organization/Date</b>	<b>Location</b>	<b>Participation</b>
<b>MPO</b>		
<b>MPO Board</b> February 8 (Wed), 9am	Committee Room (Durham City Hall) 101 City Hall Plaza, Durham, NC	<u>Public Hearing</u> : citizens can directly address the Board.
<b>MPO Board</b> May 10 (Wed), 9am	Committee Room (Durham City Hall) 101 City Hall Plaza, Durham, NC	<u>Adoption</u> : Board discussed and adopted final plan. Board typically allows citizens to address the Board.
<b>Durham County</b>		
<b>Durham City Council</b> February 9 (Thu), 1pm	Committee Room and Council Chambers (both in Durham City Hall) 101 City Hall Plaza, Durham, NC	Presentation and discussion at City Council work session (2/9); Council typically allows citizens to address them on the agenda item at the work session.
<b>Durham Board of County Commissioners</b> February 6 (Mon), 9am	Durham County Courthouse 200 E. Main St., Durham, NC	Presentation and discussion at BOCC work session (2/6); BOCC typically allows citizens to address them on the agenda item at the work session.
<b>Bicycle and Pedestrian Advisory Commission</b> December 20 (Tue), 7pm January 12 (Thu), 6:30pm January 17 (Tue), 7pm	12/20 and 1/17, Committee Room (Durham City Hall) 1/12, Q-Shack, 2510 University Dr., Durham, NC	Present to subcommittee 1/12, and to full BPAC 12/20 and 1/17.
<b>Planning Commission</b> January 10 (Tue), 5:30pm	Council Chambers (Durham City Hall) 101 City Hall Plaza, Durham, NC	Present to Commission.
<b>Durham Station Transportation Center</b> January 24 (Tue), 4-7pm	515 Pettigrew St., Durham, NC	Drop-in workshops for citizens.
<b>Orange County</b>		
<b>Orange BOCC</b> February 7 (Tue), 7PM	Richard Whitted Meeting Facility 300 West Tryon Street Hillsborough, NC	Presentation and discussion at Orange BOCC, who typically allow citizens to address them on the agenda item.
<b>Orange County OUTBoard</b> January 18 (Wed), 6:30PM	Orange County West Campus Office Building, Conference Room 004 (Lower Floor) 131 West Margaret Lane, Hillsborough, NC	Presentation to OUTBoard.

<b>Organization/Date</b>	<b>Location</b>	<b>Participation</b>
<b>Chapel Hill</b> Trans. and Connectivity Bd and Carrboro TAB January 19 (Thu), 6-8pm	Chapel Hill Public Library Meeting Room B 100 Library Dr., Chapel Hill, NC	Presentation and drop-in workshop for citizens and the two transportation boards.
<b>Carrboro Bd of Aldermen</b> January 17 (Tue), 7:30pm	Carrboro Town Hall 301 W. Main St., Carrboro, NC	Presentation and discussion at Town Board, who typically allow citizens to address them on the agenda item.
<b>Hillsborough Town Board</b> January 23 (Mon), 7pm	Whitted Human Services Center 300 West Tryon Street Hillsborough, NC	Presentation and discussion at Town Board, who typically allow citizens to address them on the agenda item.
<b>Orange County Public Library</b> February 16, 5:30-7:30pm	137 W Margaret Ln Hillsborough, NC	Citizens can drop-in to discuss the draft CTP with staff and provided comments.
<b>Chatham County</b>		
<b>Chatham BOCC</b> January 17 (Tue), 1pm	Historic Courthouse 9 East St., Pittsboro, NC	Presentation and discussion at Chatham BOCC, who typically allow citizens to address them on the agenda item.
<b>Chatham TAC</b> (Trans. Advisory Committee) December 6 (Tue)	Dunlap Classroom 80-A East St., Pittsboro, NC	Presentation and discussion at Chatham TAC.
<b>Chatham</b> workshop February 22(Wed), 5-7pm	Chatham Community Library 197 NC 87, Pittsboro, NC 27312	Drop-in workshop for citizens

## **Appendix I**

### **Existing Transportation Plans and Policies**

#### **Comprehensive Transportation Plans**

The DCHC MPO CTP was developed for all of Durham County and the parts of Orange County and Chatham County that are in the DCHC MPO planning boundary. CTPs listed below provide transportation planning for areas that are adjacent to the DCHC MPO. These CTPs were not incorporated into the DCHC MPO CTP. However, the continuity of the transportation facilities that crossed the CTP planning boundaries was considered in developing the DCHC MPO CTP. Information and links to the NCDOT Projects Planning Web page are shown below.

- ❖ *Orange County CTP*, adopted in 2013, <http://bit.ly/2oosKWs>
- ❖ *Chatham County CTP*, adopted in 2017, <http://bit.ly/2omH4gC>
- ❖ *Person County CTP*, adopted in 2011, <http://bit.ly/2oomOga>
- ❖ *Granville County CTP*, adopted in 2008, <http://bit.ly/2pq8AJq>
- ❖ *Pittsboro CTP*, adopted in 2011, <http://bit.ly/2owMtUx>
- ❖ *Burlington-Graham CTP*, adopted in 2010, <http://bit.ly/2onnUYd>

#### **Thoroughfare Plans**

The CTP process and requirements were legislated to replace the former Thoroughfare Plan requirement. The MPO's CTP will replace the Thoroughfare Plans listed below. A copy of these plans can be found in the "Resources" tab of the following Web site: <http://bit.ly/DCHCMPO-CTP>.

- ❖ *Durham County Thoroughfare Plan* (1992)
- ❖ *Chapel Hill – Carrboro Thoroughfare Plan* (1994)
- ❖ *Hillsborough Thoroughfare Plan* (1996)
- ❖ *Chatham County Thoroughfare Plan* (1983)

#### **Local Plans – Active Transportation**

##### **Bicycle**

##### Bicycle Policy

The MPO bicycle policy provides extensive integration of bicycle needs into the design and construction of new and improved highway and other transportation projects. In addition, the MPO uses several funding sources to construct bicycle projects on new and existing transportation facilities. The "NCDOT Complete Streets Planning and Design Guidelines" and AASHTO "Guide for Development of New Bicycle Facilities"

provide planning and design guidelines for use when building new projects or making changes to existing infrastructure. The MPO relies on additional agency policies such as the “NCDOT Bridge Policy,” which are intended to ensure that new bridges have sufficient bridge deck width to accommodate planned bicycle facilities.

### Bicycle Plans

The local bicycle plans of the MPO’s counties and municipalities identify the planned facilities and provide details on the need for the bicycle facilities. The local bicycle plans listed below have been incorporated into the CTP Bicycle maps. In some cases, minor additions or changes were made to these plans before incorporation into the CTP to recognize the most up to date information and ensure optimal connectivity of the CTP bicycle network.

- ❖ *Carrboro Comprehensive Bicycle Transportation Plan* (2009), <http://bit.ly/1PeRnsl>
- ❖ *Chapel Hill Bike Plan* (2014), <http://bit.ly/1uGbDZ5>
- ❖ *Chatham County Bicycle Plan* (2011), <http://bit.ly/1TSdlUv>
- ❖ *Durham Comprehensive Bicycle Transportation Plan* (2006), <http://bit.ly/1UCSIDz>
- ❖ *Durham Bike+Walk Implementation Plan* (2017), <http://bit.ly/2p2yHJS>
- ❖ *Hillsborough Community Connectivity Plan* (2009), <http://bit.ly/1UDAFHY>
- ❖ *Orange County Comprehensive Plan: Transportation Element* (2008), <http://bit.ly/1S5qjw1>

## **Pedestrian**

### Pedestrian Policy

The MPO pedestrian policy expects any roadway or other transportation project, whether it is a new or improved facility, to include appropriate pedestrian accommodations. This expectation is commonly the provision of sidewalks for roadway projects. The MPO uses several funding sources to construct sections of sidewalks that fill gaps in existing pedestrian networks. The MPO relies on the “NCDOT Complete Streets Planning and Design Guidelines” and other related guidelines to identify the appropriate facility type and design.

### Pedestrian Plans

The CTP only shows off-road pedestrian projects and not sidewalks. Therefore, the local pedestrian plans of the MPO’s counties and jurisdictions are needed to identify the planned sidewalk facilities and provide details on the project need. In these local plans, the priority is generally given to areas with large pedestrian traffic generators, such as transit routes, schools, parks, and business districts. It is important to note that counties and the NCDOT do not typically build or maintain sidewalks. As a result, sidewalks are mostly not constructed in the rural tiers. See the following local pedestrian plans for sidewalk recommendations:

- ❖ Town of Carrboro planned sidewalks, see the DCHC MPO 2040 *Metropolitan Transportation Plan* (MTP), Appendix 4 – Bicycle and Pedestrian Projects – <http://bit.ly/2omMB74>;
- ❖ Chapel Hill's *Bike and Pedestrian Action Plan* (2004) – This plan is inactive while the Town works on the Mobility and Connectivity Plan – <http://bit.ly/28gbvqi>;
- ❖ *Durham Walks! Pedestrian Plan* (2006) – <http://bit.ly/1Y66mfG>;
- ❖ *Durham Bike+Walk Implementation Plan* (2017) – <http://bit.ly/2p2yHJS>; and,
- ❖ *Hillsborough Community Connectivity Plan* (2009) – <http://bit.ly/1UDAFHY>.

## **Multi-use Paths**

### Multi-use Path Policy

The MPO supports the active transportation and recreational use of local, regional and statewide multi-use paths through funding and planning efforts. Many of these paths are coordinated with the bike lanes, sidewalks and other active transportation facilities to provide more comprehensive, complete networks.

### Multi-use Path Plans

The local multi-use path plans of the MPO's counties and jurisdictions identify the planned facilities and provide details on the need for the facilities. Local plans include:

- ❖ Chapel Hill Greenways Master Plan (2013), <http://bit.ly/1Pg2y4p>, and
- ❖ Durham Trails and Greenways Master Plan (2011), <http://bit.ly/25KdgK3>.

## **Local Plans – Public Transportation**

### **Light Rail Transit**

The Locally-Preferred Alternative (LPA) for the Rail Transit provides the basis for the Durham-Orange Light Rail Transit system that goes from North Carolina Central University (NCCU) to the University of North Carolina (UNC) hospitals complex. This project is evolving as it proceeds through the engineering development phase and therefore the LPA should be referenced to find out about any amendments. The following link is for the LPA: <http://bit.ly/2owAXIV>.



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