DCHC
Metropolitan Planning Organization
Planning Tomorrow Today
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DCHC MPO Board

Meeting Agenda

Wednesday, February 14, 2018

9:00 AM

Committee Room 2nd Floor

Durham City Hall 101 City Hall Plaza

Durham, NC 27701

1. Roll Call

2. Ethics Reminder

It is the duty of every Board member to avoid conflicts of interest. Does any Board member have any known conflict of interest with respect to any matters coming before the Board today? If so, please identify the conflict and refrain from any participation in the particular matter involved.

On or by April 15, 2018, all MPO Board members and their alternates or designees must file both a 2018 Statement of Economic Interest (SEI) and a 2018 Real Estate Disclosure Form with the State Ethics Commission. The 2018 Real Estate Disclosure Form MUST accompany the 2018 Statement of Economic Interest. MPO Board members, their alternate or designees must file these forms each year.

Forms are available from the State Ethics Commission website (http://www.ncsbe.gov/Ethics/SEI). The State Ethics Commission prefers electronic filings for the guarantee of an arrival with confirmation.

3. Adjustments to the Agenda

4. Public Comments

5. Directives to Staff

18-100

Attachments: 2018-02-14 (18-100) MPO Board Directives to Staff.pdf

CONSENT AGENDA

6. January 10, 2018 Board Meeting Minutes 18-118

A copy of the January 10, 2018 Board meeting minutes is enclosed.

Board Action: Approve the minutes of the January 10, 2018 Board meeting.

Attachments: 2018-02-14 (18-118) MPO Board Meeting Minutes 1.10.18_LPA2.pdf

ACTION ITEMS

7. Safety Performance Measures and Targets Endorsement (10 minutes) 18-116

Felix Nwoko, LPA Staff

The purpose of this memo is to request the Board's endorsement of NCDOT's established safety Performance Measures Targets for 2018. Federal regulations require Metropolitan Planning Organizations (MPOs) and State Departments of Transportation (DOTs) to set targets for five safety performance measures. The targets must be established in cooperation and collaboration with transit operators, MPOs, NCDOT, Federal Highway Administration (FHWA), National Highway Transportation Safety Administration (NHTSA). Also, 23 CFR 490 and 23 CFR 450 detail regulations that State DOT's and MPO's must follow regarding the inclusion of performance measures into the planning process, and implementation and details of the performance management process (targets, measures, etc.). Accordingly, NCDOT worked in coordination and collaboration with MPOs and the aforementioned stakeholder in setting targets.

Five targets have been set the following safety performance measures and submitted to FHWA:

1. Number of fatalities,
2. Fatality Rate (per 100 million VMT)
3. Number of Serious Injuries
4. Serious Injury Rate (per 100 million VMT)
5. Number of Non-motorized (Pedestrians + Bicyclists) Fatalities and Serious Injuries.

NCDOT's 2018 Safety Targets are shown in the attachment. Also, a Resolution endorsing NCDOT's Safety Performance Targets is attached.

TC Action: Recommend Board approval of the Resolution endorsing NCDOT's Safety Performance Targets.

Attachments: 2018-02-14 (18-116) Performance Measures Targets.pdf
2018-02-14 (18-116) Safety PM target DCHC endorsement Resolution letterhea

8. 2045 Metropolitan Transportation Plan (MTP) (15 minutes) 17-155

Andy Henry, LPA Staff

In January 2018, the MPO Board approved the release of the full 2045 MTP report, and Goals, Objectives, Performance Measures and Targets for a 30-day public input period, which was set to end on February 9, 2018. Based on comments from the Federal Highway Administration (FHWA), the MPO made changes to the report and performance measures to include the federal FAST Act compliant measures that the MPO will have approved: transit state-of-good-repair and roadway safety measures. Inclusion of these FAST Act measures will ensure that the 2045 MTP is compliant when the FAST Act regulations come into full force in May 2018, and therefore the 2045 MTP would not have to be amended along with any Transportation Improvement Program (TIP) amendments around that time. However, the 2045 MTP public review period will have to be extended to allow sufficient time for public review of these added measures. The Technical Committee (TC) recommends extending the public review period to March 2, 2018 and full adoption to the Board's March 14, 2018 meeting. Adoption will include the SE Data, 2045 MTP projects and financial plan, Goals/Objectives/ Performance Measures/Targets, and the full report by resolution, and the Triangle Regional Model by a separate resolution and letter.

The attachments include the following:

* The full report for the 2045 MTP (Note: the changes based on the FAST Act measures are shown in the Chapter 4 table on page 20);
* A draft of the Goals/Objectives/Performance Measures (Note: changes based on the FAST Act measures are found under goals V and VII);
* A draft of the Targets;
* A draft of the resolution that the Board Chair will sign in March to adopt the 2045 MTP, and the related socioeconomic data; and,
* A draft of the letter and resolution that the Board Chair will sign in March to adopt version 6 of the TRM.

Readers should note that there is an executive summary in the front of the full report, and the last page of each chapter has a short summary of the chapter called "key points from this section" to assist their review. The full report and an interactive highway and fixed guideway map are also available at the MPO's 2045 MTP Web site, www.bit.ly/DCHC-MTP-Adopted.

TC Action: Recommend that the Board extend the public review period to March 2, 2018, and adopt the 2045 MTP by resolution, and adopt version 6 of the TRM by letter and resolution at the Board's March 14, 2018 meeting.

Board Action: Extend the public review period to March 2, 2018, and adopt the 2045 MTP by resolution, and adopt version 6 of the TRM by letter and resolution at the Board's March 14, 2018 meeting.

Attachments: 2018-02-14 (17-155) Goals-Obj-PMs.pdf
2018-02-14 (17-155) Targets.pdf
2018-02-14 (17-155) 2045 MTP Full Report.pdf
2018-02-14 (17-155) TRM Letter and Resolution.pdf
2018-02-14 (17-155) 2045 MTP-Resolution.pdf

9. Draft FY2019 Unified Planning Work Program (UPWP) (5 minutes) 17-202

Meg Scully, LPA Staff

The DCHC MPO is required by federal regulations to prepare an annual Unified Planning Work Program (UPWP) that details and guides the urban area transportation planning activities. Funding for the UPWP is provided by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). The UPWP must identify MPO planning tasks to be performed with the use of federal transportation funds. Attached is the draft FY2019 UPWP. The Board received the draft and released it for public comment on January 10, 2018.

TC Action: Recommended Board hold public hearing and approve draft FY2019 Unified Planning Work Program at February 14, 2018, meeting.

Board Action: Hold public hearing and approve draft FY2019 Unified Planning Work Program.

Attachments: 2018-02-14 (17-202) FY19 UPWP Draft 021418.pdf

10. Transit Projects in SPOT 5.0 (30 minutes) 18-119

Aaron Cain, LPA Staff

Since their submittal in September 2017, LPA staff has taken a closer look at potential scores in SPOT 5.0 for its transit mobility projects (transit mobility includes fixed guideway projects such as light rail and fixed route bus service). Furthermore, the Chairs and Vice-Chairs for DCHC MPO and CAMPO have met several times to discuss which projects should be scored in SPOT 5.0 to best enhance the opportunities for transit funding for the entire Triangle region.

On January 24, 2018, CAMPO removed nine transit mobility projects from consideration in SPOT 5.0 (see attached). On January 27, 2018 the DCHC MPO Technical Committee (TC) authorized a subcommittee to make recommendations on whether or not to remove any DCHC transit mobility projects from consideration in SPOT 5.0 and, if so, which projects. That subcommittee met on February 13, 2018.

Scores from SPOT 5.0 are scheduled to be released at the end of March. This is the last opportunity for the DCHC MPO Board to act before projects are scored and scaled by the SPOT office.

Board Action: Act on the recommendation of the TC Subcommittee regarding transit mobility projects in SPOT 5.0.

Attachments: 2018-02-14 (18-119) CAMPO SPOT 5 Public Transportation Project Submittal M

11. Amendment #1 to the FY2018-2027 TIP (5 minutes) 17-197

Aaron Cain, LPA Staff

On November 8, 2017, the DCHC MPO Board adopted the FY2018-2027 TIP. On January 19, 2018 the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) reconciled the DCHC MPO TIP with the FY2018-2027 STIP. Therefore, additions and amendments to local projects that differ from the initially-adopted STIP can now added to the TIP. This amendment adds these projects to the TIP.

Because some of these projects change the funding amount by more than $1,000,000, per the DCHC MPO Public Involvement Plan (PIP), the amendment was released for a 21-day public comment period on December 18, 2017. No comments from the public were submitted.

The full report, summary sheet, and resolution for Amendment #1 are attached.

TC Action: Recommended approval of Amendment #1 to the FY2018-27 TIP.

Board Action: Approve Amendment #1 to the FY2018-27 TIP.

Attachments: 2018-02-14 (17-197) TIP Amendment #1 Summary Sheet.pdf

2018-02-14 (17-197) TIP Amendment #1 Full Report.pdf

2018-02-14 (17-197) TIP Amendment #1 Resolution.pdf

12. Draft Local Input Points Methodology (15 minutes) 17-208

Aaron Cain, LPA Staff

The Local Input Points Methodology (see attached) is the document that guides how staff will develop an initial ranking of projects that were submitted by DCHC to SPOT 5.0 for assignment of local input points. The DCHC MPO Board released the Draft Local Input Points Methodology for public review at its January 10, 2018 meeting. To date, no public comments were received. At the January 10, 2018 MPO Board meeting, the Board was also able to review and provide comment on the Draft Local Input Points Methodology. Per NCDOT guidelines and the DCHC MPO Public Involvement Policy (PIP), the DCHC MPO Board must hold a public hearing before adopting the Local Input Points Methodology.

The Local Input Points Methodology must be adopted by the MPO Board and approved by NCDOT prior to April 1, 2018. In order to meet that deadline, LPA staff will follow this schedule:

February 14, 2018 - MPO Board adopts Methodology; LPA staff forward Methodology to NCDOT for review
February 21, 2018 - NCDOT provides comment to DCHC MPO, if necessary
February 28, 2018 - TC reviews NCDOT comments and revises Methodology, if necessary
March 14, 2018 - MPO Board adopts revised Methodology, if necessary

Therefore, should there be substantive comment from NCDOT after their review, the MPO Board will be asked to adopt a revised version at the March 14, 2018 meeting.

TC Action: Recommended that the MPO Board hold a public hearing and adopt the Local Input Points Methodology.

Board Action: Hold a public hearing and, based on public comment, adopt the Local Input Points Methodology.

Attachments: 2018-02-14 (17-208) Draft Local Points Methodology.pdf

REPORTS:

13. Report from the Board Chair 18-101

Damon Seils, Board Chair

Board Action: Receive the report from the Board Chair

14. Report from the Technical Committee Chair 18-102

Ellen Beckmann,TC Chair

Board Action: Receive the report from the TC Chair.

15. Report from LPA Staff 18-103

Felix Nwoko, LPA Manager

Board Action: Receive the report from LPA Staff.

Attachments: 2018-02-14 (18-103) LPA staff report.pdf

16. NCDOT Report 18-104

Joey Hopkins (David Keilson/Richard Hancock), Division 5 - NCDOT
Mike Mills (Pat Wilson/Ed Lewis), Division 7 - NCDOT
Brandon Jones (Bryan Kluchar, Jen Britt), Division 8 - NCDOT
Julie Bogle, Transportation Planning Division - NCDOT
John Grant, Traffic Operations - NCDOT

Board Action: Receive the reports from NCDOT.

Attachments: 2018-02-14 (18-104) NCDOT Progress Report.pdf

INFORMATIONAL ITEMS

17. Recent News Articles and Updates 18-105

Attachments: 2018-02-14 (18-105) news_articles.pdf

Adjourn

Next meeting: March 14, 9 a.m., Committee Room

Dates of Upcoming Transportation-Related Meetings:
NCAMPO 2018 Conference April 25-27, Durham

MPO Board Directives to Staff

12/01/15 – Present (Completed/Pending/In Progress)

Meeting Date	Directive	Status
12/9/2015	Quarterly updates on D-O LRT project.	On-going: GoTriangle will provide quarterly updates to MPO Board.
2/15/2016	Draft Letter of Support for D-O LRT project to advance to Engineering Phase for MPO Board Chair signature	Completed: 2/18/2016.
4/13/2016	Research and consider renaming DCHC MPO an acronym that would be easier remember and simple to say.	Completed. 6/8/2016. DCHC MPO staff and the Technical Committee researched and provided a recommendation to the MPO Board.
4/13/2016	Provide the MPO Board with a breakdown of funding for highway program and non-highway program in the MPO TIP.	Completed. DCHC MPO staff created a summary report and distributed it during May 11, 2016 Board meeting.
5/11/2016	Schedule presentation from NCDOT Division and City Public Works regarding flooding on Trenton Road.	Completed. DCHC MPO staff arranged to have an update at the June 8, 2016 Board meeting.
5/11/2016	Prepare a presentation on the breakdown of funding for highway program and non-highway program in the MPO TIP.	Completed. DCHC MPO staff presented the summary report at the June 8, 2016 Board meeting.
6/8/2016	Update the DCHC MPO's tagline on the MPO website to provide information to the public that explains the MPO does regional transportation planning for the western Triangle area.	Underway. DCHC MPO staff is still working on updating the tagline on the MPO website.
6/8/2016	Conduct background study on toll roads and how they are used and affect municipalities like DCHC MPO.	Underway. Consultant selected and presentation was given at November 2016 joint DCHC/CAMPO MPO meeting. Staff is arranging for an update presentation from the consultant.
12/14/2016	Draft letter to NCDOT regarding citizen request for "Bicycles May Use Full Lane" signs on Old NC 86 north of Carrboro, and to reiterate interest in providing bike lanes or wider shoulders to accommodate bicyclists.	Completed. DCHC MPO staff sent letter to NCDOT on January 30, 2017; response received March 15, 2017.
1/11/2017	Draft letter to NCDOT requesting that issues of equity for low-income users be incorporated into planning for managed lanes on I-40 and NC-147.	Completed. Draft completed January 29, 2017.

Meeting Date	Directive	Status
4-28-17	Determine the number of distance signs on freeways within the MPO's jurisdiction. Investigate the options for increasing the number of signs with NCDOT, particularly on and around the East End Connector at its completion.	Completed. MPO staff has found seven distance signs on freeways within the MPO's jurisdiction: four on I-85, one on NC-147, one on US 15-501, and one on I-85/40 in western Orange County. MPO staff has followed up with NCDOT about the opportunity for additional signs along I-40 in Durham and/or Orange counties.
4-28-17	Work with Division 7 to amend the signage plan for the East End Connector to include signs warning motorists about construction before the I-85/40 split.	Completed. MPO staff has contacted Division 7 regarding this request. Once project is completed, signage plan will be finalized.
5-10-17	Have someone from NCDOT present to the MPO Board on synchronized/super streets.	Completed. Jim Dunlop of NCDOT's Congestion Management Division presented at the August 2017 MPO Board meeting.
9-13-17	Request for staff to give a presentation on the STI framework, focusing on what provisions are directly by federal legislation, by state legislation, and those that are department policy. Invite new Deputy Secretary Julie White to meet and discuss NCDOT policy regarding prioritization with the Board.	Completed. LPA staff presented at the November 8, 2017 Board meeting. Deputy Secretary Julie White is scheduled to attend the March 14, 2018 Board meeting.

DURHAM-CHAPEL HILL-CARRBORO METROPOLITAN PLANNING ORGANIZATION BOARD

10 January 2018

MINUTES OF MEETING

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization Board met on January 10, 2018, at 9:00 a.m. in the City Council Committee Room, located on the second floor of Durham City Hall. The following people were in attendance:

Damon Seils (MPO Board Chair)	Town of Carrboro
Vice Chair Wendy Jacobs (MPO Board Vice Chair)	Durham County
Vernetta Alston (Member)	City of Durham
Charlie Reece (Member)	City of Durham
Ellen Reckhow (Member)	GoTriangle
Pam Hemminger (Member)	Town of Chapel Hill
Nina Szlosberg-Landis (Member)	NC Board of Transportation
Heidi Carter (Alternate)	Durham County
Jenn Weaver (Alternate)	Town of Hillsborough
Michael Parker (Alternate)	Town of Chapel Hill
Penny Rich (Alternate)	Orange County
Richard Hancock	NCDOT, Division 5
Ed Lewis	NCDOT, Division 7
Bryan Kluchar	NCDOT, Division 8
Jen Britt	NCDOT, Division 8
Julie Bogle	NCDOT, TPD
Tina Moon	Town of Carrboro
Kayla Seibel	Town of Chapel Hill
Geoff Green	GoTriangle
Ellen Beckmann	City of Durham
Evan Tenenbaum	Durham County
Eddie Dancausse	Federal Highway Administration
Felix Nwoko	DCHC MPO
Andy Henry	DCHC MPO
Meg Scully	DCHC MPO
Aaron Cain	DCHC MPO
Dale McKeel	DCHC MPO
Brian Rhodes	DCHC MPO
Mo Devlin	DCHC MPO
Anne Phillips	DCHC MPO
Darrell Mangum	City of Durham
Nishith Trivedi	Orange County

Quorum Count: 9 of 10 Voting Members

Chair Damon Seils called the meeting to order at 9:04 a.m. A roll call was performed. The Voting Members and Alternate Voting Members of the DCHC MPO Board were identified and are indicated above. Chair Damon Seils reminded everyone to sign-in using the sign-in sheet that was being circulated.

Pam Hemminger made a motion to grant excused absences to Brian Lowen and Barry Jacobs. Charlie Reece seconded the motion. The motion passed unanimously.

PRELIMINARIES:

2. Ethics Reminder

Chair Damon Seils read the Ethics Reminder. He asked if there were any known conflicts of interest with respect to matters coming before the MPO Board and requested that if there were any identified during the meeting for them to be announced. There were no known conflicts identified by MPO Board members.

3. Adjustments to the Agenda

Chair Damon Seils asked if there were any adjustments to the agenda.

Aaron Cain stated that staff was requesting that agenda item #12 be referred back to staff, given that the FY18-27 Transportation Improvement Program (TIP) has not yet been approved by the Federal Highway Administration (FHWA).

4. Public Comments

There were no public comments.

5. Directives to Staff

The Directives to Staff were included in the agenda packet for review.

CONSENT AGENDA:

6. Approval of December 13, 2017, Meeting Minutes

Ellen Reckhow stated that the word “projects” should be “projections” on line 159 of the minutes. Pam Hemminger made a motion to approve the amended December 13, 2017, MPO Board meeting minutes. Vice Chair Wendy Jacobs seconded the motion. The motion passed unanimously.

7. Resolution to Request Transfer of FHWA Funds to FTA
Meg Scully, LPA Staff

Pam Hemminger made a motion to approve the Resolution to Request Transfer of FHWA to the Federal Transit Administration (FTA). Vice Chair Wendy Jacobs seconded the motion. The motion passed unanimously.

ACTION ITEMS:

8. 2045 Metropolitan Transportation Plan (MTP)
Andy Henry, LPA Staff

Andy Henry reviewed past steps in the development of the MTP, and the changes that were made to the MTP. Andy Henry discussed the next steps for approving the MTP, and reviewed the attachments received by MPO Board members. Andy Henry stated that the MPO Board would be adopting the Triangle Regional Model (TRM) at the time of the adoption of the MTP. Andy Henry provided an overview of the contents of the MTP report. He also discussed uses for the TRM, and reviewed some of the projects that are in the MTP. Andy Henry discussed the environmental justice and air quality conformity provisions in the MTP.

Andy Henry and Michael Parker discussed whether the Chapel Hill Bus Rapid Transit (BRT) and the proposed extension of the Durham-Orange Light Rail Transit (D-O LRT) project would compete with each other. Andy Henry and Ellen Reckhow discussed the goals, objectives, and performance measure indicators for the MTP. Andy Henry and Vice Chair Wendy Jacobs discussed the public comment process for the MTP, particularly the extent to which jurisdictions assist with the process and the materials that would be available for residents. Ellen Reckhow commented on the importance of tracking targets and responding to undesirable target trends. Michael Parker commented on the importance of drawing a

better connection between how a collection of projects helps the MPO to achieve its goals. Nina Szlosberg-Landis and Andy Henry further discussed the public comment process and whether someone oversees outreach on behalf of the MPO. Penny Rich commented that it was important for MPO Board members to talk to their public information officers to make sure that information is being circulated about public comment opportunities. Nina Szlosberg-Landis stated that the North Carolina Department of Transportation (NCDOT) was in the process of reviewing its Complete Streets policy, and the changes that would be rolling out in the next few months will align with the adoption of the MTP. Chair Damon Seils discussed Carrboro's public engagement process, and commended Andy Henry on the goals, objectives, and performance measures. Chair Damon Seils and Andy Henry discussed how environmental justice requirements were being used for the "ensuring equity and participation" goal of the MTP. Ellen Reckhow and Andy Henry discussed vehicle crash data in relation to the "promote safety and health" goal and objective of the MTP.

Ellen Reckhow made a motion to release the full 2045 MTP report, and Goals, Objectives, Performance Measures and Targets for a minimum 30-day public comment period. Penny Rich seconded the motion. The motion passed unanimously.

9. Draft FY2019 Unified Planning Work Program (UPWP)

Meg Scully, LPA Staff

Meg Scully explained that the DCHC MPO is required by federal regulations to prepare an annual UPWP that details and guides the urban area transportation planning activities. She reviewed funding sources for the UPWP, and added that the UPWP must identify MPO planning tasks to be performed with the use of federal transportation funds. Meg Scully stated that beginning in FY2014, all member jurisdictions began cost sharing of the Lead Planning Agency portion of FHWA funds, previously the City of Durham covered the local match. Meg Scully discussed the prospectus that is used to develop the UPWP. Meg Scully provided an overview of some of the highlights of the UPWP.

Chair Damon Seils and Meg Scully discussed the federal funding that is used by jurisdictions for planning. Ellen Reckhow and Meg Scully discussed how decisions are made about spending funds. Penny Rich and Meg Scully discussed whether jurisdictions had to choose to spend or flex funds, or whether they could do both. Meg Scully stated that the UPWP would be subject to a public comment period and a public hearing. She also reviewed the timeline for approving the UPWP.

Vice Chair Wendy Jacobs made a motion to release the UPWP for public comment. Pam Hemminger seconded the motion. The motion passed unanimously.

10. Draft Local Input Points Methodology
Aaron Cain, LPA Staff

Aaron Cain reviewed how projects are scored through the Strategic Prioritization Office of Transportation (SPOT) process, and explained the need for a methodology for assigning local input points. He drew attention to a draft methodology for assigning local input points. Aaron Cain stated that the methodology would need to be released for a public comment period and would be subject to a public hearing. He also reviewed the timeline for adopting the methodology. Aaron Cain discussed how the local input methodology has evolved. He also discussed the flexibility that is built into the local input methodology.

Aaron Cain and Vice Chair Wendy Jacobs discussed whether the state provides basic criteria for the development of the local input methodology, and whether the DCHC MPO reviews the Capital Area Metropolitan Planning Organization's (CAMPO) methodology. Aaron Cain explained how projects are defined as having a regional impact. Vice Chair Wendy Jacobs and Aaron Cain discussed whether there has been discussion with other regions about their local input methodology. Ellen Reckhow discussed how the DCHC MPO has worked with CAMPO in the past on the development of its methodology. Aaron Cain explained how the DCHC MPO works with other bordering MPOs to assign points to projects. Chair Damon Seils and Aaron Cain discussed how the method of assigning points could be used to reflect the values of the DCHC MPO. Nina Szlosberg-Landis and Aaron Cain discussed how the opportunity to

comment on the local input methodology would be publicized. There was discussion of how this public input opportunity could be publicized using Twitter.

Pam Hemminger made a motion to release the draft Methodology for Identifying and Ranking New Transportation Improvement Program Project Requests for a 21-day public comment period. Vice Chair Wendy Jacobs seconded the motion. The motion passed unanimously.

11. Programming of STBG-DA Funds to Hillsborough Riverwalk, C-5184
Aaron Cain, LPA Staff
Margaret Hauth, Town of Hillsborough

The Town of Hillsborough has requested $518,850 in Surface Transportation Block Grant Direct Attribution (STBG-DA) funds to cover a funding shortfall for construction of Phase III of the Hillsborough Riverwalk (STIP# C-5184). Aaron Cain explained that bids came in higher than engineers had estimated for construction of the project. Aaron Cain stated that the MPO would allocate funding for this project in FY18 unobligated STBG-DA funds. Aaron Cain stated that the MPO Board would need to approve a resolution approving the allocation of funds so that the Town of Hillsborough Board of Commissioners could authorize awarding the contract on January 22, 2018.

Chair Damon Seils confirmed that the MPO would be advancing STBG-DA funds that Hillsborough would already be receiving in future years. Ellen Reckhow pointed out that the Riverwalk was not just a local attraction, but a regional one as well. Penny Rich pointed out that the Riverwalk was part of the Mountains to Sea Trail. Aaron Cain stated that there would be a tour of the Riverwalk and downtown Hillsborough as part of the North Carolina Association of Metropolitan Organization (NCAMPO) conference in April. Jenn Weaver discussed the emissions impact of the project. Ellen Reckhow and Jenn Weaver discussed the section of the Riverwalk that would be completed using the requested funds.

Pam Hemminger made a motion to approve the resolution to allocate $518,850 of FY18 STBG-DA funds to Phase III of the Hillsborough Riverwalk, C-5184. Ellen Reckhow seconded the motion. The motion passed unanimously.

Aaron Cain and Nina Szlosberg-Landis discussed the MPO's $16 million in unallocated direct attribution funds. Pam Hemminger discussed North Carolina Transportation Secretary James Trogdon's plans to speed up the planning progress of projects. Chair Damon Seils asked Aaron Cain to put together an agenda item on unallocated funds for an upcoming MPO Board meeting. Chair Damon Seils stated that smaller communities may have less capacity than others at the staff level to manage transportation projects which may have contributed to the hold up with projects. Aaron Cain stated that Deputy Transportation Secretary Julie White would be attending the March MPO Board meeting, and in a recent conversation she mentioned that she is interested in how NCDOT can help smaller communities with project delivery.

Nina Szlosberg-Landis discussed how NCDOT was trying to categorize as many projects as possible as categorical exclusions as part of an effort to streamline projects. Nina Szlosberg-Landis discussed similar issues with the use Transportation Alternatives Program (TAP) funds. There was discussion of how local match requirements negatively affect smaller communities.

Vice Chair Wendy Jacobs discussed NCDOT's new targets for project delivery discussed in the recent meeting with Transportation Secretary James Trogdon. Nina Szlosberg-Landis discussed other steps that can be taken to speed up project delivery. Pam Hemminger stated that in a recent meeting with a group of mayors, there was discussion of frustrations caused by utility companies holding up projects.

Aaron Cain shared the details of the upcoming North Carolina Association of Metropolitan Planning Organizations (NCAMPO) meeting. Chair Damon Seils asked that Aaron Cain send out a reminder about the NCAMPO meeting to the MPO Board.

12. Amendment #1 to the FY2018-2027 TIP
Aaron Cain, LPA Staff

Aaron Cain asked that this item be referred back to staff given that the FHWA has not yet completed the process of reconciling the TIP with the State Transportation Improvement Program (STIP).

Pam Hemminger made a motion to refer this item back to staff. Jenn Weaver seconded the motion. The motion passed unanimously.

REPORTS:

13. Report from the DCHC MPO Board Chair
Damon Seils, DCHC MPO Board Chair

There was no report from the MPO Board Chair. Chair Damon Seils stated that he was looking forward to receiving more information about the NCAMPO conference.

14. Report from the DCHC MPO Technical Committee Chair
Ellen Beckmann, DCHC MPO TC Chair

There was no report from the DCHC MPO TC Chair. Ellen Beckmann stated that she appreciated the MPO Board's discussion of the amount of time and effort that projects take up. She directed the MPO Board to an online list of Durham's projects. There was discussion of the funding sources for the Durham projects. Ellen Reckhow suggested that the MPO look at best practices from other MPOs in order to expedite project delivery.

15. Reports from LPA Staff
Felix Nwoko, LPA Staff

Felix Nwoko introduced Mo Devlin, the new staff working group administrator.

Aaron Cain confirmed plans to schedule orientation sessions for new MPO Board members. Aaron Cain shared details for the upcoming NC 54 corridor study public meetings.

16. NCDOT Reports:

Richard Hancock, NCDOT Division 5, discussed upcoming closures related to the East End Connector project. Richard Hancock also provided updates for projects on NC 147 and Alston Avenue. He stated that there would be an upcoming closure related to the Pettigrew Street bridge project. Richard Hancock discussed utility issues related to the Old Chapel Hill Road bicycle and pedestrian project. In response to a comment from Pam Hemminger, Richard Hancock stated that there would be no closure on Pope Road. Richard Hancock provided an update on the Barbee Road/Herndon Road roundabout. There was discussion of plans to take the Latta/Infinity Road project before the Durham City Council. Vice Chair Wendy Jacobs asked for and received clarification about how the public is alerted to closures.

Ed Lewis, NCDOT Division 7, shared details about an upcoming public meeting for the Orange Grove Road Extension in Hillsborough. He added that staff was working to refine the design of the Franklin/Merritt Mill project. Pam Hemminger and Ed Lewis discussed the extent to which local staff has been involved in discussions about the Franklin/Merritt Mill project. Ed Lewis stated that he would be glad to learn about the solution that local staff has come up with for the Franklin/Merritt Mill project. Pam Hemminger discussed why the Franklin/Merritt Mill project does not score well. She stated that the major goal of the project is to reduce confusion with the automobiles interacting with pedestrians and bicycles. Ed Lewis stated that staff was about to have a preconstruction meeting for the project that will put up a fence on the Orange Grove Road bridge over I-40. Ed Lewis provided an update on the low-cost high-impact projects, and noted that the Division would be sending out a list of projects to all of its Rural Planning Organization (RPO) and MPO partners so they can see which projects are in their jurisdiction. Ed Lewis and Pam Hemminger discussed the Bennett Road and Mt. Carmel Church Road project.

Bryan Kluchar, NCDOT Division 8, stated that there would be a realignment of the intersection of NC 751 and O'Kelly Chapel Road, and that the project was in right of way acquisition.

There was no report from NCDOT Transportation Planning Division.

INFORMATIONAL ITEMS:

17. Recent News, Articles, and Updates

Pam Hemminger asked for and received details about GoTriangle's upcoming Economic Opportunities Summit. There was discussion of the planned agenda and the appropriate audience for the summit. Geoff Green promised to circulate information about the summit to MPO Board members.

ADJOURNMENT:

There being no further business before the DCHC MPO Board, the meeting was adjourned at 10:36 a.m.

DCHC
Metropolitan Planning Organization
Planning Tomorrow's Tranportation

Durham – Chapel Hill – Carrboro
Metropolitan Planning Organization
Member Organizations: Town of Carrboro, Town of Chapel Hill, Chatham County, City of Durham, Durham County, Town of Hillsborough, NC Department of Transportation, Orange County, GoTriangle

Date: February 14, 2018

Memo To: DCHC MPO Board

From: DCHC MPO Staff

The purpose of this memo is to request the Board's endorsement of NCDOT's established safety Performance Measures Targets for 2018. Federal regulations require Metropolitan Planning Organizations (MPOs) and State Departments of Transportation (DOTs) to set targets for five safety performance measures. The targets must be established in cooperation and collaboration with transit operators, MPOs, NCDOT, Federal Highway Administration (FHWA), National Highway Transportation Safety Administration (NHTSA). Also, 23 CFR 490 and 23 CFR 450 detail regulations that State DOT's and MPO's must follow regarding the inclusion of performance measures into the planning process, and implementation and details of the performance management process (targets, measures, etc.). Accordingly, NCDOT worked in coordination and collaboration with MPOs and the aforementioned stakeholder in setting targets.

Five targets have been set the following safety performance measures and submitted to FHWA:

1. Number of fatalities,
2. Fatality Rate (per 100 million VMT)
3. Number of Serious Injuries
4. Serious Injury Rate (per 100 million VMT)
5. Number of Non-motorized (Pedestrians + Bicyclists) Fatalities and Serious Injuries.

Per section 490.209 (c), MPO's have 180 days from August 31, 2017 to establish a target by either:

a. Agreeing to plan and program projects so that they contribute toward the accomplishment of NCDOT's safety target for that performance measure; or

b. Committing to a quantifiable target for that performance measure for your metropolitan planning area.

NCDOT's 2018 Safety Targets are as follows:

Highway Safety Improvement Program (HSIP)

- For the 2018 Highway Safety Improvement Program (HSIP), the goal is to reduce total fatalities by 5.10 percent each year from 1,340.6 (2012-2016 average) to 1,207.3 (2014-2018 average) by December 31, 2018.

- For the 2018 Highway Safety Improvement Program (HSIP), the goal is to reduce the fatality rate by 4.75 percent each year from 1.228 (2012-2016 average) to 1.114 (2014-2018 average) by December 31, 2018.

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- For the 2018 Highway Safety Improvement Program (HSIP), the goal is to reduce total serious injuries by 5.10 percent each year from 2,399.8 (2012-2016 average) to 2,161.2 (2014-2018 average) by December 31, 2018.

- For the 2018 Highway Safety Improvement Program (HSIP), the goal is to reduce the serious injury rate by 4.75 percent each year from 2.191 (2012-2016 average) to 1.988 (2014-2018 average) by December 31, 2018.

- For the 2018 Highway Safety Improvement Program (HSIP), the goal is to reduce the total non-motorized fatalities and serious injuries by 5.30 percent each year from 438.8 (2012-2016 average) to 393.5 (2014-2018 average) by December 31, 2018.

The MPO Safety Measures Fact Sheet, prepared by FHWA is enclosed as attachment. Also attached for illustrative purposes is DCHC MPO safety data and targets.

MPO Board Action: Approve the attached Resolution endorsing Targets for safety performance measures established by NCDOT.

Metropolitan Planning Organization Safety Performance Measures Fact Sheet

Safety Performance Measures

The Safety Performance Management Measures regulation supports the Highway Safety Improvement Program (HSIP) and requires State Departments of Transportation (DOTs) and Metropolitan Planning Organizations (MPOs) to set HSIP targets for 5 safety performance measures. This document highlights the requirements specific to MPOs and provides a comparison of MPO and State DOT responsibilities.

HSIP Safety Targets Established by MPOs	
1	Number of fatalities
2	Rate of fatalities
3	Number of serious injuries
4	Rate of serious injuries
5	Number of non-motorized fatalities and non-motorized serious injuries

How do MPOs establish HSIP targets?

Coordination is the key for all stakeholders in setting HSIP targets. Stakeholders should work together to share data, review strategies and understand outcomes. MPOs must work with the State DOT. MPOs should also coordinate with the State Highway Safety Office, transit operators, local governments, the FHWA Division Office, National Highway Transportation Safety Administration (NHTSA) Regional Office, law enforcement and emergency medical services agencies, and others. By working together, considering and integrating the plans and programs of various safety stakeholders, MPOs will be better able to understand impacts to safety performance to establish appropriate HSIP targets. Coordination should start with the Strategic Highway Safety Plan (SHSP). More information on the SHSP is available at http://safety.fhwa.dot.gov/hsip/shsp/.

MPOs establish HSIP targets by either:

1. agreeing to plan and program projects so that they contribute toward the accomplishment of the State DOT HSIP target or
2. committing to a quantifiable HSIP target for the metropolitan planning area.

To provide MPOs with flexibility, MPOs may support all the State HSIP targets, establish their own specific numeric HSIP targets for all of the performance measures, or any combination. MPOs may support the State HSIP target for one or more individual performance measures and establish specific numeric targets for the other performance measures.

If an MPO agrees to support a State HSIP target, the MPO would …	If an MPO establishes its own HSIP target, the MPO would…
■ Work with the State and safety stakeholders to address areas of concern for fatalities or serious injuries within the metropolitan planning area ■ Coordinate with the State and include the safety performance measures and HSIP targets for all public roads in the metropolitan area in the MTP (Metropolitan Transportation Plan) ■ Integrate into the metropolitan transportation planning process, the safety goals, objectives, performance measures and targets described in other State safety transportation plans and processes such as applicable portions of the HSIP, including the SHSP ■ Include a description in the TIP (Transportation Improvement Program) of the anticipated effect of the TIP toward achieving HSIP targets in the MTP, linking investment priorities in the TIP to those safety targets	■ Establish HSIP targets for all public roads in the metropolitan planning area in coordination with the State ■ Estimate vehicles miles traveled (VMT) for all public roads within the metropolitan planning area for rate targets ■ Include safety (HSIP) performance measures and HSIP targets in the MTP ■ Integrate into the metropolitan transportation planning process, the safety goals, objectives, performance measures and targets described in other State safety transportation plans and processes such as applicable portions of the HSIP, including the SHSP ■ Include a description in the TIP of the anticipated effect of the TIP toward achieving HSIP targets in the MTP, linking investment priorities in the TIP to those safety targets

Volumes for HSIP Rate Targets: MPOs that establish fatality rate or serious injury rate HSIP targets must report the VMT estimate used for such targets, and the methodology used to develop the estimate, to the State DOT. For more information on volumes for HSIP rate targets, see http://www.fhwa.dot.gov/planning/processes/tools/technical_guidance/index.cfm.

Roads addressed by MPO HSIP Targets: HSIP targets cover all public roadways within the metropolitan planning area boundary regardless of ownership or functional classification, just as State HSIP targets cover all public roads in the State.

How do MPOs with multi-State boundaries establish HSIP targets?

MPOs with multi-State boundaries must coordinate with all States involved. If an MPO with multi-State boundaries chooses to support a State HSIP target, it must do so for each State. For example, an MPO that extends into two States would agree to plan and program projects to contribute to two separate sets of HSIP targets (one for each State). If a multi-State MPO decides to establish its own HSIP target, the MPO would establish the target for the entire metropolitan planning area.

Top 5 Things to Know about MPO HSIP Safety Performance Targets	
✓	All MPOs must set a target for each of the 5 HSIP Safety Performance Measures
✓	MPOs may adopt and support the State's HSIP targets, develop their own HSIP targets, or use a combination of both
✓	MPOs must establish their HSIP targets by February 27 of the calendar year for which they apply
✓	MPO HSIP targets are reported to the State DOT
✓	MPO HSIP targets are not annually assessed for significant progress toward meeting targets; State HSIP targets are assessed annually

When do MPOs need to establish these targets?

States establish HSIP targets and report them for the upcoming calendar year in their HSIP annual report that is due August 31 each year. MPOs must establish HSIP targets within 180 days of the State establishing and reporting its HSIP targets. Since FHWA deems the HSIP reports submitted on August 31, MPOs must establish HSIP targets no later than February 27 of each year.

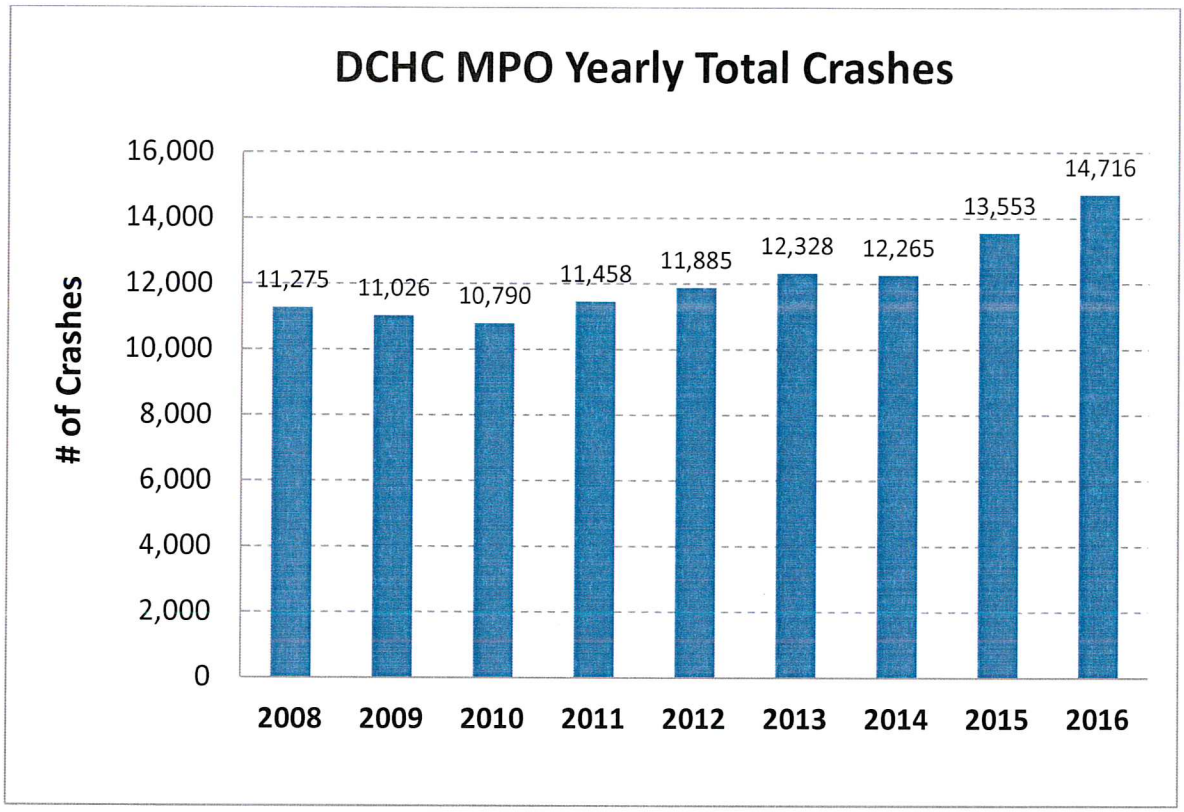
Where do MPOs report targets?

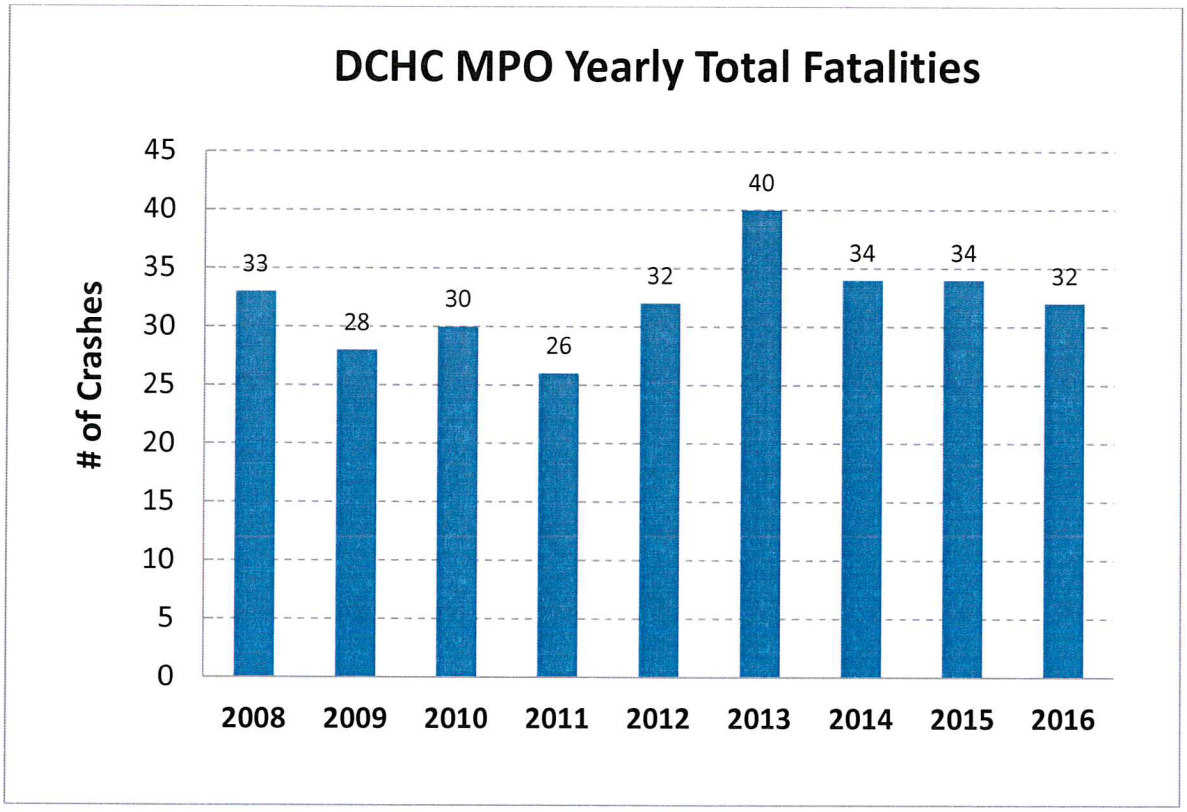
While States report their HSIP targets to FHWA in their annual HSIP report, MPOs do not report their HSIP targets directly to FHWA. Rather, the State(s) and MPO mutually agree on the manner in which the MPO reports the targets to its respective DOT(s). MPOs must include baseline safety performance, HSIP targets and progress toward achieving HSIP targets in the system performance report in the MTP.

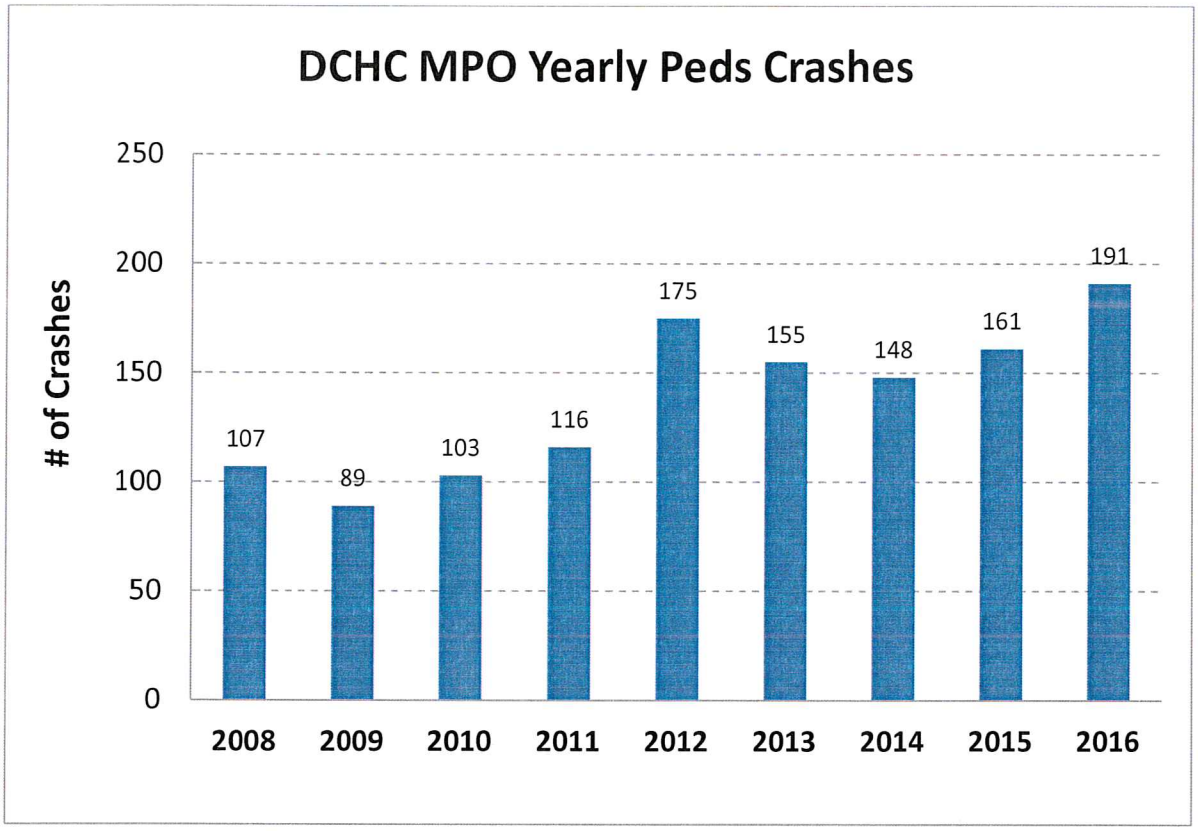
Whether an MPO agrees to support a State HSIP target or establishes its own HSIP target the MPO would include in the MTP a systems performance report evaluating the condition and performance of the transportation system with respect to the safety performance targets described in the MTP including progress achieved by the MPO in achieving safety performance targets

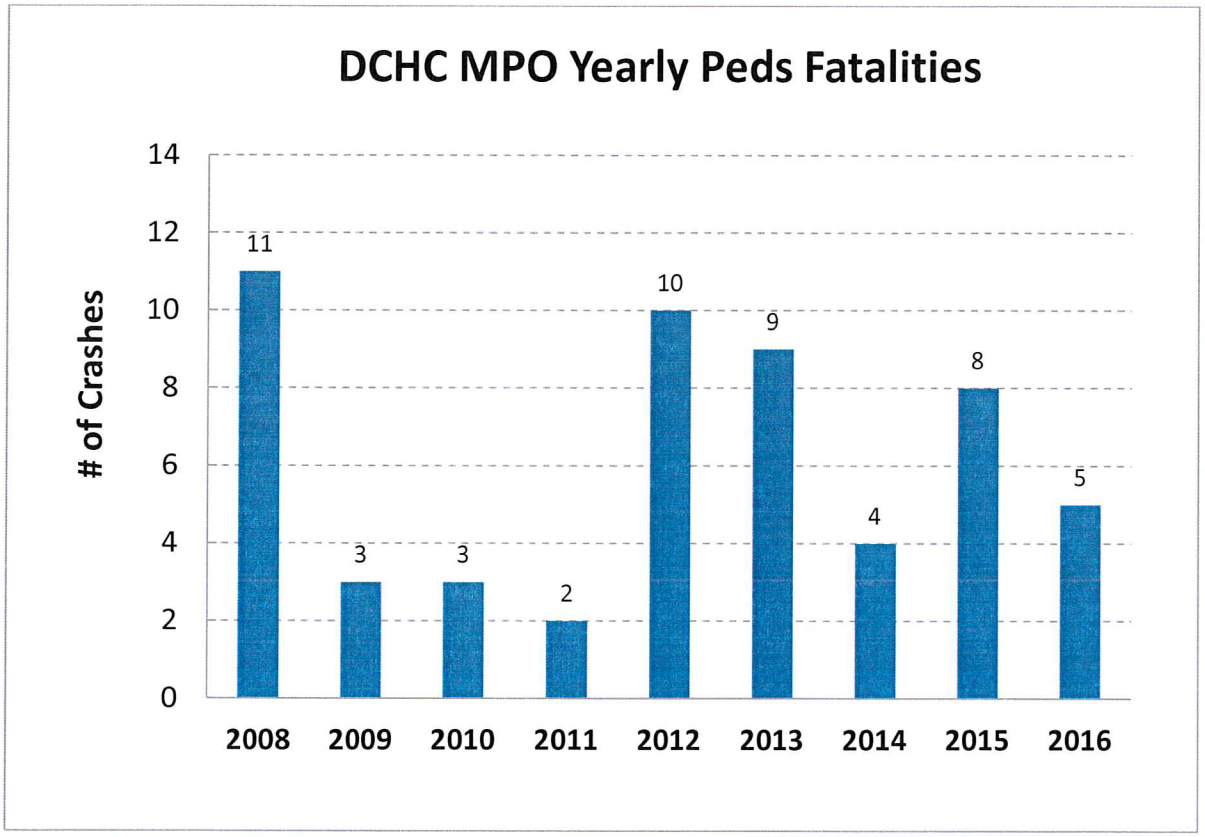
Assessment of Significant Progress

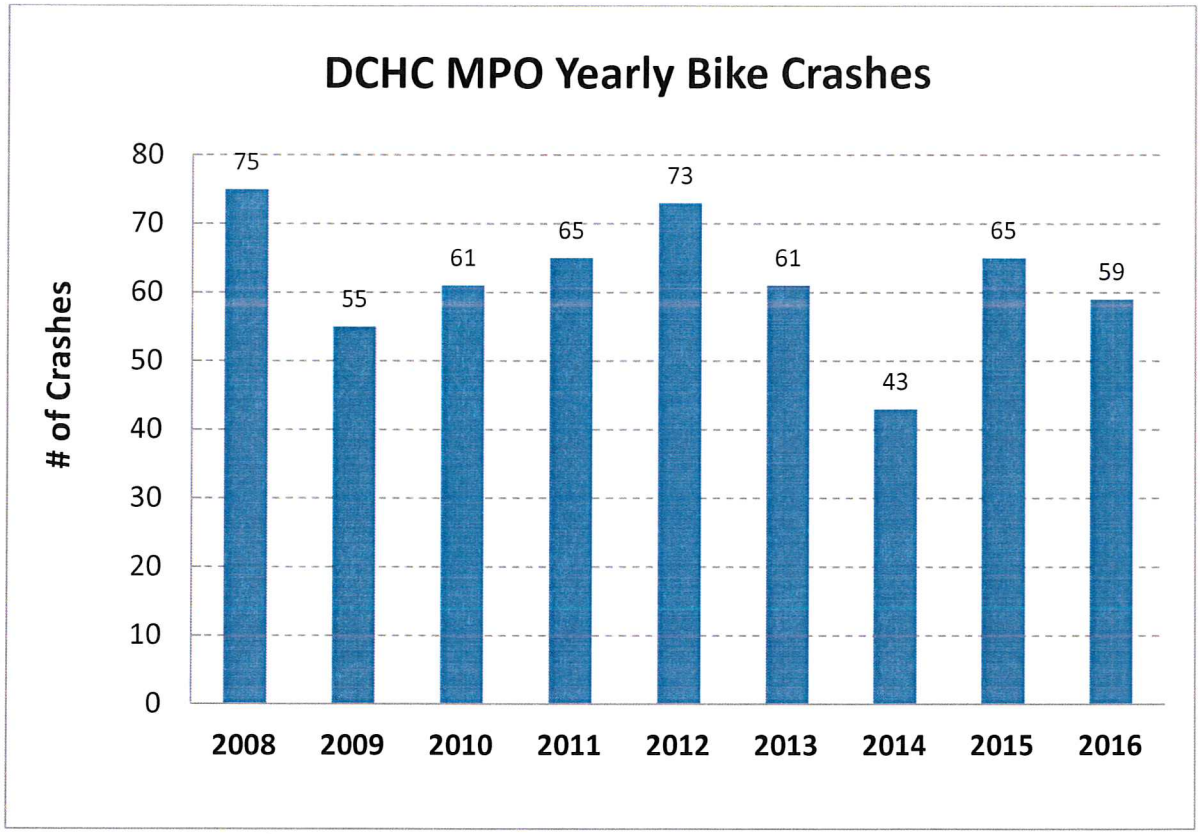
While FHWA will determine whether a State DOT has met or made significant progress toward meeting HSIP targets, it will not directly assess MPO progress toward meeting HSIP targets. However, FHWA will review MPO performance as part of ongoing transportation planning process reviews including the Transportation Management Area certification review and the Federal Planning Finding associated with the approval of the Statewide Transportation Improvement Program.

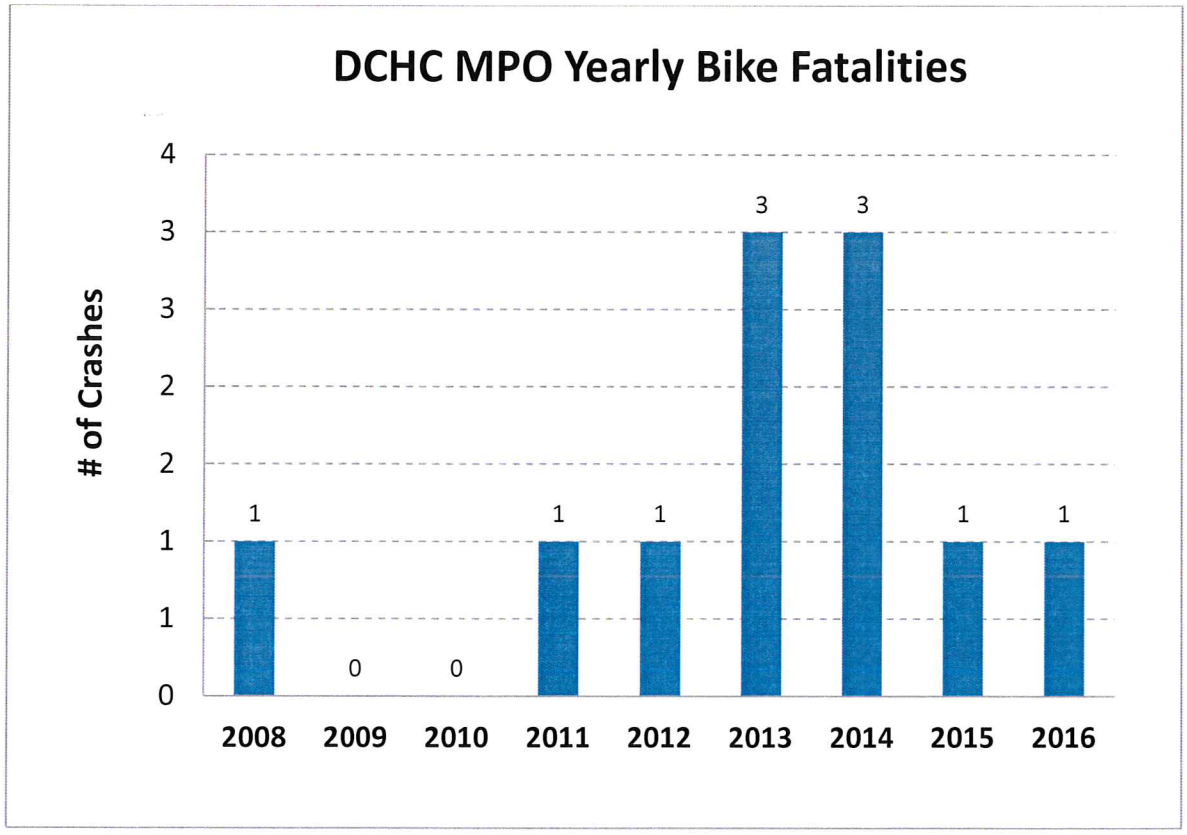

DCHC MPO Yearly Total Crashes
# of Crashes
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
11,275
11,026
10,790
11,458
11,885
12,328
12,265
13,553
14,716
2008
2009
2010
2011
2012
2013
2014
2015
2016

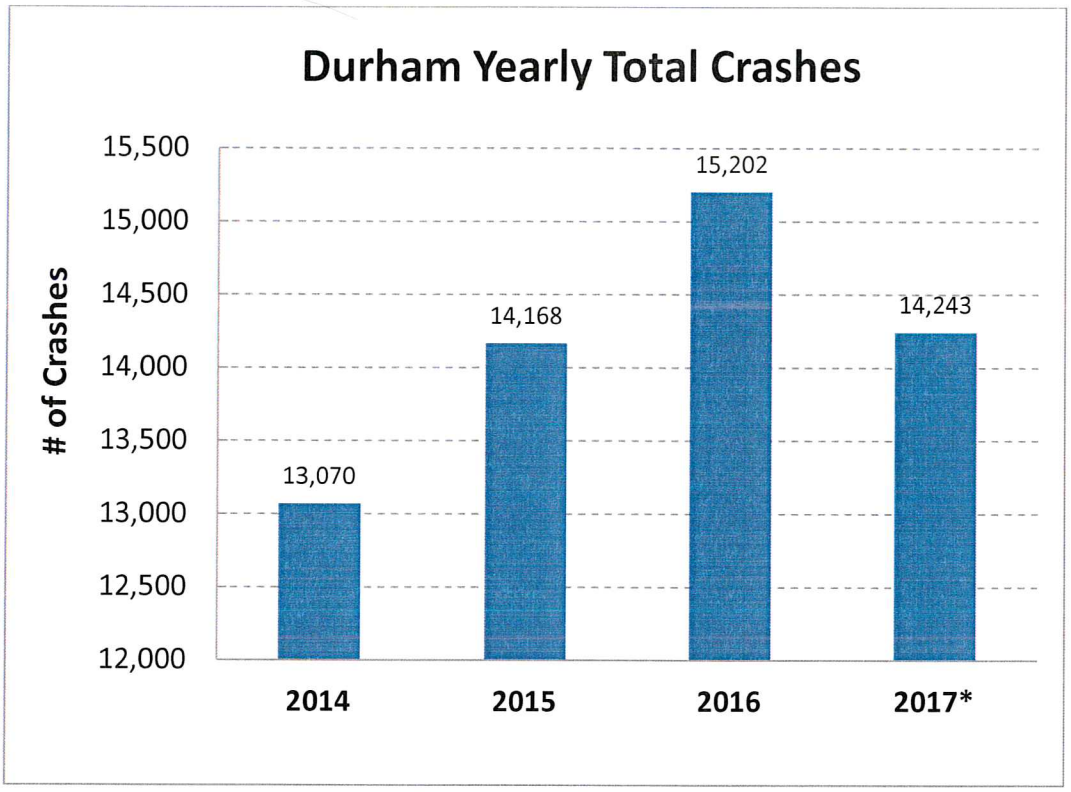

DCHC MPO Yearly Total Fatalities
# of Crashes
45
40
35
30
25
20
15
10
5
0
33
28
30
26
32
40
34
34
32
2008
2009
2010
2011
2012
2013
2014
2015
2016

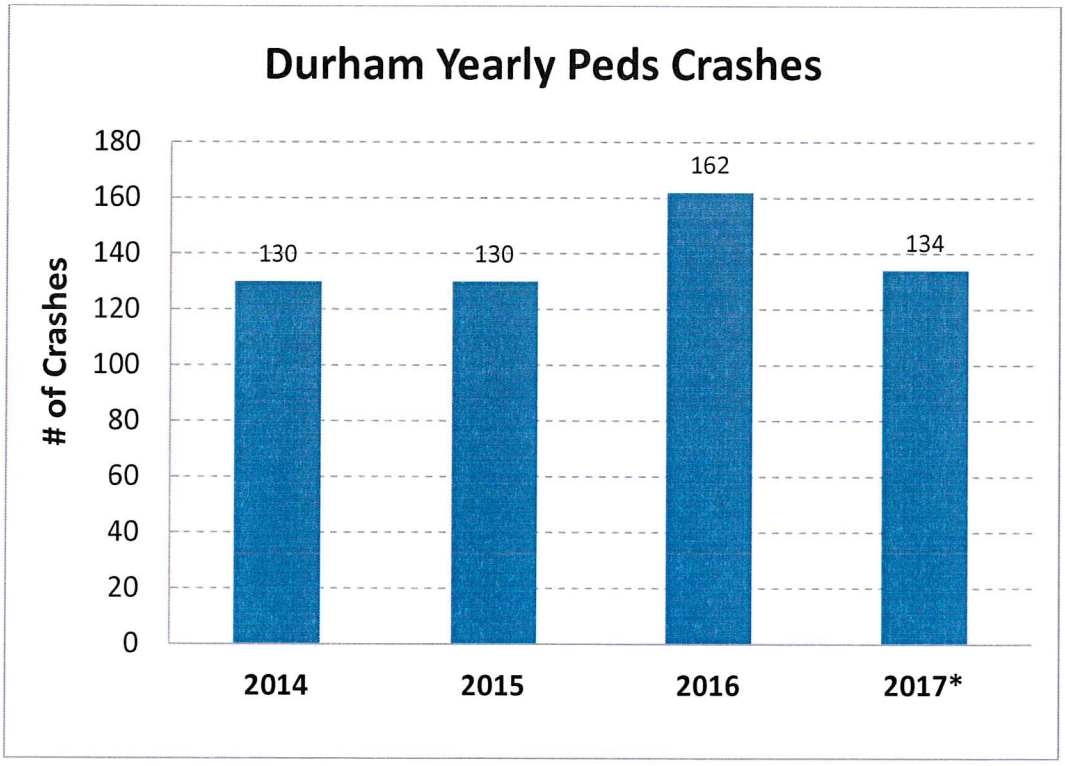

DCHC MPO Yearly Peds Crashes
# of Crashes
250
200
150
100
50
0
107
89
103
116
175
155
148
161
191
2008
2009
2010
2011
2012
2013
2014
2015
2016

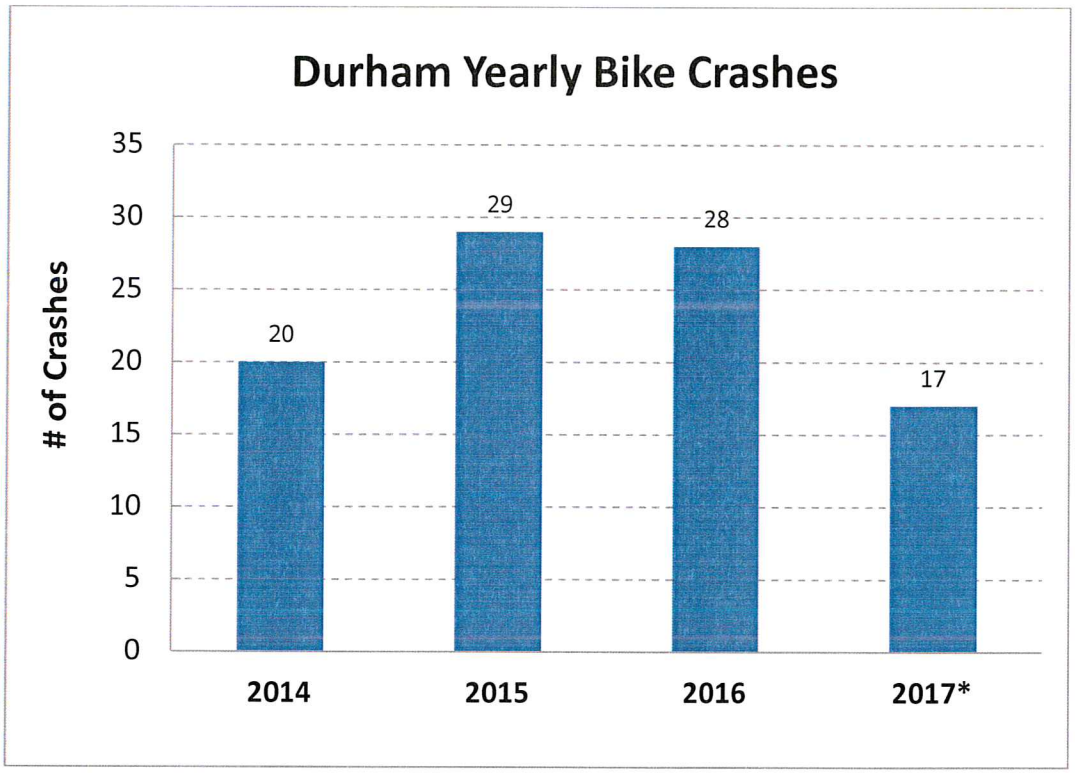

DCHC MPO Yearly Peds Fatalities
# of Crashes
14
12
10
8
6
4
2
0
11
3
3
2
10
9
4
8
5
2008
2009
2010
2011
2012
2013
2014
2015
2016


DCHC MPO Yearly Bike Crashes
# of Crashes
80
70
60
50
40
30
20
10
0
75
55
61
65
73
61
43
65
59
2008
2009
2010
2011
2012
2013
2014
2015
2016


DCHC MPO Yearly Bike Fatalities
# of Crashes
4
3
3
2
2
1
1
0
1
0
0
1
1
3
3
1
1
2008
2009
2010
2011
2012
2013
2014
2015
2016


Durham Yearly Total Crashes
# of Crashes
15,500
15,000
14,500
14,000
13,500
13,000
12,500
12,000
13,070
14,168
15,202
14,243
2014
2015
2016
2017*


Durham Yearly Peds Crashes
# of Crashes
180
160
140
120
100
80
60
40
20
0
130
130
162
134
2014
2015
2016
2017*


Durham Yearly Bike Crashes
# of Crashes
35
30
25
20
15
10
5
0
20
29
28
17
2014
2015
2016
2017*

Safety Performance Measures Target Setting Crash Data | DCHC MPO

Safety Performance Measures

Year	Fatalities	Fatality Rate	Serious Injures	Serious Injury Rate	Non-motorized Fatalities and Serious Injuries
2008	33	0.724	98	2.150	28
2009	28	0.608	66	1.432	10
2010	30	0.628	57	1.194	13
2011	26	0.542	70	1.459	15
2012	32	0.669	81	1.692	26
2013	40	0.796	80	1.593	24
2014	34	0.644	87	1.648	15
2015	34	0.645	84	1.592	21
2016	32	0.580	64	1.159	18

Target Setting Crash Data

Year	Fatalities (5 Year Average)	Fatality Rate (5 Year Average)	Serious Injures (5 Year Average)	Serious Injury Rate (5 Year Average)	Non-motorized Fatalities and Serious Injuries (5 Year Average)
2008 - 2012	29.8	0.634	74.4	1.586	18.4
2009 - 2013	31.2	0.649	70.8	1.474	17.6
2010 - 2014	32.4	0.656	75.0	1.517	18.6
2011 - 2015	33.2	0.659	80.4	1.597	20.2
2012 - 2016	34.4	0.667	79.2	1.537	20.8
2018 Target*	30.7	0.601	70.6	1.384	18.4

*Target based on State's methodology of reducing crashes by 50% by the year 2030

Rates are in units of crashes per 100 MVMT

Last update: 12/21/17

Safety Performance Measures Target Setting Crash Data | Durham - Chapel Hill - Carrboro MPO

Total Reported Crashes

Year	Total Crashes	Injury Crashes	A Injury Crashes	B Injury Crashes	C Injury Crashes	PDO Crashes	Fatalities	A Injuries	B Injuries	C Injuries
2008	11,275	33	79	753	1,908	8,502	33	98	961	2,998
2009	11,026	25	54	719	1,853	8,375	28	66	924	2,912
2010	10,790	29	51	707	1,739	8,264	30	57	908	2,777
2011	11,458	23	59	697	1,865	8,814	26	70	886	3,005
2012	11,885	31	63	721	2,102	8,968	32	81	914	3,237
2013	12,328	37	64	728	2,062	9,437	40	80	949	3,267
2014	12,265	30	70	714	2,055	9,396	34	87	932	3,213
2015	13,553	32	72	767	2,394	10,288	34	84	963	3,821
2016	14,716	32	58	887	2,476	11,263	32	64	1,135	3,936

Safety Performance Measures Target Setting Crash Data | Durham - Chapel Hill - Carrboro MPO

Total Reported Crashes

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RESOLUTION

Endorsement of Targets for Safety Performance Measures Established by NCDOT

The following resolution was offered by Board Member _____, seconded by Board Member _____ and, upon being put to a vote, was carried _____ on the _____ day of _____, _____.

WHEREAS, the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) has been designated by the Governor of the State of North Carolina as the Metropolitan Planning Organization (MPO) responsible, together with the State, for the comprehensive, continuing, and cooperative transportation planning process for the MPO's metropolitan planning area; and;

WHEREAS the Highway Safety Improvement Program (HSIP) final rule (23 CFR Part 490) requires States to set targets for five safety performance measures by August 31, 2017, and;

WHEREAS, the North Carolina Department of Transportation (NCDOT) has established targets for five performance measures based on five year rolling averages for: (1) Number of Fatalities, (2) Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT), (3) Number of Serious Injuries, (4) Rate of Serious Injuries per 100 million VMT, and (5) Number of Non-Motorized (bicycle and pedestrian) Fatalities and Non-motorized Serious Injuries, and;

WHEREAS, the NCDOT coordinated the establishment of safety targets with the 19 Metropolitan Planning Organizations (MPOs) in North Carolina through a Safety Target Setting Coordination Training Workshop held in March, 2017, and;

WHEREAS, the NCDOT has officially established and reported the safety targets in the Highway Safety Improvement Program annual report dated August 31, 2017, and;

WHEREAS, the MPO's may establish safety targets by agreeing to plan and program projects that contribute toward the accomplishment of the State's targets for each measure, or establish its own target within 180 days of the State establishing and reporting its safety targets in the HSIP annual report.

NOW THEREFORE, BE IT RESOLVED, that the DCHC MPO Board agrees to plan and program projects that contribute toward the accomplishment of the State's targets as noted below for each of the aforementioned performance measures:

1. For the 2018 Highway Safety Improvement Program (HSIP), the goal is to reduce total fatalities by 5.10 percent each year from 1,340.6 (2012-2016 average) to 1,207.3 (2014-2018 average) by December 31, 2018.
2. For the 2018 Highway Safety Improvement Program (HSIP), the goal is to reduce the fatality rate by 4.75 percent each year from 1.228 (2012-2016 average) to 1.114 (2014-2018 average) by December 31, 2018.

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3. For the 2018 Highway Safety Improvement Program (HSIP), the goal is to reduce total serious injuries by 5.10 percent each year from 2,399.8 (2012-2016 average) to 2,161.2 (2014-2018 average) by December 31, 2018.
4. For the 2018 Highway Safety Improvement Program (HSIP), the goal is to reduce the serious injury rate by 4.75 percent each year from 2.191 (2012-2016 average) to 1.988 (2014-2018 average) by December 31, 2018.
5. For the 2018 Highway Safety Improvement Program (HSIP), the goal is to reduce the total non-motorized fatalities and serious injuries by 5.30 percent each year from 438.8 (2012-2016 average) to 393.5 (2014-2018 average) by December 31, 2018.

CERTIFICATE: The undersigned certifies that the foregoing is a true and correct copy of a resolution adopted by the voting members of the DCHC MPO Board on February 14, 2018.

I, Damon Seils, MPO Board Chair, do hereby certify that the above is a true and correct copy of an excerpt from the minutes of a meeting of the Durham-Chapel Hill- Carrboro Urban Area MPO Board, duly held on the 14th day of February, 2018.

_____

Damon Seils, Board Chair

Durham-Chapel Hill-Carrboro Metropolitan Planning Organization

STATE OF: North Carolina

COUNTY OF: Durham

I, Frederick Brian Rhodes, a Notary Public of Durham County, North Carolina do hereby certify that Damon Seils personally appeared before me on the 14th day of February, 2018, to affix his signature to the foregoing document.

_____

Frederick Brian Rhodes, Notary Public
My commission expires: May 10, 2020

Durham-Chapel Hill-Carrboro MPO

2045 MTP Goals, Objectives, and Performance Measures

Goals	Objectives	Performance Measures	Data	Desired	Actual	Trend
I. Protect Environment and Minimize Climate Change	A. Reduce mobile source emissions, GHG, and energy consumption	1. Total and per capita transportation GHG (CO2), ozone (NOx), CO, and particulate matter emissions (in kilograms; August)	Total (three-county area inside TRM) 2013 CO2: 7m 2045 CO2: 6.3m 2013 NOx: 11,106 2045 NOx: 2,116 2013 CO: 86,903 2045 CO: 39,891 2013 PM: 268 2045 PM: 100	↓	↓	-52%
			Per Capita (three-county area inside TRM) 2013 CO2: 15.1 2045 GHG: 8.8 2013 NOx: 0.024 2045 NOx: 0.003 2013 CO: 0.19 2045 CO: 0.06 2013 PM: 0.0006 2045 PM: 0.0001	↓	↓	-70%
		2. Total and per capita mobile energy consumption (daily gallons of auto gasoline)	Total (three-county area inside TRM) 2016: 737,096 2045: 668,031	↓	↓	- 9%
			Per Capita (three-county area inside TRM) 2016: 1.6 2045: 0.9	↓	↓	- 42%
	B. Reduce the negative impacts on the natural and cultural environment	1. Poportion of planned investment in existing highways	2040 MTP / 2045 MTP DCHC: 81% / 91%	↑	↑	+ 14%
II. Connect People	A. Connect people to jobs, education and other important destinations using all modes	1. Percentage of work and non-work trips by auto less than 30 minutes	2013 Work: 81% 2045 Work: 69% 2013 NonWork: 98% 2045 NonWork: 93% Note: this is regional data	↑	↓	-15% Work - 4% Nonwork
		2. Percentage of work and non-work trips by transit less than 45 minutes	2013 Work: 63% 2045 Work: 67% 2013 NonWork: 59% 2045 67% Note: this is regional data	↑	↑	+ 7% Work +13%Nonwork
		3. Percentage of urbanized area within ¼ mile of pedestrian facilities	2016: 38% Note: this is regional data	↑	—	(Compare in 2018)
		4. Percentage of jobs within 1/4 mile of frequent bus transit service (15min) or 1/2 mile of fixed guideway transit service	2016: xxx 2045: xxx	↑	↑	+X%
	B. Ensure transportation needs are met for all populations (especially the aging and youth, economically disadvantaged, mobility impaired, and minorities)	1. Percentage of Environmental Justice (EJ) population and total population within ½ mile of bus transit service, 1 mile of rail transit service, ½ mile of bike facilities, or ¼ mile of sidewalk	2016 EJ: TBD 2045 EJ: TBD 2016 Pop: TBD 2045 Pop: TBD	↑	—	TBD

Goals	Objectives	Performance Measures	Data	Desired	Actual	Trend
III. Promote Multimodal and Affordable Travel Choices	A. Enhance transit services, amenities and facilities	1. Per capita transit service hours	2016: 0.55 Note: this is regional data	↑	—	**(Compare in 2018)**
		2. Total transit boardings per capita	2016: 18.22 Note: this is regional data	↑	—	**(Compare in 2018)**
		3. Proportion of bus stops that meet their defined facility threshold (to be determined).	2016: TBD	↑	—	**(Compare in 2018)**
	B. Improve bicycle and pedestrian facilities	1. MPO total programming per capita on bicycle and pedestrian facilities	2016: $93 (FY16-25 STIP)	↑	—	**(Compare using FY18-27 STIP)**
		2. Proportion of jurisdictions that have an ordinance requiring developers to build or pay in lieu for sidewalks.	2016: 45% (14/31 jurisdictions) Note: this is regional data	↑	—	**(Compare in 2018)**
	C. Increase utilization of affordable non-auto travel modes	1. Percentage of transit, bicycle and pedestrian mode shares (overall) (need to update)	**Mode** / **2016** / **2045** Transit / 3% / 4% Bike/Ped / 15% / 18%	↑	↑	**+37%, +16%**
		2. Percentage of transit, bicycle and pedestrian mode shares in transit corridors	2015: xxx 2045: xxx	↑	↑	**+X%**
		3. Percentage of transit, bicycle, and pedestrian mode shares in high frequency bus corridors (at lease 15min headways)	2015: xxx 2045: xxx	↑	↑	**+X%**
IV. Manage Congestion & System Reliability	A. Allow people and goods to move with minimal congestion and time delay, and greater predictability.	1. Average clearance time for crashes on principal roadways	2016: TBD	↓	—	**(Compare in 20189)**
		2. Daily minutes of delay per capita	2015: 4.4 minutes 2045: 7.3 minutes	↓	↑	**+65%**
		3. (Placeholder for freight)	2016: xxx 2045: xxx	**(to be determined)**	**(to be determined)**	**(to be determined)**
	B. Promote Travel Demand Management (TDM, such as carpool, vanpool and park-and-ride)	1. Percentage of peak-hour travelers driving alone	2015: 45% 2045: 43%	↓	↓	**-4%**
		2. Total individuals provided TDM support via programs and activities	2015: 196,629	↑	—	**(Compare in 2018)**
		3. Vehicle Miles Traveled (VMT) per capita	2015: 32 2045: 31	↓	↓	**-3%**

Goals	Objectives	Performance Measures	Data	Desired	Actual	Trend
	C. Enhance Intelligent Transportation Systems (ITS, such as ramp metering, dynamic signal phasing and vehicle detection systems)	1. ITS investments	2016: TBD	↑	—	**(Compare in 2018)**
V. Improve Infrastructure Condition	A. Increase proportion of highways and highway assets in 'Good' condition	1. Percent lane miles with unacceptable pavement condition ratings by NCDOT	2017 Durham County: 18% poor condition 2017 Orange County: 18% poor condition 2017 Chatham County: 23% poor condition	↓	—	**(Compare for 2018)**
		2. Percent of structurally deficient bridges (SD)	Orange County: 10% SD Durham County: 5% SD Chatham County: 6% SD ➢ DCHC Counties: 7% SD	↓	—	**(Compare in 2018)**
	B. Maintain transit vehicles, facilities and amenities in the best operating condition.	1. Percentage of non-revenue vehicles that have met or exceeded their useful life benchmark (ULB) (FAST Act)	FAST Act Target = 0% 2018 = xxx	↓	—	**(Compare in 2018)**
		2. Percentage of revenue vehicles (i.e., vans, light transit vehicle (LTV) and buses) that have met or exceeded their ULB (FAST Act)	FAST Act Target = 50% 2018 = xxx	↓	—	**(Compare in 2018)**
		3. Percentage of facilities with a condition rating below 3 on the Federal Transit Agency's Transit Economic Requirements Model (TERM) (FAST Act)	FAST Act Target = 0% 2018 = xxx	↓	—	**(Compare in 2018)**
	C. Improve the condition of bicycle and pedestrian facilities and amenities	4. Proportion of bicycle facilities (bike lanes, shared use paths) ranked in good condition	2016: TBD	↑	—	**(Compare in 2018)**
	D. Improve response time to infrastructure repairs	1. Percent pothole complaints repaired within two days by NCDOT Division.	Durham (2017): 82% Orange (2017): 98% Chatham (2017): 100%	↑	—	**(Compare in 2018)**
VI. Ensure Equity and Participation	A. Ensure that transportation investments do not create a disproportionate burden for any community	1. Does the 2045 MTP meet Environmental Justice requirements?	2045 MTP: Meets requirements	↑	↑	**Meets requirement**
	B. Enhance public participation among all communities	1. Number of participants in public participation process by type (in-person, email, surveys, social media)	2016: TBD	↑	—	**(Compare in 2018)**
VII. Promote Safety and Health	A. Increase safety of travelers and residents	1. Number of non-motorized fatalities and serious injuries (FAST Act)	2012-2016 (average): 20.8 2014-2018 (average): xxx 2018 FAST Act Target: 18.4	↓	—	**(Compare in 2018)**
		2. Number of motorized fatalities (FAST Act)	2012-2016 (average): 39.4 2014-2018 (averageg): xxx 2018 FAST Act Target: 30.7	↓	—	**(Compare in 2018)**

Goals	Objectives	Performance Measures	Data	Desired	Actual	Trend
		3. Rate of motorized fatalities (per 100m VMT) (FAST Act)	2012-2016 (average): 0.667 2014-2018 (average): xxx 2018 FAST Act Target: 0.601	↓	—	**(Compare in 2018)**
		4. Number of motorized serious injuries (FAST Act)	2012-2016 (average): 79.2 2014-2018 (average): xxx 2018 FAST Act Target: 70.6	↓	—	**(Compare in 2018)**
		5. Rate of motorized serious injuries (per 100m VMT) (FAST Act)	2012-2016 (average): 1.537 2014-2018 (average): xxx 2018 FAST Act Target: 1.384	↓	—	**(Compare in 2018)**
	B. Promote public health through transportation choices	1. Percentage of adults who are physically inactive	2016: Chatham Co. – 23% Durham Co. – 21% Orange Co. – 15%	↓	—	**(Compare in 2018)**
VIII. Stimulate Economic Vitality	A. Improve freight movement	1. Truck delay (minutes) per trip	2016: 2 minutes 2045: 4 minutes	↓	↑	**-50%**
		2. Freight plan, buffer time index	2016: xxx	↓	—	**(Compare in 2019)**
	B. Link land use and transportation	Refer to Goal II: Connect People	See measures in goal II.A			
	C. Target funding to the most cost-effective solutions	1. Average payback period of investments by mode.	2045 MTP: TBD	↓	↓	**(Compare with previous MTP?)**
	D. Improve project delivery for all modes	1. Percentage of TIP projects completed on-time (let to construction) by mode (or, NCDOT project delivery measure)	2016: TBD	↑	—	**(Compare in 2019)**
		2. Percentage of projects in the MTP being built in the time period in which they first appeared.	2016: TBD	↑	—	**(Compare in 2019)**
		3. Percentage of projects in the TIP being built in the time period in which they first appeared.	2016: TBD	↑	—	**(Compare in 2019)**

Durham-Chapel Hill-Carrboro Metropolitan Planning Organization
Targets for the 2045 LRTP *(last updated 1/9/18)*

What are the Targets?

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) has selected eight performance measures from the MPO's Goals/Objectives/Performance Measures to demonstrate in a brief manner the extent to which the adopted 2045 Metropolitan Transportation Plan (2045 MTP) meets the MPO's Goals. The MPO has set Target values for these selected performance measures, mostly using measurements from the Triangle Regional Model (TRM - the region's travel demand model) and uses values for just the MPO, not the entire region.

The Targets were selected because they are broad measurements and the data is available and relatively reliable. This document also identifies the reasons the Target is important and what changes need to be made in land use, transportation and other policies to meet the Target.

What is the Guide Data?

The Targets have Guide Data for two scenarios to help set the Target values:

- 2015 – This is the current condition. It is the 2015 population and employment using the 2015 transportation network (e.g., highways and transit service). This is the **2015** column and value in the charts.
- 2045e+c – This is the 2045 population and employment using the existing transportation network plus any projects that are committed to being completed. This is the **2045e+c** column and value in the charts.
- 2045 – This shows how a major transportation investment might affect the Target value. It is the 2045 population and employment using the 2045 transportation network, which is budgeted at over $12 billion and includes passenger rail and managed lanes. This is the **2045** column and value in the charts.

What is the Target Range?

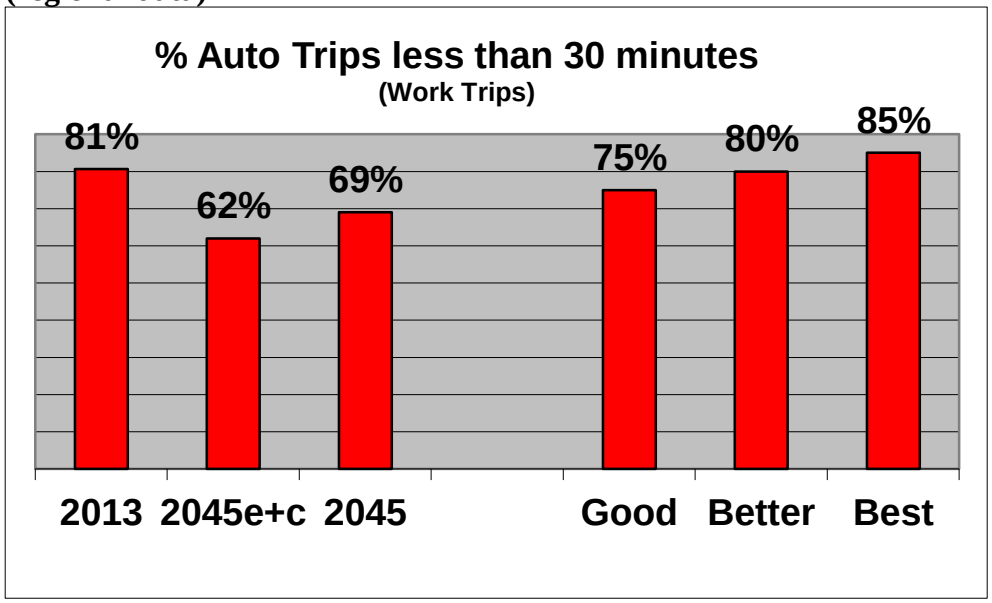
There are three Target values -- Good, Better and Best. The use of more than one Target value helps to set a range of values that can be used for comparison.

Additional Information

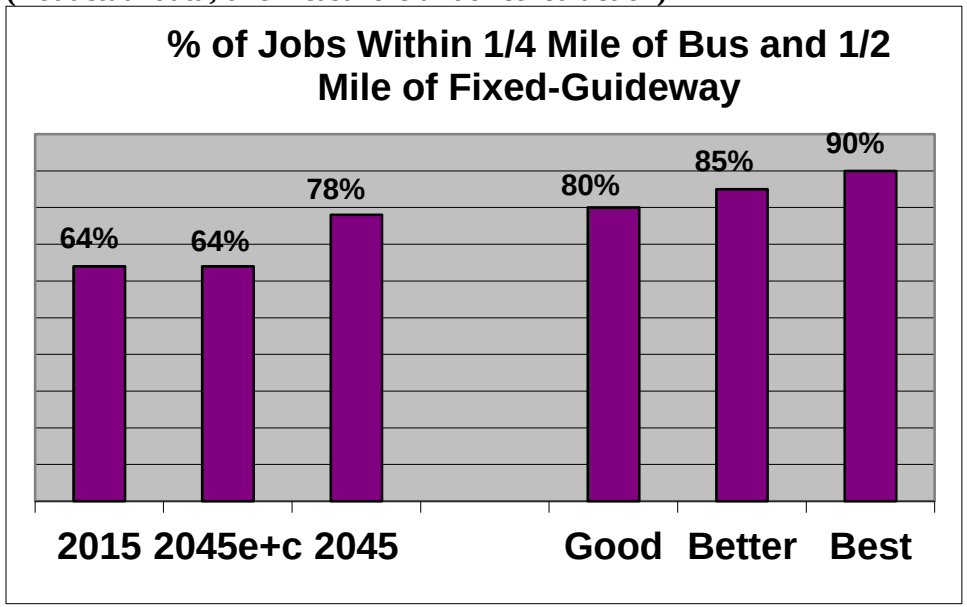
Additional information is available at the DCHC MPO's Web site – www.dchcmpo.org.

You can also contact: Andy Henry, (919) 560-4366, ext. 36419, andrew.henry@durhamnc.gov

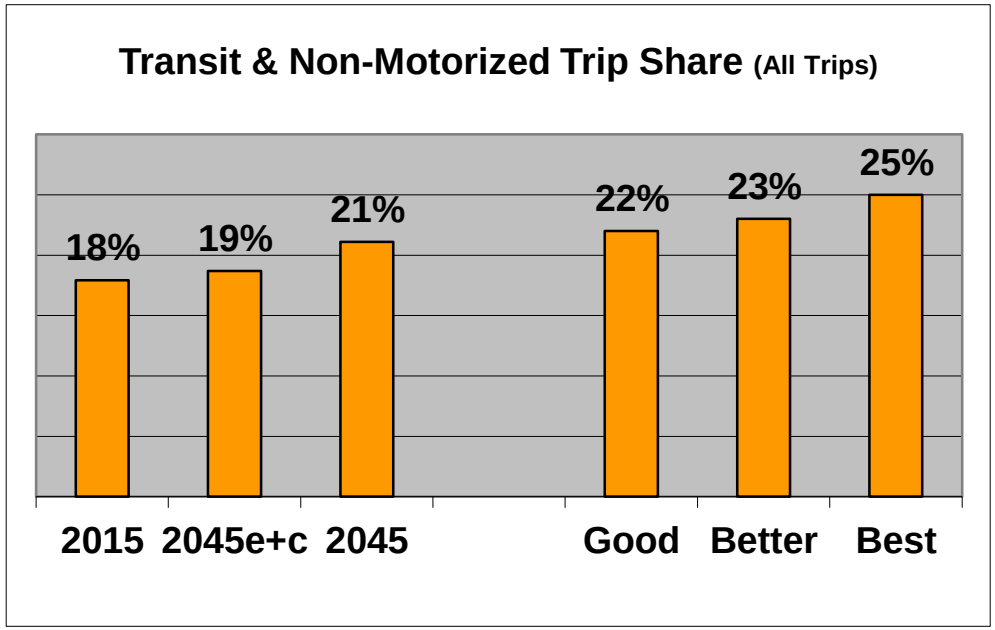
Increase Percent of Work Trips by Auto Less than 30 Minutes

Why Increase Auto Mobility?	How to Increase Auto Mobility?	Trends and Targets
▪ Connect People to Jobs – Reduced commute times can increase job opportunities. ▪ Reduce Travel Costs – Mobility Report concludes annual congestion cost is $734 per peak auto commuter in Triangle. ▪ Reduce Travel Time – TRM data shows travel time will double and triple in most major travel corridors without additional investments. ▪ Reduce Pollution – Congestion reduces travel speed and increases pollution.	▪ Transportation – Implement Congestion Management practices such as traffic signal synchronization and spot improvements at traffic bottlenecks. ▪ Transportation – Increase highway, transit and other transportation mode capacity, especially along critical corridors. ▪ Transportation – Use managed lanes to increase corridor capacity. ▪ Land Use – Permit more mixed-use development. ▪ Policy – Support TDM programs to reduce roadway congestion. Method: From the Triangle Regional Model (TRM, the percent of work trips that are less than 30 minutes.	**(regional data)** 

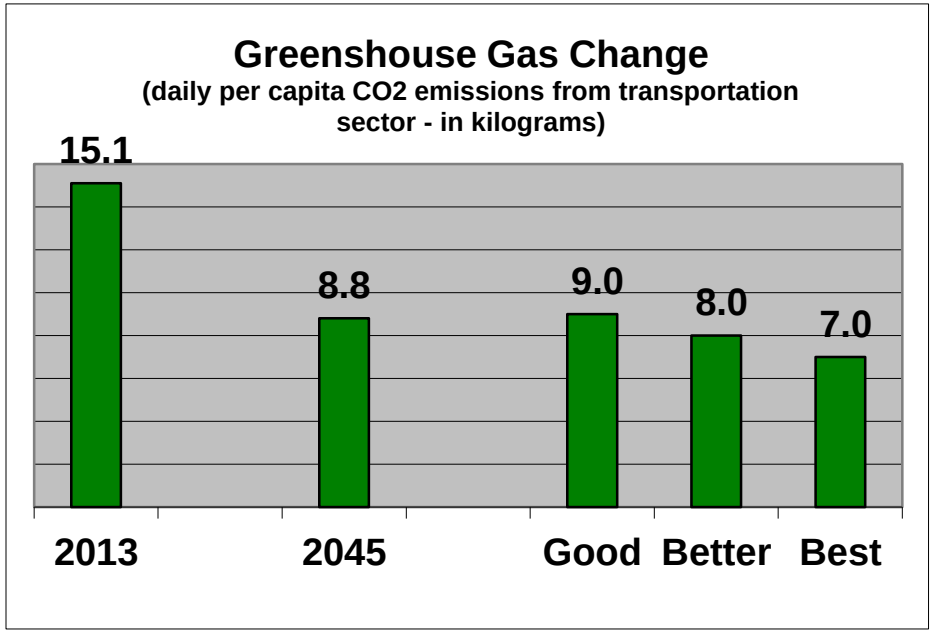
Increase Percent of Jobs within One-Quarter Mile of Frequent Bus Transit or One-Half Mile of Fixed-Guideway Transit

Why Increase Transit Access?	How to Increase Transit Access?	Trends and Targets
▪ Provide opportunity – Approximately 6% of households do not own a vehicle, and carless households have increased at twice the rate of other households. ▪ Reduce Congestion – Congestion wastes time, fuel and money, and contributes to air pollutants. Transit use can help reduce roadway congestion. ▪ Support Personal Health – Lack of exercise is a leading contributor to the obesity epidemic in the U.S. Transit use has shown to induce bicycling and walking trips. ▪ Reverse Transit Disinvestment – Triangle transit investment lags behind comparable regions.	▪ Transportation – Increase transit investment. ▪ Land Use – Permit more concentrated residential and employment development along key travel corridors that best support transit. ▪ Design – Encourage transit-supportive scale, building orientation, connections, public spaces, parking, amenities and other design elements along transit corridors and station areas. Method: Using geographic information software, the location of jobs is compared to the current and planned (2045 MTP) transit network.	**(Not actual data; this measure is under construction)** 

Increase Transit and Non-automobile Trip Share (All Trips)

Why Increase This Share?	How to Increase Transit & Non-Motorized Share?	Trends and Targets
▪ Reduce Pollution – Automobiles are major emitters of carbon monoxide, nitrogen oxides (ozone precursor), carbon dioxide (greenhouse gas), and several other toxins that are linked to increased health ailments or climate change. ▪ Reduce Congestion – The percent of congested peak travel miles in the Triangle has risen steadily the last several decades. Transit, bicycle and walking trips can replace vehicle trips to help abate the growing congestion problem. ▪ Support Personal Health – Lack of exercise is a leading contributor to the obesity in the U.S.	▪ Transportation – Increase investment in transit, bicycle and pedestrian facilities and programs. ▪ Transportation – Require bicycle and pedestrian facilities on new and improved roadways, as appropriate. ▪ Ordinance – Require transit, bicycle and pedestrian facilities and supportive design in new and renovated developments. ▪ Land Use – Permit more concentrated residential and employment development along key travel corridors. ▪ Land Use – Permit more mixed-use development. ▪ Land Use – Encourage shorter block lengths and greater roadway connectivity. ▪ Policy – Support TDM and Best Workplaces for Commuters ▪ Method: From Triangle Regional Model (TRM), total bicycle and pedestrian trips, divided by total trips for all modes.	

Reduce Mobile Source Emissions (CO_2 emissions)

Why Reduce Emissions?	How to Reduce Emissions?	Trends and Targets
▪ Support Environment – Greenhouse gases are causing climate change. An estimated 39% of the greenhouse gases in Durham County are from the vehicle emissions. ▪ Reduce Pollution – Pollutants such as carbon monoxide, nitrogen oxides (ozone precursor), and particulate matter are linked to increased health ailments.	▪ Local Initiative – Support efforts of Durham greenhouse gas local action plan. ▪ Land Use – Permit more concentrated residential and employment development along key travel corridors. Study concludes that 10% density increase results in 4.3% emissions reduction in urban areas. ▪ Land Use – Permit more mixed-use development to reduce automobile trips. ▪ Transportation – Increase investment and ordinance support for bicycle and pedestrian facilities and programs. ▪ Policy – Support TDM programs to reduce roadway congestion and vehicle miles travelled. Method: Triangle Regional Model and Mobile6 emissions model; GHG based on local plan.	

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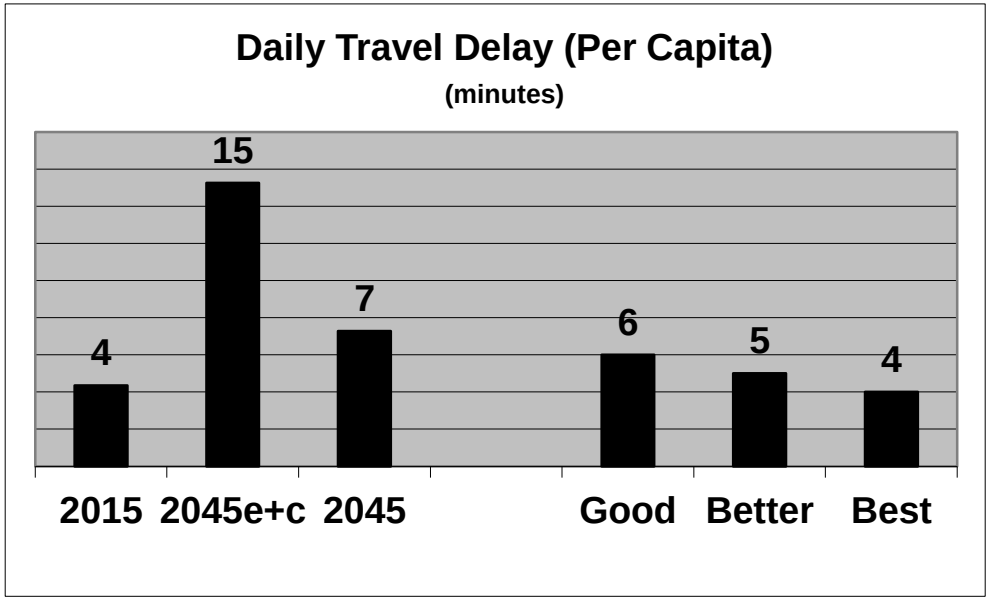
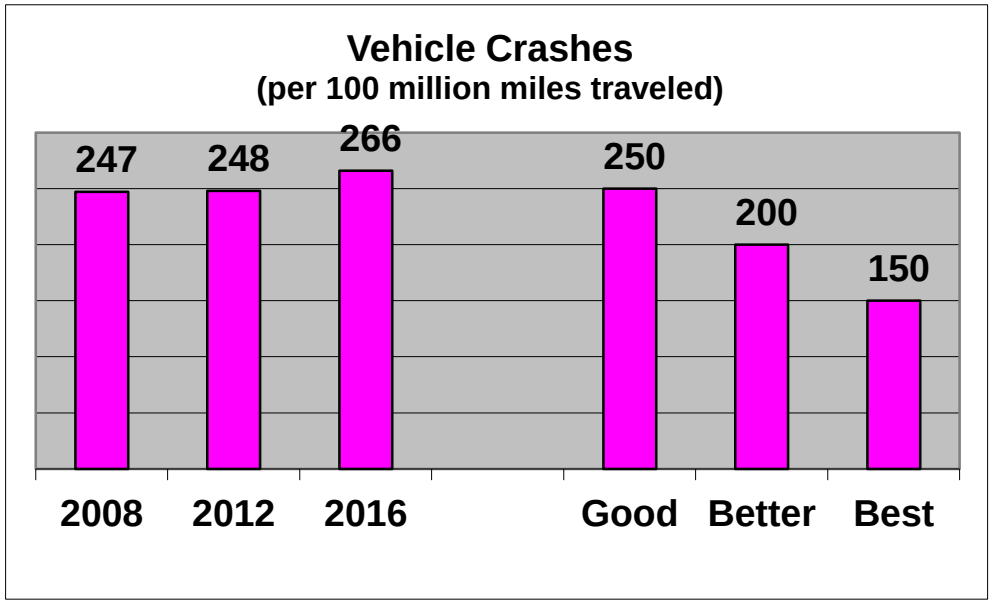
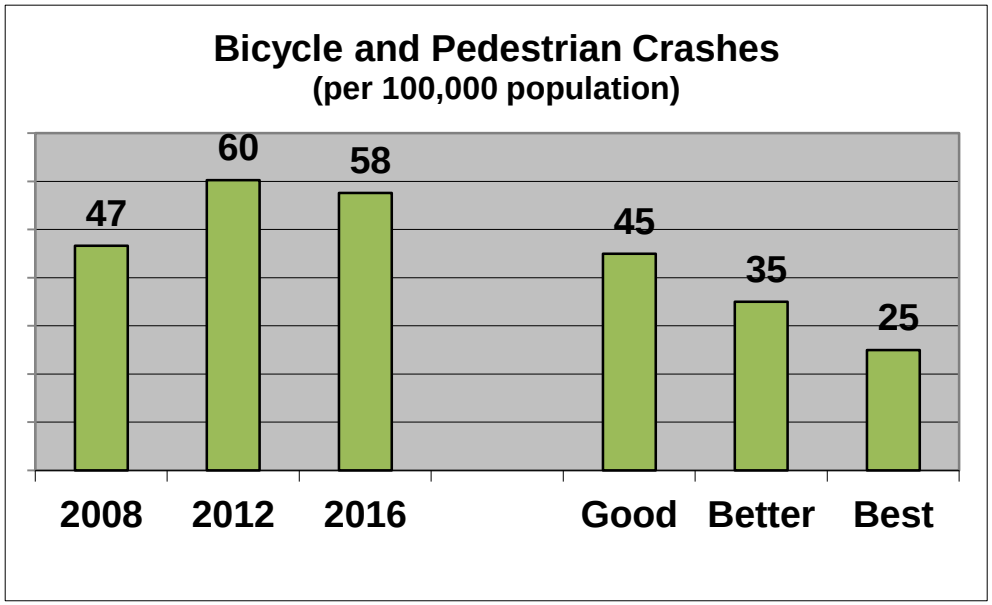
↓ Reduce Daily Travel Delay (per capita) (in minutes)

Why Reduce Travel Delay?	How to Reduce Travel Delay?	Trends and Targets
▪ Reduce In-Vehicle Travel Time – The Travel model estimates that the average peak-hour travel time in the western Triangle will increase 22% from 2015 to 2035. ▪ Reduce Emissions – Vehicle delay produces greater amounts of emissions that increase health ailments and climate change. ▪ Support Job Opportunities – Shorter travel times can increase the size of a particular labor shed.	▪ Transportation – Implement Congestion Management Program practices such as traffic signal synchronization and spot improvements at traffic bottlenecks. ▪ Transportation – Increase highway, transit and other transportation mode capacity. ▪ Land Use – Permit more mixed-use development. Method: Triangle Regional Model (TRM), total daily travel delay divided by the population.	

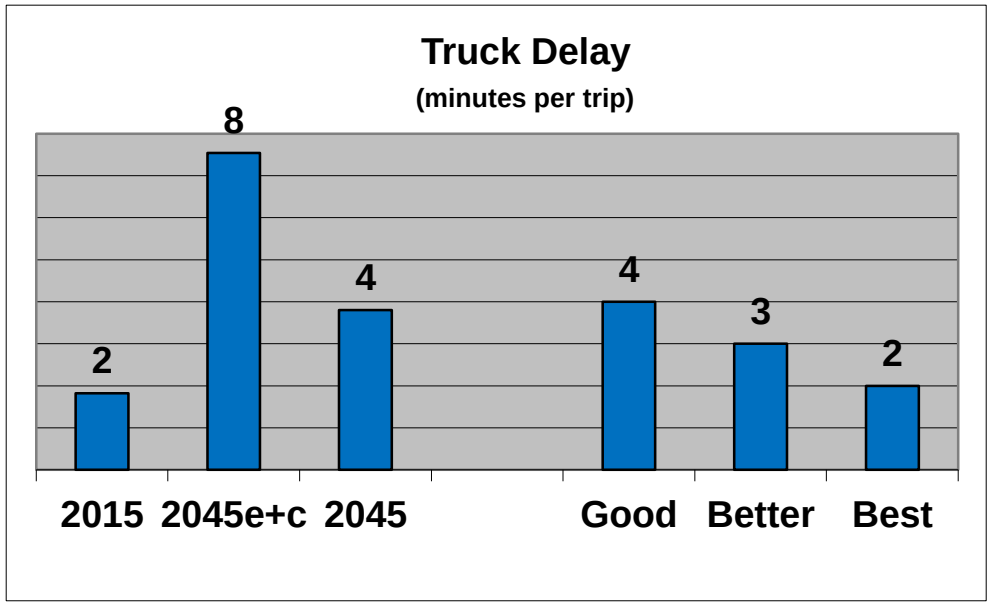
Reduce Vehicle Crashes (per 100 million miles traveled)

Why Reduce Crashes?	How to Reduce Crashes?	Trends and Targets
▪ Reduce Costs – Crashes cost $173m (million), $226m, and 643m in losses each year, in Chatham, Orange and Durham counties, respectively. ▪ Minimize congestion and delay – Crashes are a major contributor to non-recurring traffic delay.	▪ Transportation – Invest in transportation projects that increase safety. ▪ Design – Prioritize project designs that enhance motorist, pedestrian and bicyclist safety. ▪ Policies – Support polices related to graduated drivers licensing, cell phone/texting, impaired driving, seat belts and booster seats, and speed limits. Method: From North Carolina Traffic Engineering Accident Analysis System (TEAAS).	

Reduce Pedestrian and Bicycle Crashes (per capita)

Why Reduce Crashes?	How to Reduce Crashes?	Trends and Targets
▪ Encourage active transportation – Walking and cycling have many proven benefits: has positive effects on our health; reduces vehicle congestion and emissions; has relatively low capital and operations costs; and improves transportation equity and choice.	▪ Facilities – The safety benefits of investing in pedestrian and bicycle facilities are significant and well documented. ▪ Education – Informed pedestrians and bicyclists are less likely to be involved in a crash. ▪ Enforcement – Increased enforcement has been shown to reduce crash risk for pedestrians and bicyclists. Method: From North Carolina Traffic Engineering Accident Analysis System (TEAAS).	

Reduce Truck Delay (minutes per trip)

Why Reduce Truck Delay?	How to Reduce Truck Delay?	Trends and Targets
▪ Support Economic Development – Travel model estimates that truck delay will increase fourfold from 2015 to 2045 without additional transportation investments. ▪ Reduce Emissions – Truck delay produces greater amounts of emissions that increase health ailments and climate change.	▪ Transportation – Implement Congestion Management Program practices such as traffic signal synchronization and spot improvements at traffic bottlenecks. ▪ Transportation – Increase highway investments on major roadways. ▪ Land Use – Permit more mixed-use development. Method: Triangle Regional Model (TRM), total daily truck delay divided by the number of truck trips.	

Connect 2045

The Metropolitan Transportation Plan

for the

Capital Area Metropolitan Planning Organization

and the

Durham-Chapel Hill-Carrboro Metropolitan Planning Organization

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Updated Public Review Draft

Version: 1-19-2018

Capital Area Metropolitan Planning Organization ❖ Durham-Chapel Hill-Carrboro Metropolitan Planning Organization

Table of Contents

Appendices

Online Interactive Project Maps:

CAMPO: http://arcg.is/2D0kMfj

DCHC MPO:
Highway: http://arcg.is/2DkGhVf
Transit: http://arcg.is/2qMpNSQ

A Note to Readers:

The heart of any transportation plan is the investments that will be made to serve the travel needs of our growing region's citizens, businesses and visitors. These investments take the form of road, transit, rail, cycling and walking facilities and services, together with related technologies. Maps are created to help visualize the nature of both the facilities in which we plan to invest and the existing and future population and jobs that the facilities are designed to serve. But the maps in this document are for illustrative purposes only and are subject to change and interpretation. The details of the investments are in the project lists that are included with this report.

This version of the plan is a public review draft. It is designed to include the key content of the plan, and to show the type and format of information that will be in the final adopted document. Some parts of the document, such as some of the appendices, will be created during the public review. In addition, some of the graphics in this version of the document are early drafts or lower-resolution images that will be upgraded in subsequent versions.

Comments may be submitted to either of the MPOs through their websites:
NC Capital Area MPO: www.campo-nc.us/ attention: Chris Lukasina
Durham-Chapel Hill-Carrboro MPO: www.dchcmpo.org/ attention: Andy Henry

Because this document addresses the official plans of both MPOs, the document is color-coded. Text and tables with a white background apply to both MPOs.

Text and tables highlighted in this green color apply only to the Durham-Chapel Hill-Carrboro MPO.

Text and tables highlighted in this yellow color apply only to the Capital Area MPO

1. Executive Summary

Transportation investments link people to the places where they work, learn, shop and play, and provide critical connections between businesses and their labor markets, suppliers and customers.

This document contains the 2045 Metropolitan Transportation Plans (MTPs) for the two organizations charged with transportation decision-making in the Research Triangle Region: the Capital Area Metropolitan Planning Organization (CAMPO) and the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO). These organizations, and the areas for which they are responsible, are commonly called "MPOs."

The Metropolitan Transportation Plans are the guiding documents for future investments in roads, transit services, bicycle and pedestrian facilities and related transportation activities and services to match the growth expected in the Research Triangle Region.

The areas covered by this plan are part of a larger economic region. Transportation investments should consider the mobility needs of this larger region and links to the other large metro regions of North Carolina and throughout the Southeast. The Triangle Region is expected to accommodate substantial future growth; we need to plan for the region we will become, not just the region we are today.

Estimated 2013 and Forecast 2045 Population and Jobs	2013		2045		2013 to 2045 Growth	
	Population	Jobs	Population	Jobs	Population	Jobs
Capital Area MPO	1,120,000	540,000	2,030,000	1,000,000	920,000	470,000
Durham-Chapel Hill-Carrboro MPO	400,000	260,000	620,000	450,000	210,000	190,000
Areas outside MPO boundaries	160,000	60,000	310,000	80,000	150,000	20,000
Total for area covered by the region's transportation model	1,680,000	860,000	2,960,000	1,530,000	1,280,000	680,000

The Triangle has historically been one of the nation's most sprawling regions and current forecasts project both continued outward growth and infill development in selected locations, most notably in the central parts of Raleigh, Durham and Chapel Hill and at community-defined activity centers like the planned mixed use center within the Research Triangle Park. A key challenge for our transportation plans is to match our vision for how our communities should grow with the transportation investments to support this growth.

No region has been able to "build its way" out of congestion; an important challenge for our transportation plans is to provide travel choices that allow people to avoid congestion where it cannot be prevented.

Our population is changing. The population is aging, more households will be composed of single-person and two-person households without children, the number of households without cars is increasing, and more people are interested in living in more compact neighborhoods with a mix of activities. Our plans are designed to provide mobility choices for our changing needs.

Our MPOs are tied together by very strong travel patterns between them; our largest commute pattern and heaviest travel volumes occur at the intersection of the MPO boundaries. Our MPO plans need to recognize the mobility needs of residents and businesses that transcend our MPO borders.

The region has a common vision of what it wants its transportation system to be:

> *a seamless integration of transportation services that offer a range of travel choices to support economic development and are compatible with the character and development of our communities, sensitive to the environment, improve quality of life and are safe and accessible for all.*

The MPOs have jointly adopted goals and objectives to accomplish this vision and selected performance measures to track progress over time. Each MPO will have targets that reflect the unique characteristics and aspirations of the communities within each MPO. The *2045 Transportation Plan* commits our region to transportation services and patterns of development that contribute to a more sustainable place where people can successfully pursue their daily activities.

To analyze the transportation investment choices we have, the MPOs followed a systematic process involving significant public engagement. It began with an understanding of how our communities' plans envision guiding future growth. Community plans anticipate that five regional-scale centers in Raleigh, Durham, Cary, Chapel Hill and the Research Triangle Park are expected to contain large concentrations of employment and/or intense mixes of homes, workplaces, shops, medical centers, higher education institutions, visitor destinations and entertainment venues. Linking these activity centers to one another, and connecting them with communities throughout the region by a variety of travel modes can provide expanded opportunities for people to have choices about where they live, work, learn and play.

Next, planners used sophisticated software to forecast the types, locations and amounts of future population and job growth based on market conditions and trends, factors that influence development, and local plans.

Based on the forecasts, we looked at mobility trends and needs, and where our transportation system may become deficient in meeting these needs.

Working with a variety of partners and based on public input, we developed different transportation system alternatives and analyzed their performance, comparing the performance of system alternatives against one another and to performance targets derived from our goals and objectives.

The result of this analysis and extensive public engagement was a set of planned investments, together with a pattern of land development aligned with these investments. Additional studies were also proposed to ensure that the investments are carefully designed and effectively implemented. The core of the plan is the set of transportation investments described in Section 7, including:

- New and expanded roads;
- Local and regional transit facilities and services, including bus and rail;
- Aviation and long-distance passenger and freight rail services;
- Bicycle and pedestrian facilities, both independent projects and in concert with road projects;
- Transportation Demand Management: marketing and outreach efforts that increase the use of alternatives to driving alone;
- Technology-Based Transportation Services: the use of advanced technology to make transit and road investments more effective—including the advent of autonomous and connected vehicles; and
- Transportation Systems Management: road projects that improve safety and traffic flow without adding new capacity.

In addition to these investments, the plan includes a focus on three issues where the ties between development and transportation investments are most critical: transit station area development, major roadway access management and "safe & healthy streets" whose designs are sensitive to the neighborhoods of which they are a part and the needs of a full range of users, including drivers, transit riders, cyclists and

pedestrians. The two MPOs will work with their member communities, the state, and regional organizations on these three issues to match land use decisions with transportation investments.

The plan anticipates that the region will match its historic focus on roads with a sustained commitment to high-quality transit service as well, emphasizing four critical components:

- Connecting the region's main centers with fast, frequent, reliable rail or bus services;
- Offering transit service to all communities that have adopted local transit revenues;
- Providing frequent transit service in urban travel markets; and
- Supplying better transit access, from "first mile/last mile" circulator services within key centers to safe and convenient cycling and walk access to transit routes.

Although the plan includes a new emphasis on transit investment, it envisions significant additional roadway investment as well. Major road projects are shown below and all projects are listed in Appendix 1. Section 7 of the Plan provides greater detail on planned roadway and transit investments.

Durham Chapel Hill-Carrboro MPO		
2018-25	**2026-35**	**2036-45**
East End Connector will link US 70 to NC 147 (Durham Freeway) to form I-885	I-40 managed lanes (Wade Avenue in Wake County to NC 147)	I-40 managed lanes (NC 147 to US 15-501)
NC 147 (Durham Freeway) widened (East End Connector to I-40)	I-40 widening (US 15-501 to I-85)	I-85 widened (I-40 to Durham County)
US 70 lane addition and freeway conversion (East End Connector to Miami Blvd)	US 70 lane addition and freeway conversion (Miami Blvd to Wake County)	I-85 widened (US 70 to Red Mill Road)
	US 15-501 (Fordham Blvd) capacity improvements (Columbia St to I-40)	US 15-501 freeway conversion (I-40 to US 15-501 bypass)
Capital Area MPO		
2018-2025	**2026-2035**	**2036-2045**
I-40 widened from Wade Ave. to Lake Wheeler Road	I-40 widened from I-440 to NC 42 in Johnston County	I-87 widened from US 64 Bus to US 264
I-440 widened from Wade Avenue to Crossroads	I-87 widened from I-440 to US 264	NC 210 widened from Angier to Lassiter Pond Rd.
I-40 widened from I-440 to NC 42 in Johnston County	US 1 widened south from US 64 to NC 540	NC 50 widened from NC 98 to Creedmoor
US 64 W corridor improvements from US 1 to Laura Duncan Rd.	Managed lanes added to I-540 (Northern Wake Expressway) from I-40 to I-87	US 401 widened from Fuquay-Varina to MPO boundary in Harnett County
NC 540 toll road extended from Holly Springs to I-40 south of Garner	NC 540 completed as a toll road from I-40 to I-87/US 64 bypass	NC 96 widened from US 1 to NC 98
NC 50 widened and access management from I-540 to NC 98	Managed lanes added to I-40 from Durham County to MPO boundary in Johnston County	NC 56 widened from I-85 to MPO boundary in Franklin County

2. What is the Plan?

This document contains the 2045 Metropolitan Transportation Plans for CAMPO and the DCHC MPO. These plans are the guiding documents for future investments in roads, transit services, bicycle and pedestrian facilities and related transportation activities and services to match the growth expected in the Research Triangle Region.

2.1 Why Do We Need A Plan?

A transportation plan is essential for building an effective and efficient transportation system. The implementation of any transportation project, such as building a new road, adding lanes to a highway, purchasing transit buses, constructing a rail system, or building bicycle lanes with a road widening project, often requires several years to complete from concept to construction.

Once a community determines that a project is needed, there are many detailed steps to be completed: funding must be identified; analysis must be completed to minimize environmental and social impacts; engineering designs must be developed, evaluated, and selected; the public must be involved in project decisions; right-of-way may have to be purchased; and finally, the construction must be contracted and completed.

No matter which step one might consider the most important in this long process, the project always begins with the regional transportation plan. In fact, this basic planning concept is so important, that federal regulations require that a project must be identified in a metropolitan transportation plan in order for it to receive federal funding and obtain federal approvals.

Federal regulations not only require a metropolitan transportation plan, the regulations stipulate the contents of the plan and the process used in its development. The plan must have:

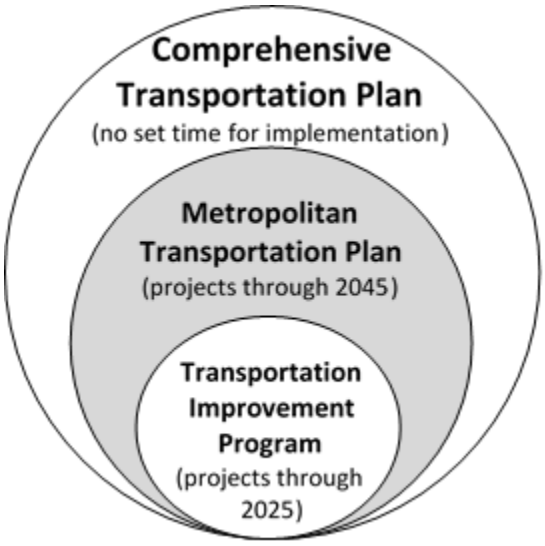
- A vision that meets community goals.
- A multi-modal approach that includes not only highway projects, but provides for other modes such as public transportation, walking, and bicycling.
- A minimum 20-year planning horizon.
- A financial plan that balances revenues and costs to demonstrate that the plan is financially responsible and constrained.
- An air quality analysis to show that forecasted emissions will not exceed air quality emissions limits, when a region is subject to air quality conformity requirements.
- A public involvement process that meets federal guidelines, and is sensitive especially to those groups traditionally left out of the planning process.

Regions like the Research Triangle must develop these plans at least every five years, and must formally amend these plans if regionally significant transportation investments are added, deleted or modified in the plans.

2.2 What Is In The Plan

Metropolitan areas in North Carolina prepare two distinct, but related **types of transportation plans**:

Figure 2.2.1



1. Comprehensive Transportation Plans (CTPs) are "needs-based." They show all the existing and new and expanded major roads, transit services, bicycle and pedestrian facilities and related transportation activities that are needed to meet the growth and mobility aspirations of our citizens over the long term. The CTP has *no* defined future date by which the facilities and services would be provided, nor is it constrained by our ability to pay for facilities and services or the impacts of these facilities and services on our region's air quality.
2. Metropolitan Transportation Plans (MTPs) are "revenue-based." They show the new and expanded roads, transit services, bicycle and pedestrian facilities and related transportation activities that we believe we can pay for and build by the year 2045, and that will meet federal air quality standards.

This document focuses on the second of these two types of plans: the Metropolitan Transportation Plan that shows what we can achieve by 2045 with anticipated funding and that will preserve air quality. The road project lists in Appendix 1 include a separate list of projects that are beyond the funding ability of the MTP, but are included in the Comprehensive Transportation Plan.

The facilities and services in a MTP are a subset of the facilities and services in a CTP. Figure 2.2.1 shows this relationship between the MTP and CTP, and also the plans' relationship to the Metropolitan Transportation Improvement Program (MTIP), the ten-year program of projects that is also developed for metropolitan areas and that serves as the main implementing document of the MTPs for those projects and services that use state and federal funding. The current MPO-adopted MTIP covers fiscal years 2018-2027.

This document compiles the MTPs for the two areas under the jurisdiction of the organizations with the main responsibility for transportation planning in the Research Triangle Region:

1. The Capital Area Metropolitan Planning Organization (Capital Area MPO, or CAMPO) which covers all of Wake County and portions of Franklin, Granville, Harnett and Johnston Counties; and
2. The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (Durham-Chapel Hill-Carrboro MPO, or DCHC MPO) which covers all of Durham County and parts of Orange and Chatham Counties.

Therefore, this is *one document*, so that those interested in transportation planning in the Research Triangle Region have a single, consistent reference to consult, but *two plans*, since there are state and federal requirements that each MPO be responsible for the plans, projects & services, funding, and air quality requirements within its jurisdiction.

This point merits emphasis: The selection of projects and allocation of funding to them is an *independent* decision by each MPO. This single document is a way to help these organizations make more consistent and complementary decisions within their spheres of authority, and to communicate these decisions to the citizens of the region.

To distinguish these lines of authority, this document is color-coded. Text and tables with a white background apply to both MPOs.

Text and tables highlighted in this green color apply only to the Durham-Chapel Hill-Carrboro MPO.

Text and tables highlighted in this yellow color apply only to the Capital Area MPO

Figure 2.2.2 summarizes key features of the two types of plans and different areas of authority, and indicates what is included in this version of the single regional document.

Figure 2.2.2

Authority	Capital Area MPO		Durham-Chapel Hill-Carrboro MPO	
Name of the Plan	CAMPO 2045 **Metropolitan Transportation Plan**	CAMPO **Comprehensive Transportation Plan**	DCHC MPO 2045 **Metropolitan Transportation Plan**	DCHC MPO **Comprehensive Transportation Plan**
Area Covered	Wake County and parts of Franklin, Granville, Harnett and Johnston Counties	Same as CAMPO Metropolitan Transportation Plan	All of Durham and parts of Orange and Chatham Counties	Same as DCHC MPO Metropolitan Transportation Plan
Who requires this plan?	Federal Government	State Government	Federal Government	State Government
Plan's Horizon Year	2045	No Set Year	2045	No set year
Is this plan fiscally constrained?	Yes	No	Yes	No
Must this plan meet air quality standards?	Yes	No	Yes	No
What officially constitutes the plan?	All MTP maps, lists of projects, and the text of this document that applies either generally or specifically applies to the CAMPO area	Just the set of CTP maps that apply to the CAMPO area (no text, list of projects or written report)	All MTP maps, lists of projects, and the text of this document that applies either generally or specifically applies to the DCHC MPO area	Just the set of CTP maps that apply to the DCHC MPO area (no text, list of projects or written report)
What projects are included in the plan?	New and expanded facilities and services	Existing, new and expanded facilities and services	New and expanded facilities and services	Existing, new and expanded facilities and services
Is the plan included in this version of the document	Yes	No, but additional CTP roads are listed in Appendix 1	Yes	No

Figure 2.2.3 shows a map of the two MPO areas, outlined in **purple**, as well as two other important geographic areas to consider as one consults this plan:

1. The Triangle Air Quality Region, shown in white, which consists of all of Wake, Durham, Orange, Franklin, Granville, Harnett and Johnston Counties, plus four townships in northeastern Chatham County; and

2. The Triangle Regional Model (TRM) "modeled area," outlined in **red**, which indicates the area covered by the region's travel demand forecasting model: the tool that estimates future travel on existing and planned roads and transit services (see Section 5.3). Most of the data highlighted in this document represents travel within this modeled area.

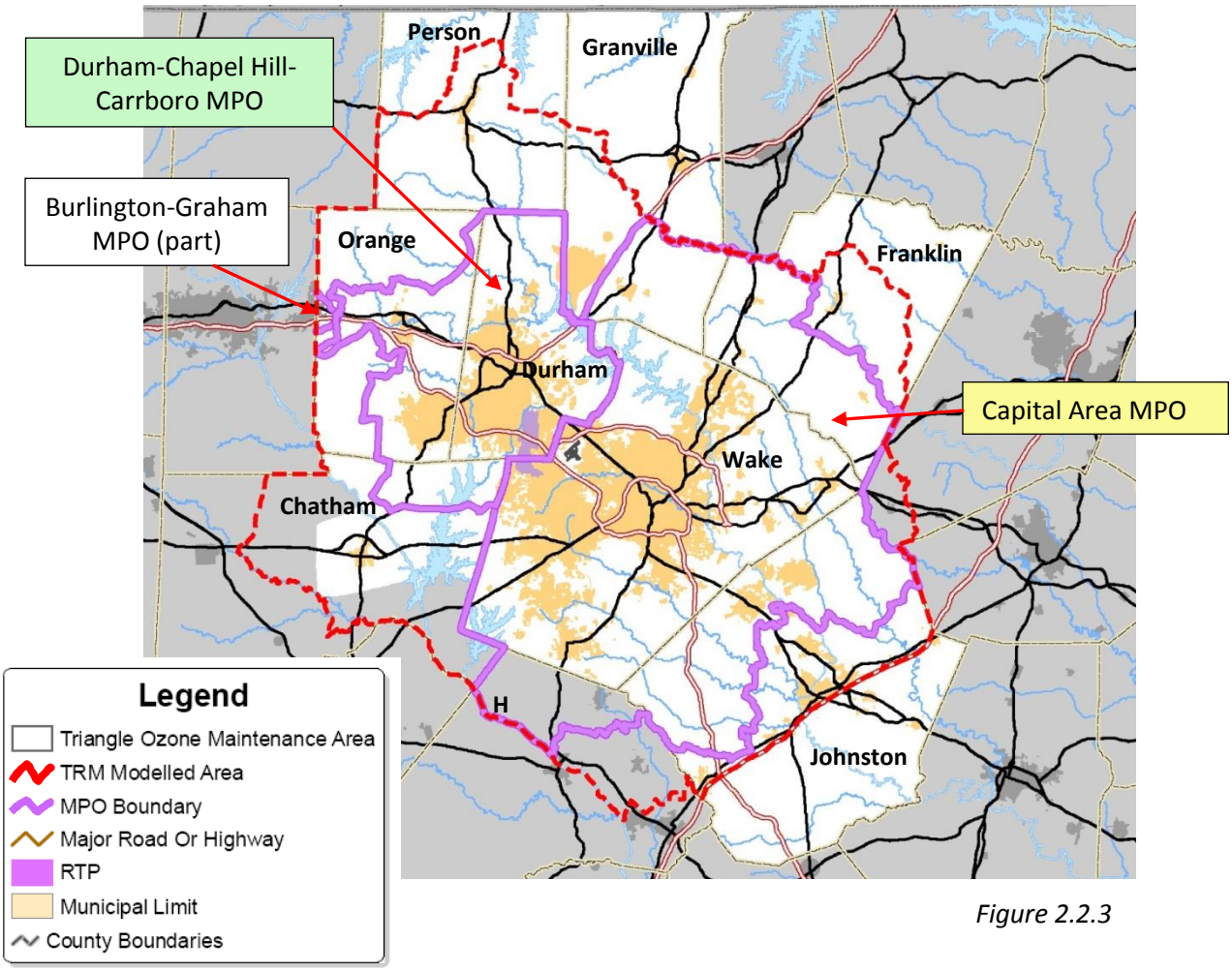


Figure 2.2.3

The core of the plan is the set of transportation investments described in Section 7, including:

- New and expanded roads;
- Transit facilities and services, including bus and rail;
- Bicycle and pedestrian facilities, both independent projects and in concert with road projects;
- Aviation facilities;
- Rail facilities for inter-city passenger and freight;
- Transportation Demand Management: marketing and outreach efforts that increase the use of alternatives to driving alone;
- Technology-Based Transportation Services: the use of advanced technology to make transit and road investments more effective, including planning for autonomous and connected vehicles; and
- Transportation Systems Management: road projects that improve safety and traffic flow without adding new capacity.

2.3 How Will The Plan Be Used?

Metropolitan Transportation Plans are used for several important decisions, including:

Programming projects. Only projects that appear in a Metropolitan Transportation Plan may be included in the Transportation Improvement Program (TIP) for funding.

Preserving future rights-of-way for roads and transit facilities. The state and local governments use Metropolitan Transportation Plans to identify land that may need to be acquired and to ensure that new development does not preclude the eventual construction of planned roads and transit routes.

Designing local road networks. Metropolitan Transportation Plans chiefly address larger transportation facilities with regional impact. Communities can then use these "backbone" projects to plan the finer grain of local streets and local transit services that connect to these larger facilities.

Making land use decisions. Communities use regional transportation plans to ensure that land use decisions will match the investments designed to support future growth and development.

Making private investments decisions. Businesses, homeowners and developers use these plans to understand how their interests may be affected by future transportation investments.

Identifying key plans and studies. State, regional and local agencies use this plan to outline more detailed plans and studies that will be undertaken leading to future projects and investments.

Key points from this section:

- The Comprehensive Transportation Plan (CTP) shows everything we would eventually like to do. The Metropolitan Transportation Plan (MTP) shows everything we think we can afford to do by the Year 2045. The Transportation Improvement Program (TIP) shows everything in the MTP that we plan to do through 2027 that involves state or federal funding.
- This single document includes the 2045 Metropolitan Transportation Plans for two planning areas: the Capital Area MPO and the Durham-Chapel Hill-Carrboro MPO. Each of these organizations retains independent authority within its area of jurisdiction.
- These plans will be used by local, state and federal agencies to allocate resources for specific road, transit, bicycle and pedestrian investments, to ensure that land is preserved for these investments and to match land use and development decisions with planned infrastructure investments.
- This document also includes lists of projects beyond the time frame of the 2045 MTP which are included in the two MPO CTPs, and links to more information about these projects.

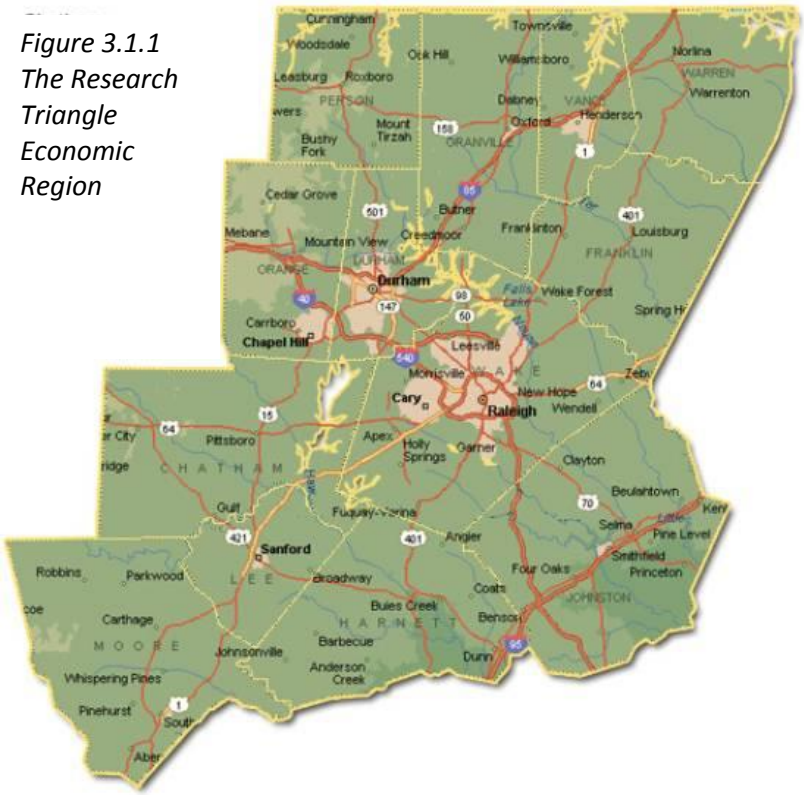
3. About Our Home

Transportation investments link people to the places where they work, learn, shop and play, and provide critical connections between businesses and their labor markets, suppliers and customers. So an important starting point for planning future investments is to understand the current state of our communities, and how they might change over the next generation.

3.1 Our Region

The Research Triangle is a burgeoning sunbelt metropolitan region. As defined by the census bureau, the region's metropolitan areas cover seven counties; six that are members of one or the other MPO plus Person County. More broadly, the economic region generally covers about 13 counties, stretching from the Virginia border on the North to Harnett, Lee and Moore counties in the south. Today, the seven metropolitan counties are home to about 1.9 million people and the 13-county economic region is home to 2.3 million people.

Figure 3.1.1 The Research Triangle Economic Region



The Triangle Economic Region	
Metropolitan Counties	
Chatham	DCHC
Durham	DCHC
Franklin	CAMPO
Johnston	CAMPO
Orange	DCHC
Person	
Wake	CAMPO
Nonmetropolitan Counties	
Granville	CAMPO
Harnett	CAMPO
Lee	
Moore	

As the MPOs plan their transportation networks, it is important to consider not only mobility within their boundaries, but also the connections to the wider economic region and other regions in North Carolina. The Triangle is one of three large, complex metro areas along North Carolina's Piedmont Crescent, along with the Triad and Charlotte. Each of these regions has more than 1.5 million people and together, these three regions account for 56% of the state's population, 60% of its jobs and 68% of the value of all goods and services produced in North Carolina.

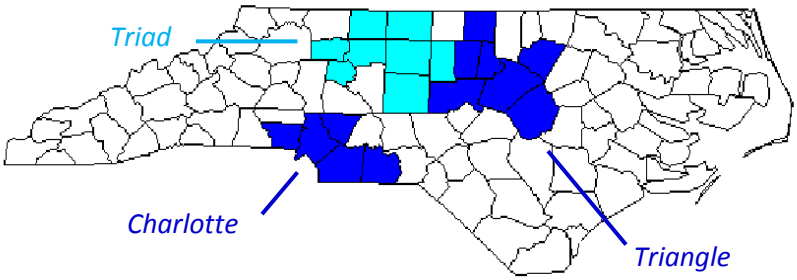
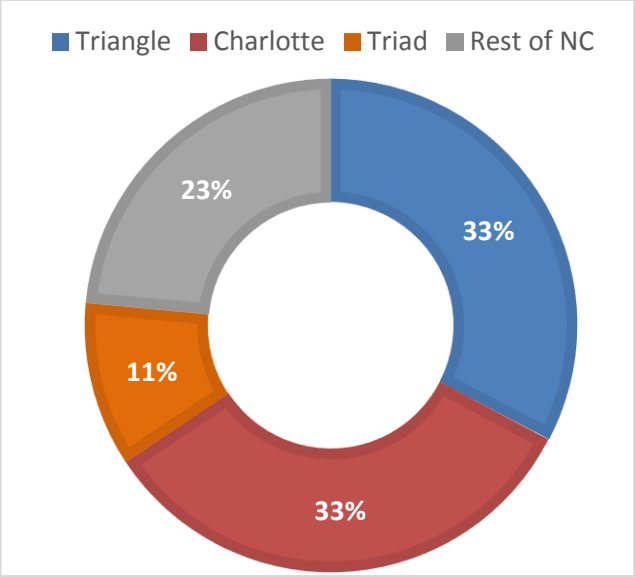


Figure 3.1.2 The "Big 3" Metro Regions

More importantly, as we consider future transportation investments, these three regions are expected to account for more than three-quarters of North Carolina's growth over the next generation, with the Triangle and Charlotte regions each absorbing 1/3 of North Carolina's growth.

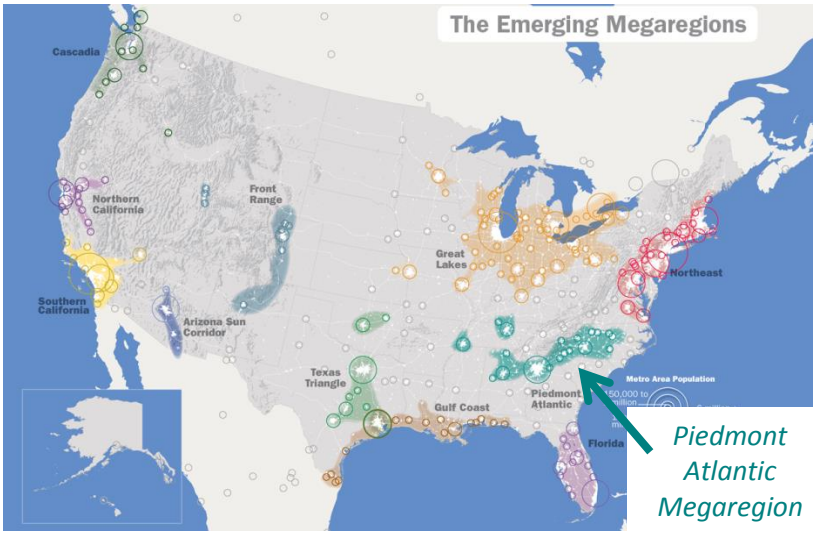
This rapid population growth is part of a larger national trend, where over two-thirds of all population growth is expected to occur in a series of "megaregions," the fastest-growing of which are located in sunbelt areas like the Triangle. The Triangle, along with the Triad and Charlotte, are part of the Piedmont Atlantic Megaregion (PAM), stretching from Raleigh to Birmingham, and which is forecast to grow from 17.6 million people in 2010 to over 31 million people by 2050.

Figure 3.1.3 Where Future Population Will Locate in North Carolina (2015-2037)



3.2 Our People

As our region has grown and as we add 1.3 million new people over the span of this plan to the part of the region covered by our forecast, the composition of our population is changing in ways that can influence the types of transportation investments we may choose to make:



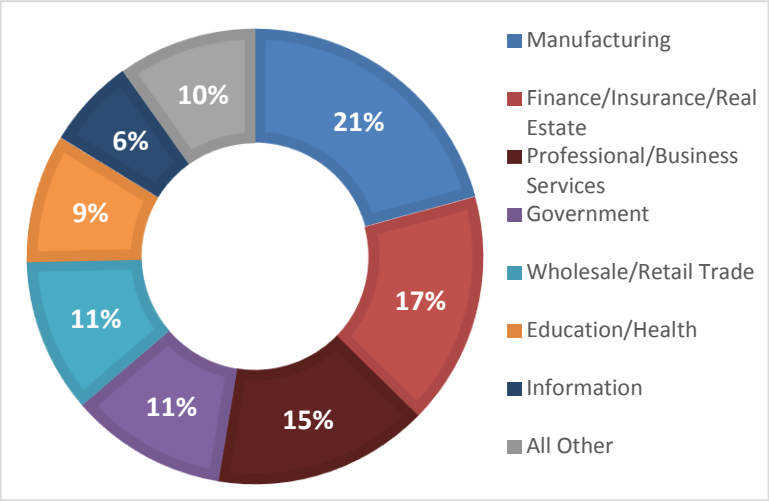
- By 2030, 20% of Triangle residents will be 65 or older, up from 10% in 2000.
- In 2010, 32,000 households in the Triangle had no vehicle available, up from 29,000 in 2000 and 27,000 in 1990.
- We are highly mobile: 8% of households lived in a different county a year ago and another 9% changed houses within their home county.
- Almost 370,000 households – roughly 60% of the total – are households with only one or two people, and close to 50,000 people live in group quarters such as university dormitories.
- Surveys report that about a quarter to a third of households today would prefer to live in a compact, walkable neighborhood with a mix of activities, the kinds of neighborhoods that can be effectively served by transit. This would suggest that by the Year 2045, as many as one million Triangle residents would select a compact, walkable, mixed-use neighborhood if that option is available for them.

3.3 Our Economy

The cornerstones of the region's economy are the major universities and their associated medical centers, the technology firms exemplified by the companies in the Research Triangle Park and state government. Employment is concentrated in the three core Triangle Counties: Wake, Durham and Orange Counties have over 1 million jobs; the 7 counties in our MSAs have 1.2 million jobs and the 13-county economic region has nearly 1.4 million jobs. Figure 3.3.1 indicates the distribution of economic value by industry for our two MSAs. Figure 3.3.2 shows the geographical distribution of employment within the 13-county economic region.

The Triangle's economy has proven resilient in the past, and the size of the region's economy is substantial: the metropolitan region accounted for 24% of the value of goods and services produced in North Carolina in 2016 and at more than $120 billion in today's dollars, surpassed the economic value produced by 17 states (Figure 3.3.3).

Figure 3.3.1 Gross Product by Industry-Triangle MSAs



The concentration of employment in several specific areas -- most notably the downtowns of Raleigh and Durham, the Research Triangle Park area and the university/medical center areas associated with Duke University, UNC-Chapel Hill, NC State University and North Carolina Central University -- results in significant commuting across the MPO boundary.

Figure 3.3.2 Employment by County

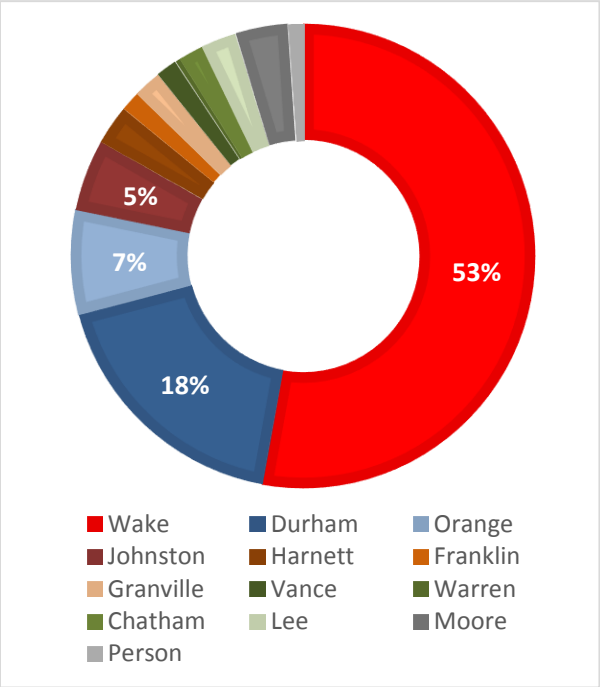


Figure 3.3.3 Gross Product: Value of Goods & Services Produced (in $billions)

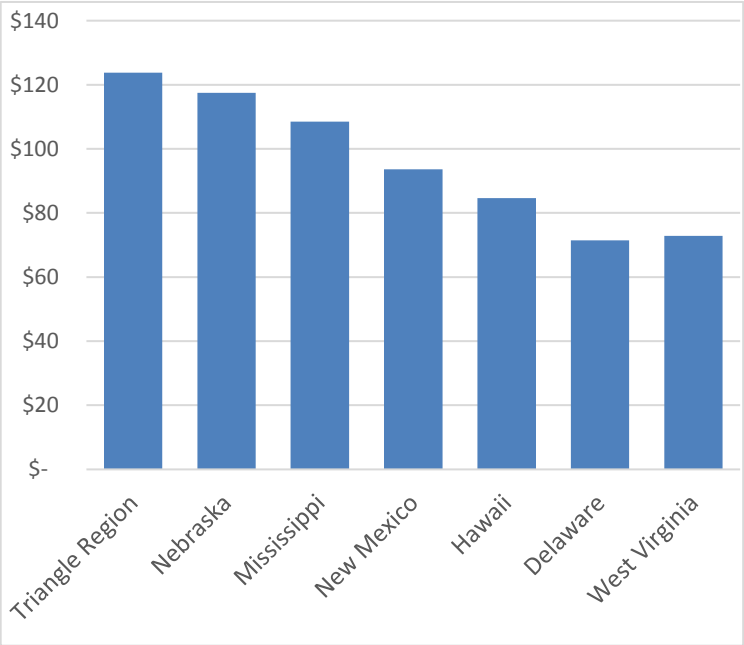


Figure 3.3.4 shows the growth in cross-county commuting in the region while Figure 3.3.5 shows commuting flows, with the largest flow consisting of 82,000 people who commute each day between Wake County on the one hand and Durham and Orange Counties on the other.

Figure 3.3.4 Total Cross-County Commuting

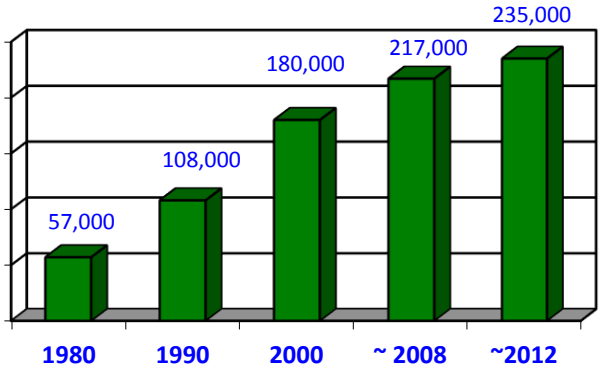
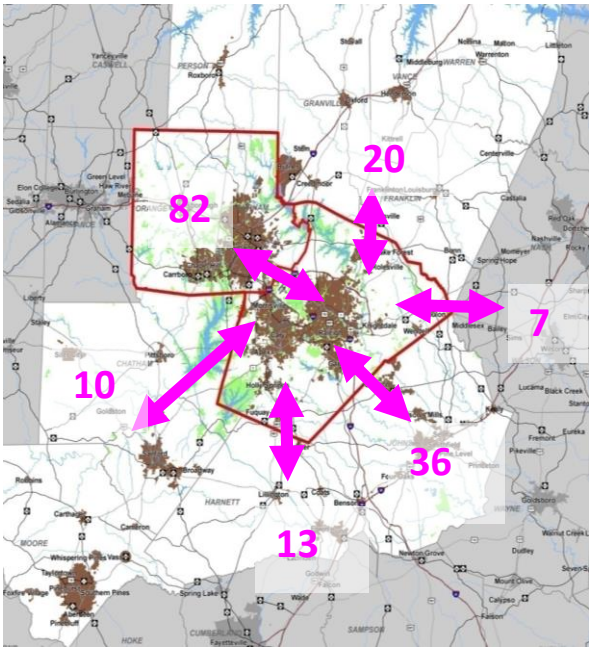
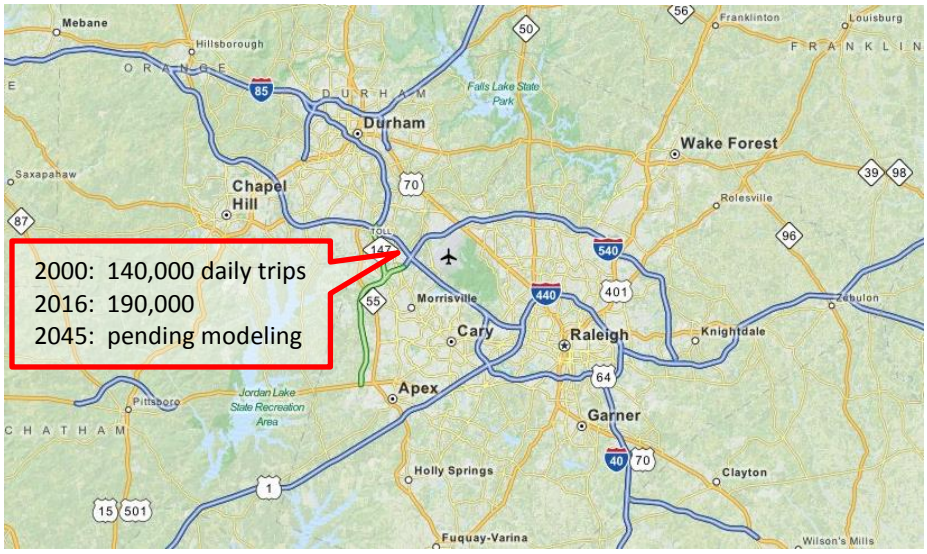


Figure 3.3.5 Daily Commuting Flows (in thousands of commuters)



In fact, our most heavily traveled roadway is the section of I-40 near the Wake County-Durham County line, the border between our two Metropolitan Transportation Planning Organizations. Auto and truck traffic continues to grow at this location, and forecasts are that the trend will continue.

Figure 3.3.6 I-40 Traffic Volume west of I-540



3.4 Our Environment

Among the many environmental concerns in our region, land use, air quality and water resources are three that have critical connections to transportation investments. Land use is a particularly critical issue in a fast-growing region like the Triangle, since the pattern of future land use can have significant influence on the efficiency and effectiveness of different transportation investments, especially transit services. Much of the Triangle Region is characterized by low-density development with different types of land uses, such as homes, offices and stores, separated from one another, a pattern commonly referred to as "sprawl." According to a national study that carefully examined measures of density, land use mix, road connectivity and "centeredness," the Triangle area ranked as the 3rd most sprawling among the 83 regions studied. The same study examined the environmental and social impacts of sprawl, concluding that persons in the most sprawling areas add many more miles of travel each day to their schedule, suffer more traffic deaths, and tend to endure worse air quality.

Air quality remains an important concern and is directly linked with the transportation system. Ozone is a strong oxidizer and irritant that has been shown to decrease lung function and trigger asthma attacks among the young, elderly, and adults who work or exercise outdoors.

Emissions from cars and trucks account for over one-half the emissions of nitrogen oxides (NOx) – the controlling pollutant in the formation of ground level ozone – in the Triangle Area. Given the serious health effects of ozone, the reduction of ozone emissions is an important goal of the MPO's transportation investments.

Figure 3.4.1 Regional Measures of Sprawl
(lower scores indicate more sprawl)

The Environmental Protection Agency (EPA) has established standards for common air pollutants. A geographic area that meets or exceeds the standard for a particular air pollutant is called an "attainment area." Likewise, an area that does not meet the standard is called a "non-attainment area." Standards are set for a number of pollutants, including ozone, particulate matter and carbon monoxide. The Triangle area is currently in attainment, although in the previous three decades the area has been in non-attainment.

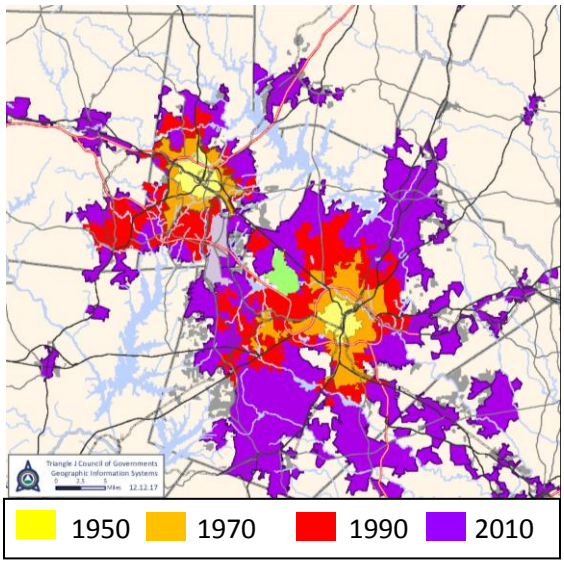
Attainment status can directly affect a community's economic development efforts, and federal funding for transportation improvements can be affected in non-attainment areas. New or expanded industrial developments proposing to emit air pollutants face stricter and more costly technology standards in non-attainment areas. For these reasons, the two MPOs continue to examine air quality impacts closely, although we are not required to do so.

Water quality is a regional concern as well. The Triangle Region is divided into two major drainage basins, both of which supply water for the Region's drinking water reservoirs. The southern/western part of the Region drains into Jordan Reservoir and the Cape Fear River basin. The northern/eastern part of the Region drains into the Falls of the Neuse Reservoir and the Neuse River basin. All of the major watercourses in the Region drain to water supply reservoirs and affect the quality of their waters. The NC Division Water Quality (DWQ) classifies streams according to their best intended uses. Intended uses could include water supply, aquatic life protection and swimming or other recreation. Using water quality data and field assessments, the DWQ has determined that several streams throughout the region are impaired either because they have poor water quality or do not support their intended uses. These streams include the New Hope, Third Fork and Northeast Creeks in the Cape Fear basin; and Ellerbe, Little Lick and Lick Creeks in the Neuse basin (among others).

The municipalities and counties in the region often apply special development standards for the purposes of water supply watershed protection. These standards often prohibit certain types of development in sensitive watershed areas, limit the intensity of development to minimize pollution from stormwater runoff, limit the amount of impervious surfaces allowed in new developments, and limit the disturbance of naturally vegetated areas on each side of most streams. Transportation plans must take into account the impact that new or widened roadways might directly have on water quality, and the indirect effects that transportation investments might have in spurring future development that could adversely impact water quality.

3.5 Our Future

Figure 3.5.1 Urban Expansion Over Time



The part of the Research Triangle Region covered by our forecast is anticipated to add 1.3 million people over the span of this plan, more than the current *combined* population of the seven largest cities and towns within our MPO boundaries: Raleigh, Durham, Cary, Chapel Hill, Apex, Wake Forest and Holly Springs.

Forecasts suggest that much of this future growth will continue to extend outwards from the urbanized area as it was most recently defined following the 2010 Census. Figure 3.5.1 shows how the urbanized areas around Durham and Raleigh have grown over the years. The Census defines urbanized areas as areas with more than 500 residents per square mile and strong commuting ties to a central city with more than 50,000 people.

Our future involves more than just growth; we also face rapidly evolving and technologies that could significantly shape the nature of travel. The advent of autonomous and connected vehicles could influence the designs of our streets, our need for parking, the relationship between our land uses and transportation network, and car ownership, all in as-yet-unknown ways.

3.6 Our Challenge

These characteristics of our home -- a rapidly growing population and economy, continuing risks to air and water quality, a propensity to disperse growth outwards, and disruptive technologies, create transportation challenges. More commuters are traveling longer distances, and the single-occupant automobile continues to dominate how we travel. And although we tend to focus on commuter travel, travel for such purposes as school, business, shopping, and social engagements constitute increasing shares of travel. These conditions have produced increasing demands on our transportation network, which in terms of “vehicle miles traveled” and other demand measures is experiencing a growth rate that is greater than that of our population. The consequences have been rising traffic congestion, increasing transportation infrastructure costs, and further pressure on our air, water, open space, and other environmental assets. Our region’s quality of life, a key attraction for professional and skilled workers and business investment to our region, may ultimately become threatened by the consequences of our patterns of growth and inadequate transportation infrastructure.

These consequences create many challenges for us, for example:

- How do we find the resources to invest in our transportation infrastructure, and to what extent does this demand for resources compete with other needs such as schools, water and waste treatment facilities, affordable housing, protection of green space and social services?
- As we expand our roadway network to meet growing travel demand, how can we minimize the negative impacts on our travel times, air and water quality, and open spaces?
- How do we design a transportation network that serves 1) the needs of different types of places, from downtowns to small towns to suburban areas to rural communities, 2) a range of socioeconomic groups and 3) our economic and environmental values?

One of the largest challenges facing our region is that despite major investments in road projects, congestion levels are increasing due to extensive population growth, increased travel within the region and large amounts of "pass-through" traffic on our interstate highways.

Figure 3.6.1 shows $2.8 billion in major road projects that were completed in the past 20 years or are underway. **Red** lines are highways with interchanges, while **purple** lines are streets with intersections.

Figure 3.6.1 Major Highway Projects Added Since 1995

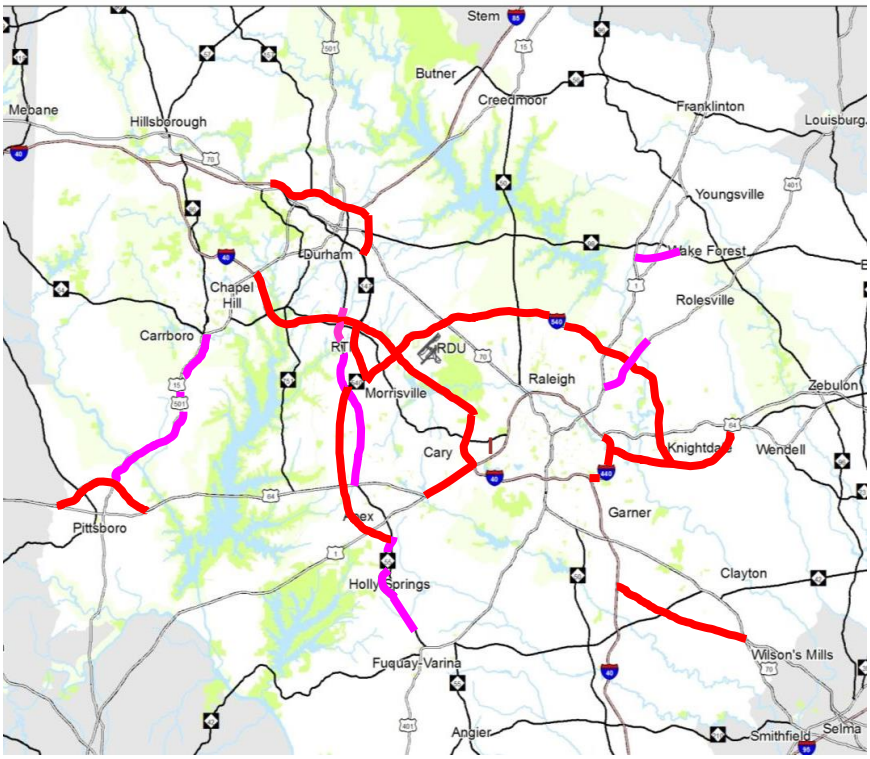
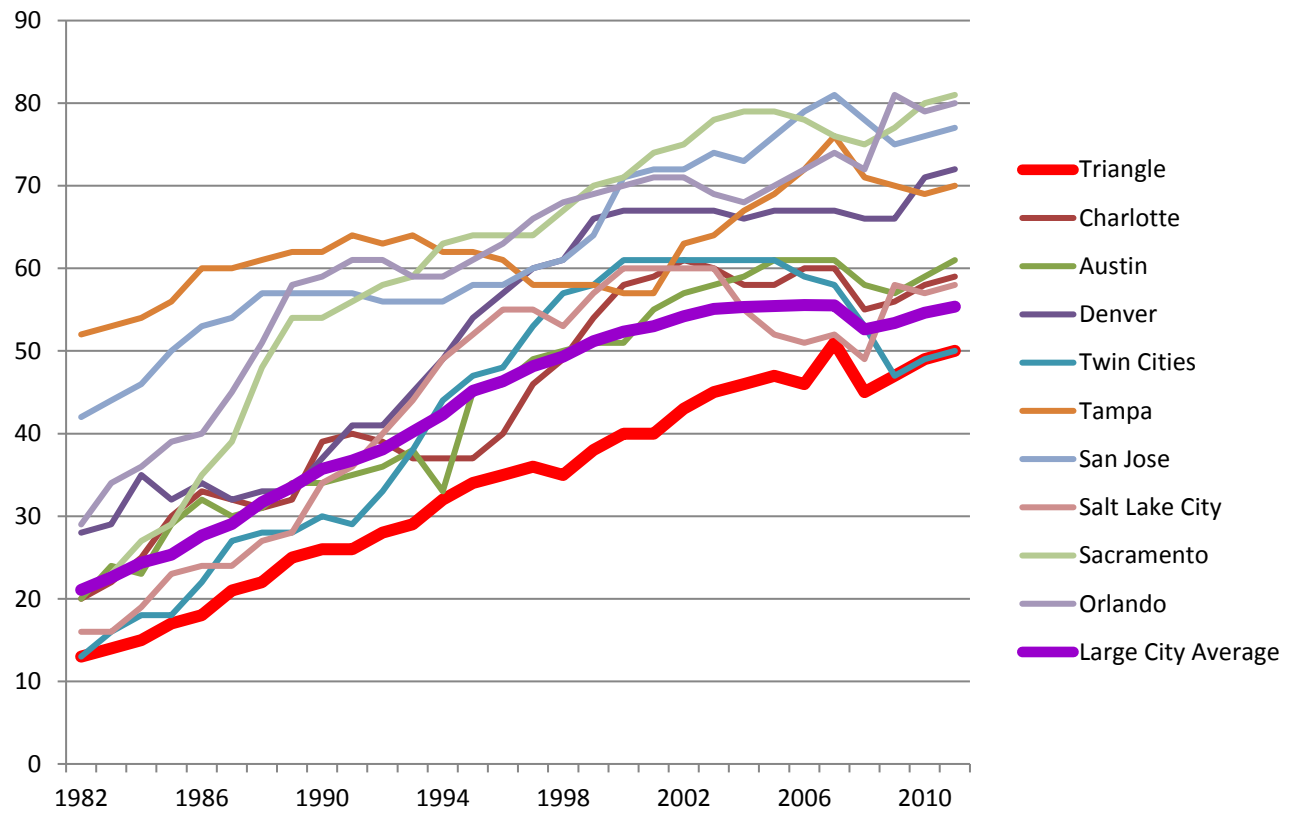


Figure 3.6.2 shows how levels of congested peak period travel have increased in the Triangle, in many of the regions with which we compete and for all large regions in the US. The graph shows that although the Triangle has comparatively less congestion, congestion levels consistently rise over time and that economically successful, fast-growing regions have not been able to "build their way out of congestion."

Figure 3.6.2 Percent of Peak Travel in Congestion



We are undertaking the update of our long-range transportation plan to help ensure that we are able to meet the significant challenges we face. We must plan now for the roadways, transit services, and bicycle and pedestrian facilities that will be needed in 2045, if we expect to meet the travel demands of the place we will become. Our communities have opportunities to create and maintain a strong, growing economy, high quality of life, affordable housing market, culturally diverse populace, and sustainable environment. Our ability to anticipate and meet the challenges in planning, designing, and building an efficient and effective transportation network is a key element for ensuring that we can make the most of these opportunities.

Key points from this section:

- The MPO areas covered by this plan are part of a larger economic region. Transportation investments should consider the mobility needs of this larger region and links to the other large metro regions of North Carolina and throughout the Southeast.
- The Triangle Region is expected to accommodate a phenomenal amount of future growth, part of a larger national trend of growth in sunbelt "megaregions;" we need to plan for the region we will become, not just the region we are today.
- The Triangle is one of the most sprawling regions in the nation and current forecasts project both continued outward growth and infill development in selected locations, most notably in the central parts of Raleigh, Durham and Chapel Hill. A key challenge for our transportation plans is to match our vision for how our communities should grow with the transportation investments to support this growth.
- No region has been able to "build its way" out of congestion; an important challenge for our transportation plans is to provide travel choices that allow people to avoid congestion or minimize the time they spend stuck in it. Emerging, potentially disruptive technologies associated with autonomous and connected vehicles may significantly affect travel, but the nature and scale of these impacts remains highly uncertain, and may achieve substantial market penetration only in the long-term stage of this plan.
- Our population is changing. The population is aging, more households will be composed of single-person and two-person households without children, the number of households without cars is increasing, and more people are interested in living in more compact neighborhoods with a mix of activities. Our plans must provide mobility choices for our changing needs.
- Our MPOs are tied together by very strong travel patterns between them; our largest commute pattern and heaviest travel volumes occur at the intersection of the MPO boundaries. Our MPO plans should recognize the mobility needs of residents and businesses that transcend our MPO borders.

4. Our Vision And How We Will Achieve It

4.1 Our Vision

The region has a common vision of what it wants its transportation system to be:

a seamlessly integrated set of transportation services that provide travel choices to support economic development and that:

- *are compatible with the character and development of our communities,*
- *are sensitive to the environment,*
- *improve quality of life, and*
- *are safe and accessible for all.*

The *2045 Metropolitan Transportation Plan* commits our region to transportation services and patterns of development that contribute to a distinctive place where people can successfully pursue their daily activities.

4.2 Goals and Objectives

The two Metropolitan Planning Organizations have worked together to develop a common set of goals and objectives that are designed to achieve the region's overall vision. Goals are short statements of intent; objectives provide two to four priorities within each goal on which we want to focus.

This plan is based on eight goals and their supporting objectives:

1. Connect People
   Objectives:
   a) Connect people to jobs, education and other important destinations using all modes
   b) Ensure transportation needs are met for all populations, especially the aging and youth, economically disadvantaged, mobility impaired, and minorities.

2. Promote Multimodal and Affordable Travel Choices
   Objectives:
   a) Enhance transit services, amenities and facilities.
   b) Improve bicycle and pedestrian facilities.
   c) Increase utilization of affordable non-auto travel modes.

3. Manage Congestion and System Reliability
   Objectives:
   a) Allow people and goods to move with minimal congestion and time delay, and with greater predictability.
   b) Promote Travel Demand Management (TDM), such as carpooling, vanpooling and park-and-ride).
   c) Enhance Intelligent Transportation Systems (ITS), such as ramp metering, dynamic signal phasing and vehicle detection systems.

4. Stimulate Economic Vitality
   Objectives:
   a) Improve freight movement.
   b) Link land use and transportation.
   c) Target funding to the most cost-effective solutions.
   d) Improve project delivery for all modes.

5. Ensure Equity and Participation
   Objectives:
   a) Ensure that transportation investments do not create a disproportionate burden for any community.
   b) Enhance public participation among all communities.

6. Improve Infrastructure Condition
   Objectives:
   a) Increase the proportion of highways and highway assets rated in 'Good' condition.
   b) Maintain transit vehicles, facilities and amenities in the best operating condition.
   c) Improve the condition of bicycle and pedestrian facilities.

7. Protect the Environment and Address Climate Change
   Objectives:
   a) Reduce mobile source emissions, greenhouse gas emissions and energy consumption.
   b) Minimize negative impacts on the natural and cultural environments.

8. Promote Safety and Health
   Objectives:
   a) Increase the safety of travelers and residents.
   b) Promote public health through transportation choices.

4.3 Performance Measures of Effectiveness and Target Values

As part of the same process for creating the Goals and Objectives, the two MPOs developed a set of common Performance Measures related to the objectives that would enable tracking progress over time. Measures fall into one of three categories: i) those that can be determined quantitatively using analytic methods and data already available, ii) those that can be determined quantitatively, but will require new analysis methods and/or additional data, or iii) those that would need to use more qualitative methods, such as surveys or focus groups, to judge our progress.

Performance measures that are currently quanitfiable were determined for three comparative conditions:

- 2015 – This is the current condition. It is the 2015 population and employment using the 2015 transportation network (e.g., highways and transit service).
- 2045 E+C – This is the "Existing plus Committed" (E+C) network which includes the existing and under-construction transportation network and the 2045 population and employment.
- 2045 – This is the 2045 MTP transportation network plan as adopted by the two MPOs using the 2045 population and employment.

Although the measures are common to both MPOs, each MPO may choose different target values they wish to achieve for each measure based on conditions and priorities specific to each MPO. A priority for the two MPOs once the Plan is adopted is to develop or refine specific target values and to use these values in prioritizing the implementation of projects.

The performance measures have been crafted to align with new and developing performance requirements under the Federal FAST Act, the nation's transportation law. In particular, both MPOs have approved performance measures and targets for transit asset state-of-good-repair measures that are FAST Act compliant (the DCHC MPO on June 14, 2017 and the Capital Area MPO on June 21, 2017) and are adopting the NCDOT FAST Act safety measures and targets with this Plan. Additional FAST-Act compliant measures and targets will be adopted through subsequent amendments to this Plan. The MPOs will continue to coordinate with NCDOT and other agencies to adopt Highway Safety Improvement Program measures as they are required.

The following measures are used for this plan; some of the measures support more than one objective:

Performance Measure	*FAST Act Target*
% of work and non-work trips by auto that take less than 30 minutes	
% of work and non-work trips by transit that take less than 45 minutes	
% of urbanized area within ¼ mile of pedestrian facilities	
% of planned investment in existing roadways (versus new alignment).	
Amount and % of population and jobs in "travel choice neighbor-hoods:" areas accessible to light rail, bus rapid transit, commuter rail and frequent bus service (½ mile to stations, ¼ mile to frequent bus service)	
Amount and % of legally binding affordable housing units located with ½ mile of transit infrastructure stations or frequent bus service	
% of Environmental Justice population and total population within ½ mile of bus service, 1 mile of rail service, ½ mile of bike facilities or ¼ mile of sidewalk	
Per capita transit service hours	
Total transit boardings per capita	
% of bus stops meeting defined facility criteria (e.g. benches, shelters, arriving bus status)	
5-year average of expenditures on cycling/walking facilities	
Proportion of jurisdictions with ordinance requirements for sidewalk construction or in-lieu fees	
Transit, cycling and walking mode shares (overall, in transit corridors, in travel choice neighborhoods)	
Average clearance time for crashes on principal roadways	
Daily minutes of delay per capita	
% of peak hour travelers driving alone	
Total individuals provided TDM program and activity support	
# of employees working for Best Workplace for Commuters employers	
Vehicle miles of travel (VMT) per capita	
Amount of ITS investments	
% of lane miles with NCDOT unacceptable pavement condition rating	
Number and % of structurally deficient bridges	

Performance Measure	*FAST Act Target*
% of reported potholes repaired within two days by NCDOT	
% of transit equipment meeting or exceeding useful life benchmark	CAMPO: 30% DCHC MPO: 50%
% of transit vehicles by asset class meeting or exceeding useful life benchmark	CAMPO: 30% DCHC MPO: 50%
% of transit facilities with condition rating below 3.0 on Federal Transit Administration Transit Economic Requirements Model scale	CAMPO: 40% DCHC MPO: 0%
% of cycling facilities by type (bike lanes, shared use paths, etc.) rated in good condition	
# of public participants in each process by type (in-person, email, survey, social media)	
Environmental Justice requirements met by 2045 MTP	
# of non-motorized fatalities and serious injuries	↓ 5.3%/year (statewide)
# of total fatalities	↓ 5.1%/year (statewide)
Total fatalities rate (per 100 million vehicle miles traveled)	↓ 4.75%/year (statewide)
# of total serious injuries	↓ 5.1%/year (statewide)
Total serious injuries rate (per 100 million vehicle miles traveled)	↓ 4.75%/year (statewide)
% of adults who are physically active	
Minutes of truck delay per trip	
Freight buffer time index	
Average payback period of investments by mode	
% of TIP projects completed on-time (let to construction) by mode	
% of MTP projects built in the time period in which they first appeared	
% of TIP projects built in the time period in which they first appeared	
Emissions per capita from on-road mobile sources (ozone, carbon monoxide, particulate matter, greenhouse gases)	
Energy consumption per capita from transportation sources	

Section 6.5 of this plan includes the results of analyzing the performance measures. This report also presents a detailed analysis of Environmental Justice issues in section 9.2 – *Critical Factors in Planning – Environmental Justice (EJ)*, and provides a comparison of the location of 2045 MTP projects and EJ populations in Appendix 12 – *Environmental Justice Project Tables*.

Key points from this section:

- Our MPOs have a single vision for what our region's transportation system should achieve.
- Both MPOs adopted consistent goals and objectives to accomplish this vision, and a common set of performance measures to track progress towards the goals and objectives.
- Each MPO may choose different target values they wish to achieve, based on the conditions and priorities of the different MPOs.
- Performance measures are designed to align with Federal requirements under the FAST Act, the federal transportation law; and targets for safety and transit asset state of good repair are included as part of the 2045 Metropolitan Transportation Plan

5. How We Developed Our Plan

This section describes the organizations and technical tools used to develop the Plan, how the public was involved in the Plan's development and review, and other recent and on-going studies and plans that relate to the Plan.

5.1 Who is Responsible for the Plan?

Metropolitan Planning Organizations (MPOs) are the regional organizations responsible for transportation planning for urban areas, and therefore are charged with developing their individual Plans. The Research Triangle Region has two MPOs: The Durham-Chapel Hill-Carrboro (DCHC) MPO and the Capital Area MPO (CAMPO).

The CAMPO planning area covers all of Wake County and portions of Franklin, Granville, Harnett and Johnston Counties, along with 18 municipalities in these five counties. The DCHC planning area covers all of Durham County, a portion of Orange County including the towns of Chapel Hill, Carrboro and Hillsborough, and northeast Chatham County. *Figure 2.2.3* in Chapter 2 shows a map of the MPO boundaries. The DCHC MPO and CAMPO are also two of the eleven urbanized areas in North Carolina designated as Transportation Management Areas (TMAs) by the principal federal transportation legislation called *Fixing America's Surface Transportation (FAST) Act*. TMAs are urbanized areas with a population over 200,000, and have additional responsibilities such as the development of a congestion management process and direct allocation of certain federal revenues. Much of the MPO organizational structure and processes are designed to address state and federal legislation related to transportation. Each MPO is comprised of two committees:

Policy Board (PB) – The Policy Board coordinates and makes decisions on transportation planning issues. The Board is comprised of elected and appointed officials from each county, municipality and major transit provider within the MPO, and from the NCDOT.

For the Capital Area MPO, these officials are from the counties of Franklin, Granville, Harnett, Johnson and Wake, the municipalities of Angier, Apex, Archer Lodge, Bunn, Cary, Clayton, Creedmoor, Franklinton, Fuquay-Varina, Garner, Holly Springs, Knightdale, Morrisville, Raleigh, Roseville, Wake Forest, Wendell, Youngsville and Zebulon, GoTriangle and the North Carolina Department of Transportation. The Board also has advisory (non-voting) members from the NC Turnpike Authority and the Federal Highway Administration.

For the DCHC MPO, these officials are from the City of Durham, the Town of Chapel Hill, the Town of Carrboro, the Town of Hillsborough, Durham County, Orange County, Chatham County, GoTriangle and the North Carolina Department of Transportation. The Board also has advisory (non-voting) members from the Federal Highway Administration.

Technical Committee (TC) – The TC is composed of staff members from our local governments, Triangle Transit, Research Triangle Park, Triangle J Council of Governments, Raleigh-Durham Airport Authority, Carolina Trailways, the NC Turnpike Authority and the largest universities in the applicable MPO: North Carolina Central University, University of North Carolina and Duke University in the DCHC MPO, and North Carolina State University in CAMPO. The TC staff, who provide technical recommendations to the Policy Board, are commonly transportation, land use, community, and facility planners and engineers. The final key organizational element of the MPO is the Lead Planning Agency (LPA). The LPA is responsible for the administration and oversight of the planning, project implementation, grant funding, and other MPO related activities. In the DCHC MPO, the LPA staff work for the City of Durham's Transportation Department. In CAMPO, the staff are employees of the City of Raleigh, but only work on MPO tasks.

5.2 Stakeholder & Public Involvement Process

Extensive input and coordination activities were used to develop the 2045 MTP. These activities included both regional coordination efforts between the two MPOs and involvement of the public and local elected officials by each MPO.

Regional Coordination

Several regional coordination activities were undertaken to ensure that the two MPO plans would be integrated and mutually supportive. The key coordination activities are described throughout the various sections of this report in detail. The following list provides a summary of key coordinated activities used to develop the Plan:

- County Transit Plans -- The DCHC MPO and their respective counties updated the Durham County Transit Plan and the Orange County Transit Plan in 2017. The Capital Area MPO and Wake County approved the Wake County Transit Plan in 2016. These plans designate the general design for improved bus, light rail, commuter rail and bus rapid transit in their respective counties, and the funding sources to finance these improvements.
- Connect 2045 CommunityViz -- The MPOs fund, guide and use the same Socioeconomic Data forecast process and model. This process convened local planners, developers and other professionals who impact the development process to create the Community Visualization land use model (version 2) and produce population and employment projections.
- Alternatives – The MPOs jointly defined and evaluated the various land use and highway, bus transit and light rail transit alternatives, and selected the same land use alternative for development into the final Plan.
- Joint Policy Board Meeting –The MPOs' conducted joint MPO Policy Board meetings on November 30, 2016 and November 30, 2017 to advance 2045 MTP coordination at the policy board level.
- Financial Plan – The MPOs used the same financial methodologies and cost and revenue basis for highways, bus transit, rail transit, and all aspects of the plan.
- Triangle Regional Model (TRM) – The MPOs used the same principal planning tool for the 2045 MTP, the Triangle Regional Model (TRM – the region's travel demand model), version 6.
- Goals, Objectives and Performance Measures – The two MPOs developed and used the same set of Goals, Objectives and Performance Measures to guide the selection of a land use scenario and of projects in the 2045 MTP process.

MPO Public Involvement Policy

Both MPOs have a formal public involvement policy that governs the public input process for not only the MTP process but for all major activities such as the Transportation Improvement Program (TIP). The policies prescribe: the methods for notifying the public; the type of input activities such as workshops and hearings; the minimum comment period; the use of visual techniques; and outreach to special groups such as low-income, minority and limited-English proficiency households, and people with disabilities. Policy updates are planned to increase engagement with agencies focused on travel & tourism, and on resiliency and the reduction of natural disasters. A regional resiliency assessment underway with the Triangle J Council of Governments can be used as a platform for expanding outreach and communication with agency partners. The public involvement policy for each MPO is available at:

CAMPO -- www.campo-nc.us
DCHC MPO -- www.dchcmpo.org

MTP Public Involvement Process

Decisions cannot be based solely on numbers and the interpretation of Goals and Objectives by staff and the MPOs Policy Boards. The 2045 MTP included a comprehensive public involvement process to use citizen and stakeholder input for providing a critical evaluation of the products for each stage of developing the plan. Citizens, public officials and board and commission members took advantage of a variety of planning and public input activities to voice their opinions and concerns.

Figure 5.2.1, Summary of Public Involvement Activities, demonstrates the breadth and depth of this public involvement effort by summarizing the many activities that occurred in each stage of the MTP's development for both CAMPO and DCHC MPO.

There are some notable details to the Figure 5.2.1 table. For example, the media effort was especially intensive and usually included:

- Draft documents and detailed supporting data available on the MPOs' Web sites;
- Notices in newspapers for workshops, hearings and other public involvement activities;
- Email lists to notify members of the community who have participated or indicated an interest in related planning activities. This included information about public workshops and input events as well as public hearings.
- Information was shared using social media platforms such as LinkedIn, Facebook, and Twitter, including a Facebook targeted ad campaign that reached more than 11,500 people across the region.
- Various formats for citizens to provide public comments included email, paper feedback forms, public workshops, information tables at community events, hearings and presentations at local elected officials' meetings.
- The DCHC MPO Goals and Objectives and CAMPO Alternatives Analysis were supported by online surveys that attracted over 800 respondents in one particular survey.

In addition, there were many workshops and targeted outreach in the various member jurisdictions or multi-jurisdictional areas, and over a dozen presentations to local elected officials, boards and commissions. As a result of this extensive outreach effort, many of the elected bodies and locally-appointed boards and commissions provided considerable input through formal resolutions to the MPO Policy Boards. Special outreach was made to environmental, cultural and other resource agencies, with local chambers of commerce and convention and visitors bureaus, and with providers of Transportation Demand Management services.

One of the commitments in a consultative process is to circle back with public participants and inform them of any final decisions or outcomes, and how their input influenced those outcomes. Upon adoption of the 2045 MTP document in early 2018, it is the intention of both MPOs to send a media release, email update, website update, and social media posts advertising the adoption as well as post on the websites a spreadsheet of comments received including a staff response regarding the disposition.

This public involvement process met and exceeded the MPOs' public involvement policies for developing a transportation plan.

The extent of the public involvement process to identify and choose projects for the 2045 MTP go beyond the MTP development process. Many 2045 MTP projects have been incorporated from local and MPO plans identified in section "*5.4 -- Related Plans and Studies*" of this report. These plans and studies have commonly employed their own extensive public involvement process.

Figure 5.2.1 – Summary of Public Involvement Activities

	Activity				
Decision	**MPO Approval** (2)	**Public Hearing**	**Public Engagement**	**Draft for Public Review**	**Media Notification**
Goals and Objectives					
CAMPO	10/19/16	--	Public notice	11/21/15 08/17/16	--
DCHC	01/10/17	03/09/16	Online survey & workshop	02/12/16	Yes
2045 Growth Guide Totals					
CAMPO	10/19/16 02/21/18	--	Public notice	08/17/16	--
DCHC	--	--	--	09/14/16	--
Transportation Model (2)	(TransCAD version 6)				
CAMPO	10/19/16 02/21/18	--	Public Notice	08/07/16 01/11/18	Yes
DCHC	01/10/18	--	Public Notice	12/13/17	Yes
Deficiency Analysis					
CAMPO	--	--	Public Notice	03/15/17	Yes
DCHC	--	--	--	06/14/17	Yes
Alternatives Evaluation					
CAMPO	08/16/17	--	Public notice	04/17/17	Yes
DCHC	--	09/13/17	4 workshops	08/09/17	Yes
Approve 2045 MTP (1)					
CAMPO	12/13/17	12/13/17	20 workshops (10 Transit, 10 multimodal)	10/31/17	Yes
DCHC	12/13/17	11/08/17	Public Notice	11/01/17	Yes
Adopt 2045 MTP & Report (2)					
CAMPO	02/21/18	02/21/18	Public notice	01/11/18	Yes
DCHC	01/10/18	--	Public notice	12/13/17	Yes

Dashed lines, "-- ", indicate that the activity was not carried out because it is not a formal part of the metropolitan transportation plan or the MPO's public involvement policy.

(1) Includes the principal parts of the 2045 MTP that are presented in the Preferred Option report, including the Goals and Objectives, socioeconomic data, project lists and maps, and the financial plan.

(2) Includes the principal parts of the 2045 MTP that were approved in December 2017, and the full report, Performance Measures and Targets that are already aligned with the Goals and Objectives, and the Triangle Regional Model (TRM) version 6.

Visualization Techniques

The use of visuals in reviewing a plan not only makes good sense but is a federal transportation policy requirement. The goal is to help the public and decision makers visualize and interact with transportation plans and projects, alternatives, large data sets and land-use information more effectively. The MPOs used extensive visual techniques throughout the 2045 MTP planning process to present data to the public, elected officials and staff. Visual highlights are summarized directly below. *Figure 5.2.2 Examples of Visualization Techniques* provides some samples; however, the MPOs' MTP Web sites demonstrate the extensive use of interactive maps, tables and graphics used throughout the 2045 MTP planning process.

Socioeconomic Data

There are "dot-density" maps of population and employment growth to the year 2045. Examples: see section 6.2 of this report, and the Land Use or SE Data Web pages on the MPOs' 2045 MTP Web sites.

Projects

All the highway, bus transit, rail transit and bicycle projects have been depicted on maps and listed in tables that included the project attribute data. Examples: see section 7 and appendices 1 through 4 of this report; and the 2045 MTP Web pages on the MPOs' Web sites, which include links to interactive online maps.

Deficiency Analysis

The deficiency analysis provided interactive and static maps of roadway congestion levels, travel time between key points and travel time isochrones. Examples: see section 6.3 of this report; and the deficiency analysis Web pages on the MPOs' Web sites, which include links to interactive online maps.

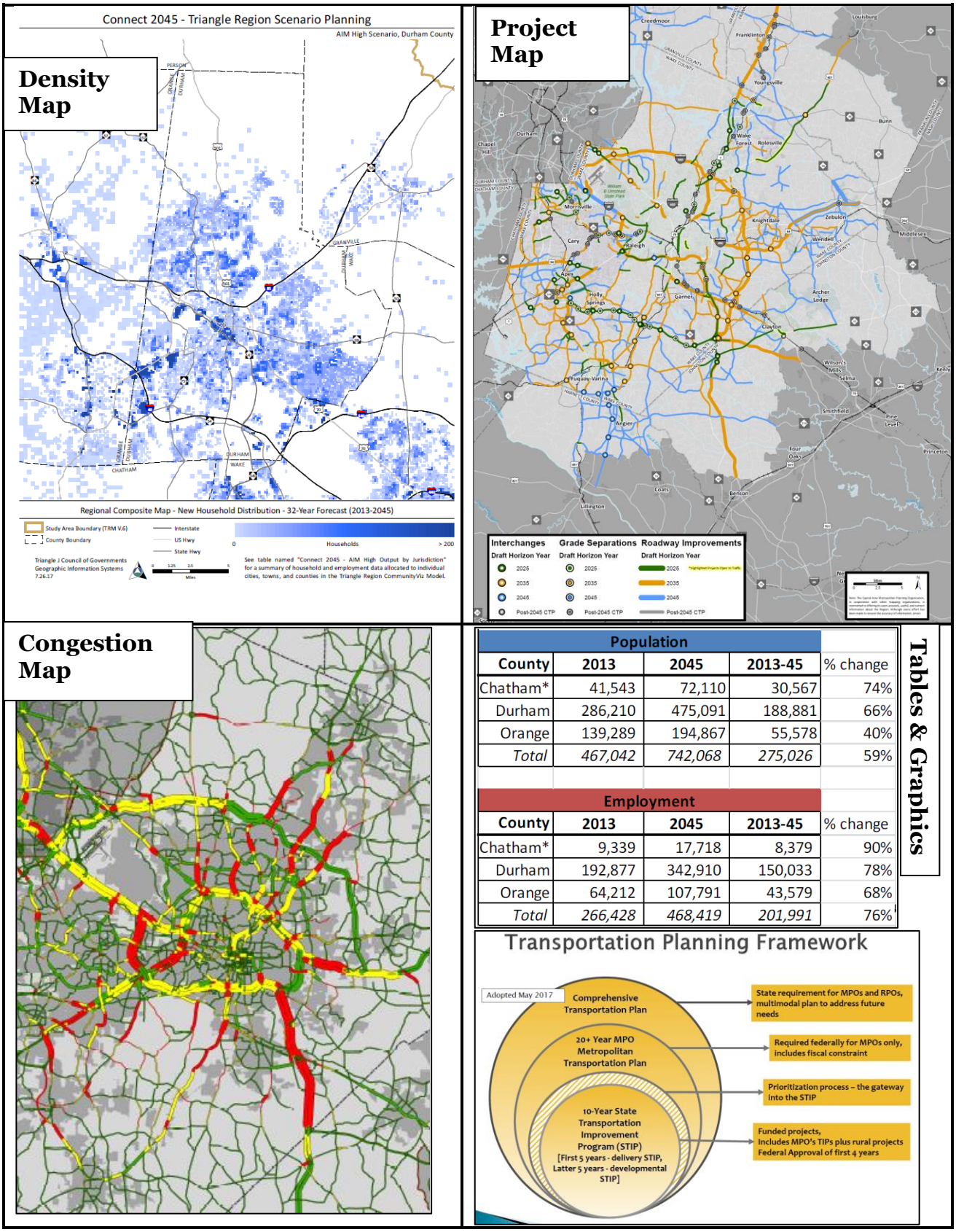
Financial Plan

The financial plan used pie and bar charts to present data. Examples: see MPOs' Web sites for draft reports and presentations throughout the planning process.

Others

The presentations throughout the 2040 MTP planning process and this final report have dozens of maps and graphics to depict everything from the status of the planning process to the relationship of the MTP, CTP and TIP.

Figure 5.2.2 -- Examples of Visualization Techniques



Population				
County	2013	2045	2013-45	% change
Chatham*	41,543	72,110	30,567	74%
Durham	286,210	475,091	188,881	66%
Orange	139,289	194,867	55,578	40%
Total	*467,042*	*742,068*	*275,026*	59%

Employment				
County	2013	2045	2013-45	% change
Chatham*	9,339	17,718	8,379	90%
Durham	192,877	342,910	150,033	78%
Orange	64,212	107,791	43,579	68%
Total	*266,428*	*468,419*	*201,991*	76%

5.3 Triangle Region Transportation Model

The Triangle Regional Model (TRM) is a tool that was developed for understanding how future growth in the region impacts transportation facilities and services. The TRM can help identify the location and scale of future transportation problems, and proposed solutions to those problems can be tested using the TRM. The TRM is developed and maintained by the TRM Service Bureau housed at the Institute for Transportation Research and Education on behalf of the DCHC MPO, CAMPO, North Carolina Department of Transportation, and GoTriangle, the four organizations that fund the modeling effort and guide its development and use.

The modeled area covers approximately 3,400 square miles, and includes all of Wake, Orange and Durham counties and part of Chatham, Franklin, Granville, Harnett, Nash, Person, and Johnston counties. This area is divided into over 2,800 geographic areas (traffic analysis zones) for which detailed population and employment information is maintained. The highway system is represented by about 20,000 roadway links in 2013 (the calibrated base year) and about 22,000 roadway links in 2045. The roadway links are described by detailed characteristics including: length, number of lanes by direction, speed, and traffic carrying capacity. Transit services operated by GoRaleigh, GoDurham, Chapel Hill Transit, GoTriangle, GoCary, Wolfline, and Duke Transit are represented in the model as well. Transit services are described by detailed characteristics including: length, stop locations, speed, frequency of service, and average rider-perceived fare.

The model produces summary statistics including: vehicle miles of travel, vehicle hours traveled, degree of traffic congestion, number of trips taken by travel mode, and transit riders. The model also computes trip statistics for each of the approximately 2,800 traffic analysis zones, categorized by mode, general trip purposes, and origin or destination zone. These statistics are shown elsewhere in the report in tables and maps. Statistics on speed and vehicle miles of travel by type of roadway are used to calculate air quality impacts for the plan.

The model is an advanced four step travel demand forecasting model. Models like the TRM forecast travel using the following sub-models, or steps:

- Trip Generation – based on population and employment data for each traffic analysis zone, calculate the number of trips people will make for various trip purposes, and the number of trips likely to go to destinations throughout the region.
- Trip Distribution – based on the number of trips generated for each purpose, the cost to travel from zone to zone, and the characteristics of the zones, calculate the trips from each zone to other zones.
- Mode Choice – based on the trips calculated in trip distribution, characteristics of the traveler, transit service characteristics, highway congestion, and other service characteristics, calculate for each trip purpose the number of trips made by automobile, carpooling, and transit.
- Trip Assignment – based on highway speeds and transit speed, find a route that takes the shortest time to get from one zone to another zone and sum the trips on that roadway or transit route. The model includes feedback to allow the travel times to include the effects of traffic congestion on the calculation of the shortest time on roadway links or transit services.

Model relationships were developed using 2006 household survey data, 2010 census data, transit survey data, traffic counts taken throughout the Triangle, and a survey of travelers entering or leaving the modeled area. The model was validated to 2010 traffic count and transit rider data. The model inputs were also updated to 2013 and validated to traffic counts and transit passenger counts. The model version used for this analysis was adopted for use in December, 2016 by the Durham-Chapel Hill-Carrboro MPO, Capital Area MPO, North Carolina Department of Transportation and GoTriangle and is referred to as TRM Version 6.

5.4 Related Plans and Studies

Although the Metropolitan Transportation Plan (MTP) serves as the main guiding document for regional transportation investments, many related transportation plans and studies feed into the development of the MTP and provide a more detailed look at projects, priorities, and selection issues.

This section highlights past and current plans and studies that have been used to inform the development of the 2045 MTP. Section 7.11, later in this document, identifies future plans and studies that are recommended to clarify issues and provide details for project selection for the next MTP.

Examples of studies undertaken in the region to better inform the development of the 2045 MTP, include: Corridor plans that address roadway design and operations on specific roadways; Small area plans that identify multimodal transportation investments and related development issues in a particular part of the region; and, Transit plans that range from broad regional vision to short-range investment plans for specific transit providers. Those that apply specifically to one MPO or the other are color-coded. CAMPO projects have this yellow background and DCHC MPO projects have this green background. Projects with no background color apply to both MPOs:

	Plan or Study	**Type**
1	*North Carolina Railroad Commuter Rail Capacity Study.* Identifies the capital costs needed for track improvements, stations and vehicles to provide peak-period, peak-direction commuter rail services between Goldsboro and Greensboro. www.ncrr.com/capacity-study.html	Transit Plan
2	*North Carolina Railroad Commuter Rail Ridership and Market Study.* Estimates ridership and revenues, and recommends service levels for commuter rail services. www.ncrr.com/capital-investment/commuter-rail-ridership-study/	Transit Plan
3	*CORE Bicycle & Pedestrian Plan.* A linked network of pedestrian, bicycle and greenspace facilities within the jurisdiction of 7 local governments and several regional agencies in the Center of the Region. www.tjcog.org/core-reports-downloads.aspx	Functional Plan
4	*Triangle Region Long Range Transportation Demand Management Plan.* Recommended 7-year investment strategy to provide regional TDM services, local TDM services in specified "hot spots" and an administrative structure to fund, manage, monitor and evaluate TDM services across both MPOs. http://tjcog.org/triangle-transportation-demand-management-program.aspx	Functional Plan
5	*Congestion Management Plan (CMP*). Collects travel and safety data for vehicles, pedestrian, bicycles and transit services to identify current and short-term trend congestion levels. Also, it defines congestion, identifies specific mitigation measures for congestion and provides a state of the system report to meet federal requirements. The DCHC MPO has a System Status Report and Mobility Report Card. http://www.dchcmpo.org/programs/cmp/default.asp The Capital Area MPO has a Congestion Management Process (CMP) and System Status Report. http://www.campo-nc.us/programs-studies/cmptdm	Functional Plan

	Plan or Study	Type
6	*Triangle Freight Study*. Evaluated current freight system needs and identified policy and project recommendations for future improvements to the freight network. The study included truck, rail, and air components and initiated the creation of the Regional Freight Stakeholder Advisory Committee. The study included a comprehensive regional analysis of freight, goods movement, and services mobility needs and developed recommendations for the 2045 joint MTP.	Functional Plan
7	*RDU Vision 2040.* A master plan of short-, medium-, and long-term development plans needed to meet future aviation demand, while considering potential environmental and socioeconomic issues. https://vision2040.rdu.com/	Functional Plan
8	*ITS Strategic Deployment Plan Update*. Plan includes a snapshot of best practices, list of projects, regional ITS architecture, and guidelines for maintaining the Plan. http://www.campo-nc.us/programs-studies/its	Functional Plan
9	*Wake Transit Plan* – Operating plan and capital program for transit services in the Wake County portion of the Capital Area MPO. This plan was developed to guide the public transportation improvements derived from a potential local option sales tax. https://www.waketransit.com	Transit Plan
10	*US 1 Phases I & II Corridor Studies.* Recommended a comprehensive multimodal transportation and growth plan that will preserve the functional characteristic of this corridor, manage the overall growth within the area, enhance the quality of life of its surrounding communities, and provide for the local and regional transportation needs along US-1 between I-540 and the northern MPO boundary http://us-1corridornorth.com/	Corridor Study
11	*NC 50 Corridor Study.* A comprehensive corridor study that recommended implementation actions designed to; Improve transportation mobility and traffic safety along the corridor, Preserve the residential and rural nature of the corridor while supporting regional economic development, and support activities to protect recreation, water quality, and the environment in the Falls Lake watershed http://www.kimley-horn.com/projects/nc50study/index.html	Corridor Study
12	*NC 54 and More Study.* A feasibility study that investigated the costs and impacts of proposed facility upgrades to the NC 54 Corridor from NC 540 to Northwest Maynard Road, within the Municipalities of Morrisville and Cary and recommended roadway widening, intersection improvements, improvements for pedestrians, bicyclists, and public transit services, potential railroad grade separations, crossing consolidation, proposed rail transit, and proposed railroad expansion plans for freight, intercity passenger rail and commuter. http://www.townofcary.org/Departments/Engineering/Streets_and_Sidewalks/Streets_Projects/NC54_MoreFeasibilityStudy.htm	Corridor Study

	Plan or Study	Type
13	*Southwest Area Study.* Evaluated the dependence of local commuters on regional routes such as NC 55, US 401, NC 42, NC 540 and NC 210, coupled with potential demand for increased development in the southwest area of the MPO jurisdiction. Recommended initiatives addressed strategic improvements to regionally significant corridors, provision of increased transit/fixed guideway services, and sustainable development patterns. http://www.southwestareastudy.com/	Special Area Study
14	*Northeast Area Study.* Initiated by CAMPO to identify a sustainable transportation strategy for the growing communities of Wake Forest, Knightdale, Raleigh, Wendell, Zebulon, Rolesville, Bunn, Franklinton, and Youngsville. This region encompasses 374 square miles of a unique mix of a large metropolitan area, small towns, suburbs and farming communities painted across a broad expanse of rural tapestry in both eastern Wake and southern Franklin counties. The study evaluated the dependence of local commuters on regional routes such as I-87/Future I-87, US 401, NC 98, NC 97, NC 540, , I-95, US 70, NC 42, NC 540, and NC 50, coupled with increasing development pressures in southeast Wake and northwest Johnston Counties. Recommended initiatives addressed strategic improvements to regionally significant corridors, provision of increased transit/fixed guideway services, and more sustainable development patterns. http://www.campo-nc.us/programs-studies/area-studies/northeast-area-study	Special Area Study
15	*Southeast Area Study.* Evaluated the dependence of local commuters on regional routes such as I-40, I-95, US 70, NC 42, NC 540, and NC 50, coupled with increasing development pressures in southeast Wake and northwest Johnston Counties. Recommended initiatives addressed strategic improvements to regionally significant corridors, provision of increased transit/fixed guideway services, and more sustainable development patterns. http://www.southeastareastudy.com/	Special Area Study
16	*Raleigh-Cary Rail Crossing Study.* The study evaluated potential improvements to the at-grade roadway/rail crossings from NE Maynard Road in Cary to Gorman Street in Raleigh, with a focus on how changes at the crossings will affect future land uses and connectivity within the community. In addition to looking at existing crossings, this study also considered possible new roadway extensions across the railroad within the corridor. http://www.rcrxstudy.com/	Corridor Study
17	*NC 56 Corridor Study.* A joint effort among the Town of Butner, City of Creedmoor, Granville County, CAMPO, Kerr-Tarr RPO, and North Carolina Department of Transportation (NCDOT) to evaluate improvements for a 4.5-mile segment of NC 56 from 33rd Street in Butner to Darden Drive in Creedmoor. The goal of the study was to clarify the long-term vision for the corridor, while also identifying opportunities to address existing needs over a shorter timeframe.	Corridor Study
18	*DCHC MPO Comprehensive Transportation Plan (CTP).* Deficiency analysis and maps of highway, public transportation, bicycle, pedestrian and multiuse path facilities and improvements needed in the long-range. http://www.dchcmpo.org/programs/ctp/default.asp	Long-range Plan
19	*Durham-Orange Light Rail Transit Project Final Environmental Impact Statement* and *Record of Decision (FEIS/ROD). The FEIS evaluates the environmental,*	Transit Plan

	transportation, social, and economic impacts of the transportation improvements, and the ROD is a concise public record of the Federal Transit Administration (FTA) decisions. http://ourtransitfuture.com/library/lrt/	
20	*Durham County Transit Plan* and *Orange County Transit Plan.* Identifies the transit projects, services, facilities and vehicles to be funded by four Tax District Revenue streams. http://ourtransitfuture.com/plans/	Transit Plan
21	*North-South Corridor Study.* A 30-month study that evaluated a series of transit investments for implementation in the main north-south commuter corridor in Chapel Hills, and culminated in the adoption of a preferred-option that was accepted into the FTA Small Starts program. http://nscstudy.org/	Transit Plan
22	*US 15-501 Corridor Study.* Traffic forecast and analysis used to identify policies and facilities to meet future travel demand and safety objectives, from Chapel Hill to Pittsboro http://www.dchcmpo.org/programs/local/corridor.asp	Corridor Study
23	*NC 54/I-40 Corridor Study. S*tudy and recommendations to guide land use and transportation decisions and investments in the NC 54 corridor, from US 15-501 in Chapel Hill to I-40 in Durham. https://gis.dchcmpo.org/website/CorridorStudy/index.html	Corridor Study
24	*Southwest Durham/Southeast Chapel Hill Collector Street Plan.* Small area plan recommending location of future collector streets and street designs to ensure future connectivity and multimodal street functioning. http://www.dchcmpo.org/programs/collector/swdurham/default.asp	Functional Plan
25	Local Bicycle Plans: *-Carrboro Comprehensive Bicycle Transportation Plan,* http://bit.ly/2z7c9JL *-Chapel Hill Bike Plan,* http://bit.ly/1uGbDZ5 *-Chatham County Bicycle Plan,* http://bit.ly/1TSdlUv *-Durham Trails and Greenways Master Plan,* http://bit.ly/2Cmfiax *-Durham Bike+Walk Implementation Plan,* http://bit.ly/2p2yHJS *-Hillsborough Community Connectivity Plan,* http://bit.ly/1UDAFHY *-Orange County Comprehensive Plan: Transportation Element,* http://bit.ly/1S5qjw1	Functional Plan
26	Local Pedestrian Plans: *-Chapel Hill Mobility and Connectivity Plan*, http://bit.ly/2zVt45w *-Durham Trails and Greenways Master Plan*, http://bit.ly/2Cmfiax *-Durham Bike+Walk Implementation Plan*, http://bit.ly/2p2yHJS *-Hillsborough Community Connectivity Plan*, http://bit.ly/1UDAFHY	Functional Plan
27	Local Multiuse Path Plans: *-Chapel Hill Greenways Master Plan*, http://bit.ly/1Pg2y4p	Functional Plan

	-Durham Trails and Greenways Master Plan, http://bit.ly/25KdgK3	

In addition, many plans that informed the development of earlier Metropolitan Transportation Plans continue to be used to support the development of the 2045 MTP, including:

- US 15-501 Major Investment Study, Phase II Report (December 2001).
- I-40 Express Lanes Feasibility Study (from I-85 to Wade Avenue, Orange, Durham and Wake Counties (FS-1205A), (2015).
- NC 147 Feasibility Study (from I-40 to NC 55) (FS-1205C), (2016).
- NC 54 widening, I-40 (exit 273) to NC 55 (FS 1005C), (2011)
- NC 751 widening, NC 54 to US 64 (FS-1008B), (2012)
- Northern Durham Parkway, I-540 to US 501, (Roxboro Rd.), (2014)

Key points from this section:

- Metropolitan Planning Organizations, or MPOs, are the organizations charged with creating and adopting Metropolitan Transportation Plans. MPOs are made up of all the local governments in the area, the NC Department of Transportation, plus other organizations with transportation responsibilities. This document includes the plans for the two MPOs in the Research Triangle Region: the Capital Area MPO and the Durham-Chapel Hill-Carrboro MPO.
- MPOs have 3 main organizational components: (i) the Policy Board, which is made up of local elected officials and a NC Department of Transportation board member; (ii) the Technical Committee, or TC, made up of technical staff from local, state and regional organizations that provide technical input; and (iii) the Lead Planning Agency, or LPA, which provides the staff support to carry out the MPO's responsibilities.
- Each MPO has an explicit, written Public Involvement Policy, which was used to garner public input into the plan and provide opportunities for public review and comment. Using maps, graphs, charts and other visual tools is an important part of conveying transportation-related information to a variety of stakeholders.
- One of the key tools used to understand the region's transportation challenges and the impacts of investments to address these challenges is the Triangle Regional Travel Demand Model (TRM), which covers both MPOs. A new and improved version of the model was used for the first time in the development of the 2045 Metropolitan Transportation Plan.
- Many related transportation plans and studies are undertaken both to feed into the development of Metropolitan Transportation Plans and to provide a more detailed look at issues identified in or related to MTPs.

6. Analyzing Our Choices

This section explains what we did to better understand the choices facing our region, develop population and employment growth forecasts that reflect market trends and community plans, create and test alternative transportation scenarios, and compare these alternatives to one another and to performance measures that reflect the MPO's adopted goals and objectives.

6.1 Land Use Plans and Policies

Each community in the Triangle develops a comprehensive plan to outline its vision for the future and set policies for how it will guide future development to support that vision. So an important starting point for transportation plans is to understand these plans and reflect them in the future growth forecasts used to analyze transportation choices.

Local planners from communities throughout the region, along with experts in fields such as real estate development and utility provision, were brought together to translate community plans and market trends into the parameters used by the region's transportation model to generate travel forecasts: population and jobs by industry (see Section 5.3 for a more detailed explanation of the transportation model). To make sure the forecasts were consistent, transparent and based on the best available evidence, the region used sophisticated growth allocation software, called CommunityViz, to guide the forecasting effort.

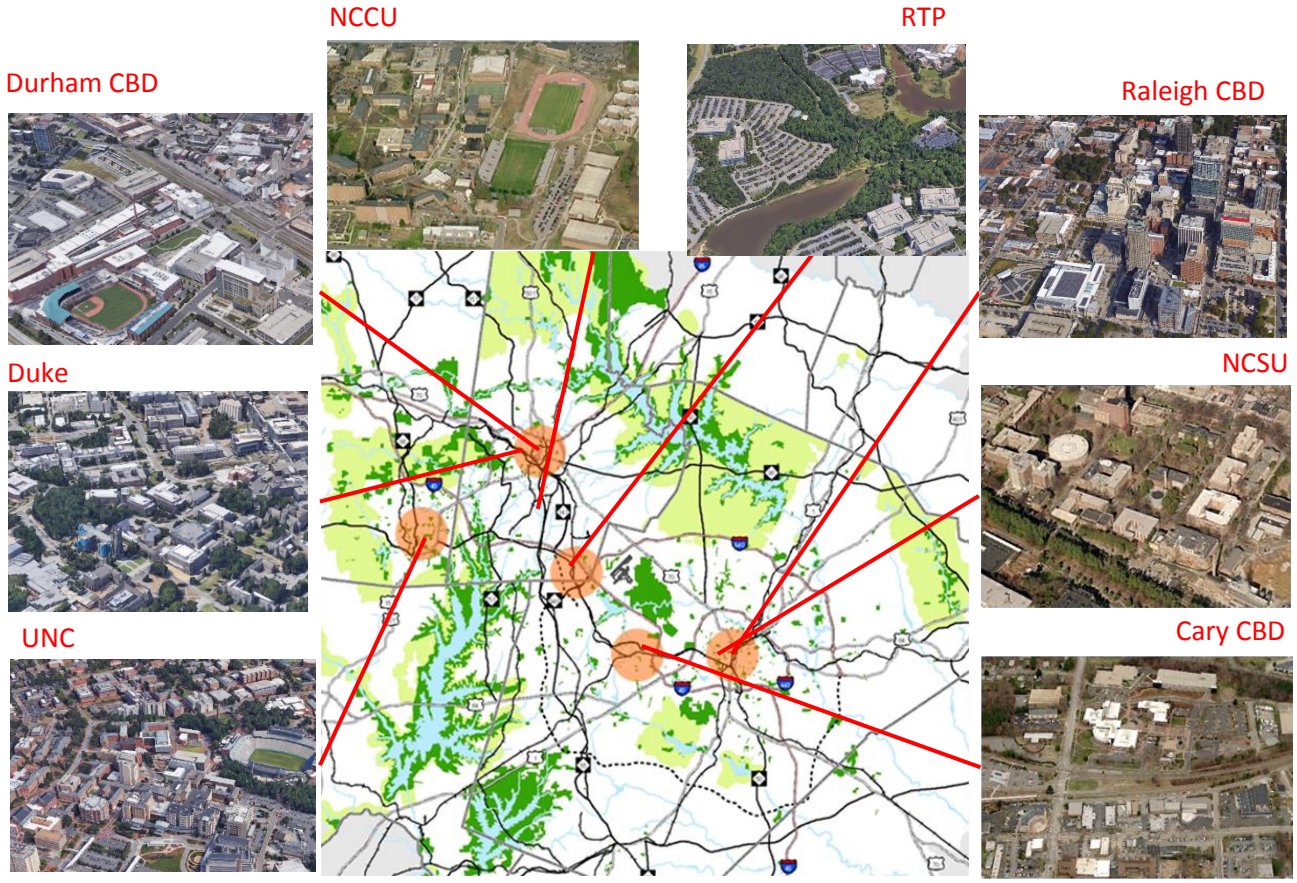
The land use plans revealed that five regional-scale centers, depicted in Figure 6.1.1 are expected to contain large concentrations of employment and/or intense mixes of homes, workplaces, shops, medical centers, higher education institutions, visitor destinations and entertainment venues:

- Central Raleigh, including NC State University;
- Central Durham, including Duke University, North Carolina Central University and the Duke and Veterans Administration medical complexes;
- Central Chapel Hill & Carrboro, including UNC-Chapel Hill and UNC Hospitals;
- The Research Triangle Park; and
- Central Cary.

Linking these regional centers to one another, and connecting them with communities throughout the region by a variety of travel modes can afford expanded opportunities for people to have choices about where they live, work, learn and play.

In some cases, such as in central Cary, Durham and Chapel Hill & Carrboro, existing plans and the ordinances that implement the plans promote increased development of the activity centers. In addition, the Research Triangle Park recently adopted a new master plan that is designed to lead to more compact, mixed use development in selected locations, including a new Park Center in the heart of the RTP.

In addition to these regional centers, the review of community plans identified areas of the region that are most environmentally sensitive, including water supply watersheds, and places where existing neighborhoods warrant protection. Understanding the unique roles that different areas and different communities will play in the region as it grows established the framework for forecasting growth and designing transportation choices to serve this growth.



6.2 Socio-economic Forecasts

One of the initial critical steps in developing a Metropolitan Transportation Plan is to forecast the amount, type and location of population and jobs for the time frame of the plan. Based on community plans and data from local planning departments, the Office of State Budget and Management, the US Census Bureau and independent forecasters, estimates of "base year" (2013) and "plan year" (2045) population and jobs were developed by local planners for each of the 2,800 small zones (called Traffic Analysis Zones or TAZs) that make up the area covered by the region's transportation model, called the Forecast Area.

Both to track and document the socioeconomic forecasts, and to permit analysis of different development scenarios, a robust land use mapping and analysis tool was used to account for the more than 700,000 individual parcels of land in the region. Using software called "CommunityViz," each parcel was assigned one of 37 "place types" by local planners reflecting the kind of development anticipated by community plans, such as office building, retail center, mixed use development, single family home or apartment complex. In addition, each parcel was assigned a development status to indicate whether it was vacant, already fully developed, or partially developed or redevelopable. Depending on both the place type and the specific jurisdiction in which a parcel is located, average residential and employment densities were applied to determine the supply available to accept additional residential or commercial development.

Any constraints to development, such as water bodies, floodplains, stream buffers, or conservation easements were assigned to applicable parcels. The combination of place type, development status and development constraints established the "supply" side of the CommunityViz growth allocation model. Special attention was given to anchor institutions, such as the major universities and the RDU Airport. Future growth in these areas was based on meetings with and data from the people at these institutions involved in

facility planning and construction.

Panels of experts were convened to help determine the principal influences on where future development would occur, and to develop quantitative measures, called "suitability factors," that could be applied to the parcels based on these influences. Examples of factors that influence development include availability of sewer service, proximity to highway interchanges or transit stations, and distances to major economic centers like the region's universities.

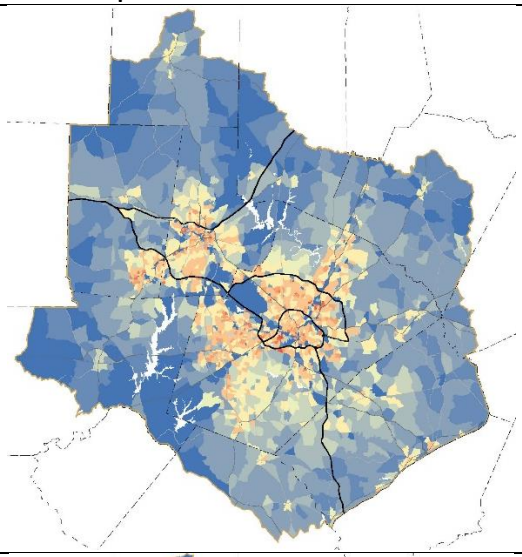
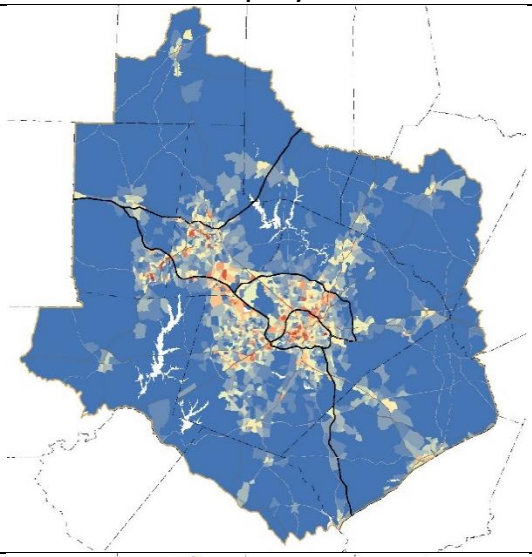
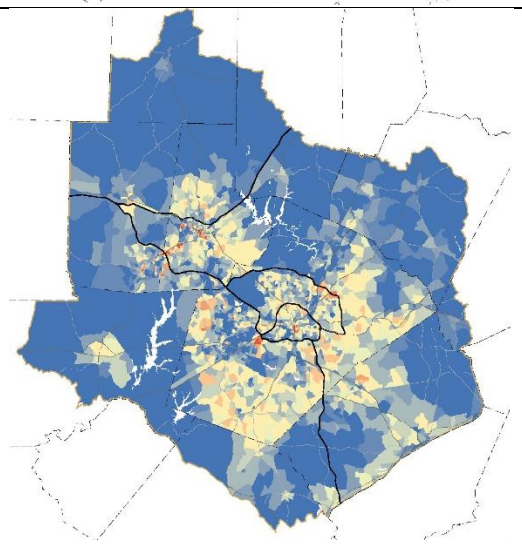
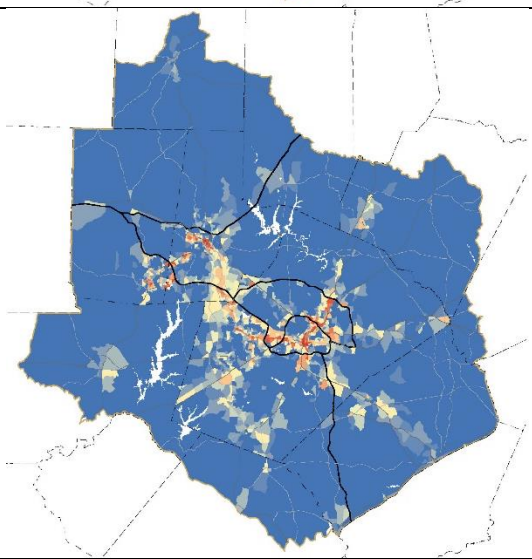
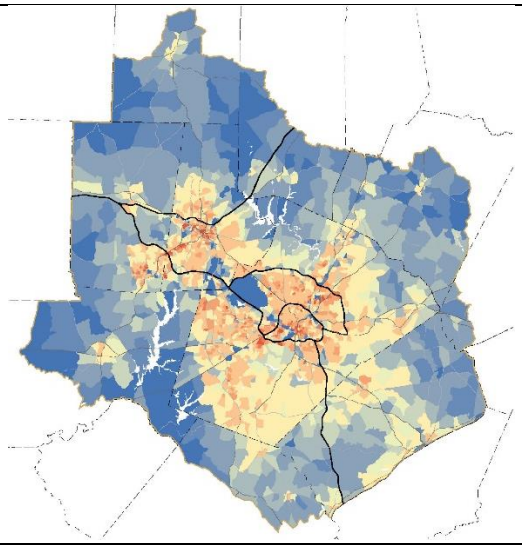
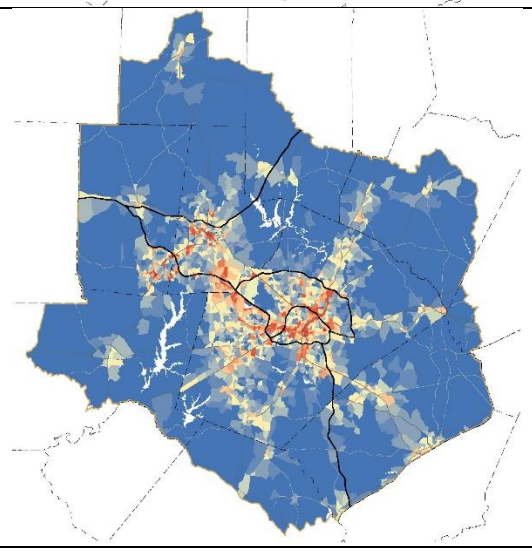
Finally, a set of population and job control totals were developed from state and national demographic sources to establish the "demand side" of the model. These guide totals are available online at this link: http://bit.ly/2AN8Qri. CommunityViz was used to allocate single family housing units, multi-family housing units and jobs based on the available supply and the attractiveness of each parcel based on the suitability factors.

Figure 6.2.1 summarizes the major elements of the socioeconomic forecasts for different portions of the Forecast Area covered by the region's transportation model, both the areas within the MPO boundaries and areas beyond the MPO boundaries (refer to Figure 2.2.3 for a map of the MPOs and the modeled area). More detailed information on a range of socioeconomic data for each TAZ is available from the Capital Area MPO and the Durham-Chapel Hill-Carrboro MPO and in documents available from the Triangle J Council of Governments describing the application of the CommunityViz model and its 2045 MTP results.

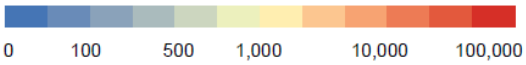
Figure 6.2.1 Estimated 2013 and Forecast 2045 Jobs, Population and Households (1)	2013			2045		
	Population	Households	Jobs	Population	Households	Jobs
Capital Area MPO	**1,117,162**	**435,008**	**537,515**	**2,033,698**	**778,320**	**1,003,486**
Franklin County (part)	40,320	15,275	6,575	70,414	26,935	15,582
Granville County (part)	19,555	7,408	3,416	31,800	11,904	4,936
Harnett County (part)	19,141	7,205	3,012	36,545	13,516	5,336
Johnston County (part)	97,380	35,170	18,546	179,180	64,636	38,151
Wake County	940,766	369,950	505,966	1,715,759	661,329	939,481
Durham-Chapel Hill-Carrboro MPO	**402,552**	**170,239**	**257,750**	**615,716**	**253,919**	**450,110**
Chatham County (part)	20,732	9,147	3,644	27,988	11,938	3,820
Durham County	269,916	114,685	192,877	430,782	176,943	343,082
Orange County (part)	111,904	46,407	61,229	156,946	65,038	103,208
Areas outside MPO boundaries	**159,949**	**63,337**	**55,303**	**308,235**	**117,215**	**77,341**
Chatham County (part)	21,250	8,806	5,695	58,259	23,562	14,106
Franklin County (part)	11,912	4,919	6,418	14,802	6,119	6,868
Granville County (part)	10,646	4,118	4,957	13,931	5,331	7,101
Harnett County (part)	15,888	6,113	2,677	24,608	9,127	4,291
Johnston County (part)	47,731	18,168	22,294	137,006	49,156	29,021
Nash County (part)	4,075	1,531	300	5,784	2,164	409
Orange County (part)	16,508	6,699	2,983	19,130	7,706	3,865
Person County (part)	31,939	12,983	9,979	34,715	14,050	11,680
Total for forecast area	**1,679,663**	**668,584**	**850,568**	**2,957,649**	**1,149,454**	**1,530,937**

(1) These totals represent the values within the regional travel model's traffic analysis zones, and may differ from values derived using other sources and methods; note that population includes people who are not in households, such as university dormitory residents.

The maps below show the distribution of population and jobs within the Forecast Area for the 2013 "base year," the 2045 "horizon year" and for the growth from 2013 to 2045. Larger versions are available from the MPOs.

	Population	Employment
2013		
2013 to 2045 growth		
2045		

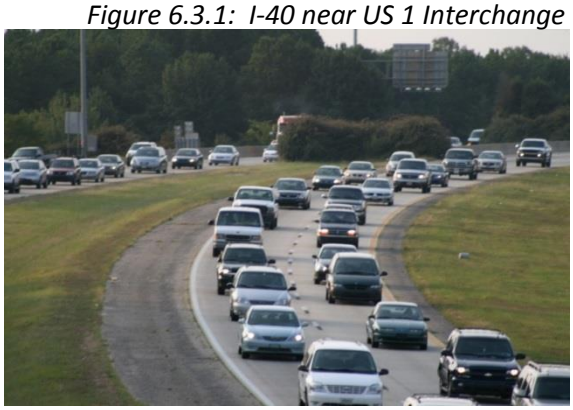
Population or Employment per square mile:



6.3 Trends, Deficiencies, and Needs

With the large increases in people and jobs expected in the region over the 30-year period between 2013 and 2045, the amount of travel -- often measured in Vehicle Miles Traveled (VMT) -- in the Triangle is expected to similarly grow by well over 100 percent. Future stress on the regional transportation network is exemplified by the high levels of congestion predicted in 2045.

Figure 6.3.1: I-40 near US 1 Interchange



The congestion maps on the next page show the average volumes during the afternoon peak hour as predicted by the Triangle Regional Model. The 2013 "base year" Congestion Levels map indicates travel conditions in the year 2013, whereas the 2045 Deficiencies Map, or "Existing plus Committed" (E+C), forecasts travel conditions in the year 2045 using the current highway, transit and other transportation facilities and any facilities that are well on their way to being completed. This deficiencies network is often called the "no build" scenario, since it typically is the result of past decisions, not ones that still need to be made. This worst case scenario is not intended to represent an actual possible outcome. Rather, comparing E+C to the 2045 MTP network illustrates the failure of our committed transportation improvements to meet the growth in anticipated travel demand that is forecasted to occur during the useful life of these investments. In reality, as congestion and travel delay began to reach the unacceptable levels, other contributing factors would begin to shift. Additionally, commute patterns would change as people began changing travel decisions.

The third map is the 2045 MTP congestion map, showing levels of congestion if we provide all the transportation facilities and services included in the Metropolitan Transportation Plans.

The maps presented on the following pages provide a picture of the challenge we face in developing realistic transportation investments that meet the diverse needs of our communities. Larger versions of these maps are available on the MPOs' web sites. In addition, the MPO web sites have many other maps and tables that present the results of the Deficiency Analysis.

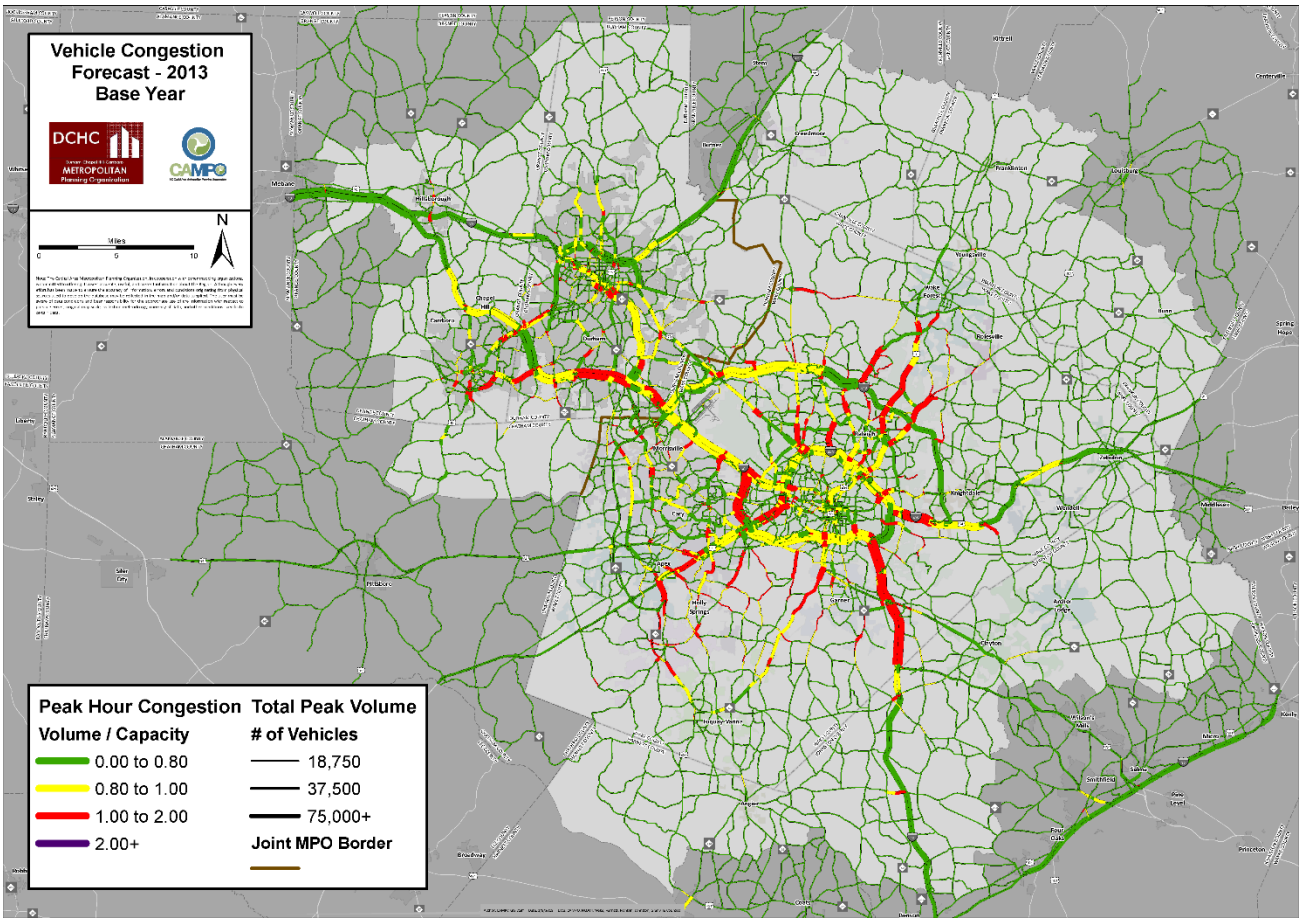
Trip Volumes and Capacity

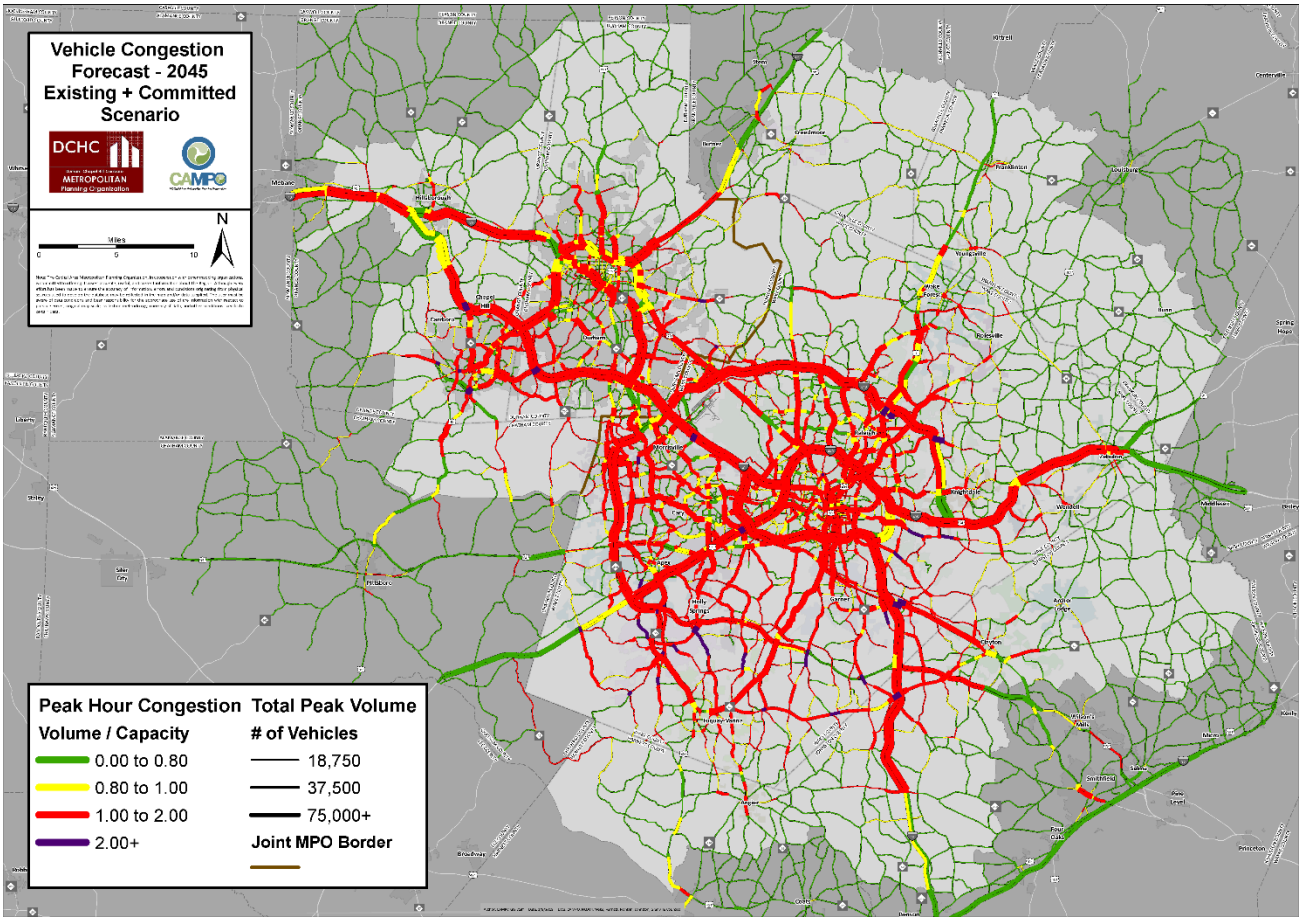
The roadway networks shown on the next page are simplified representations taken from the region's travel model. Thicker lines depict roadways with higher traffic volumes, thinner lines segments carrying lesser volumes. The colors correspond to Volume/Capacity ratios (this is the number of vehicles divided by the theoretical capacity of the road); greater Volume/Capacity ratios correspond with more congestion. A Volume/Capacity ratio below 0.8 (in **green**) is indicative of a relatively free flowing roadway with little or no congestion. Once the Volume/Capacity, or V/C ratio, rises towards 1.0, motorists will experience more periods of congestion. Volume/Capacity ratios greater than 1.0 (in **red**) represent roadways which are consistently congested throughout and beyond the peak hours of travel. The first map shows conditions in 2010. The 2045 E & C map shows that without significant new investments, chronic congestion will occur on major arterials and freeways throughout the region, and particularly within Wake County. The 2045 MTP map shows forecast conditions if we build and operate the facilities and services in this plan.

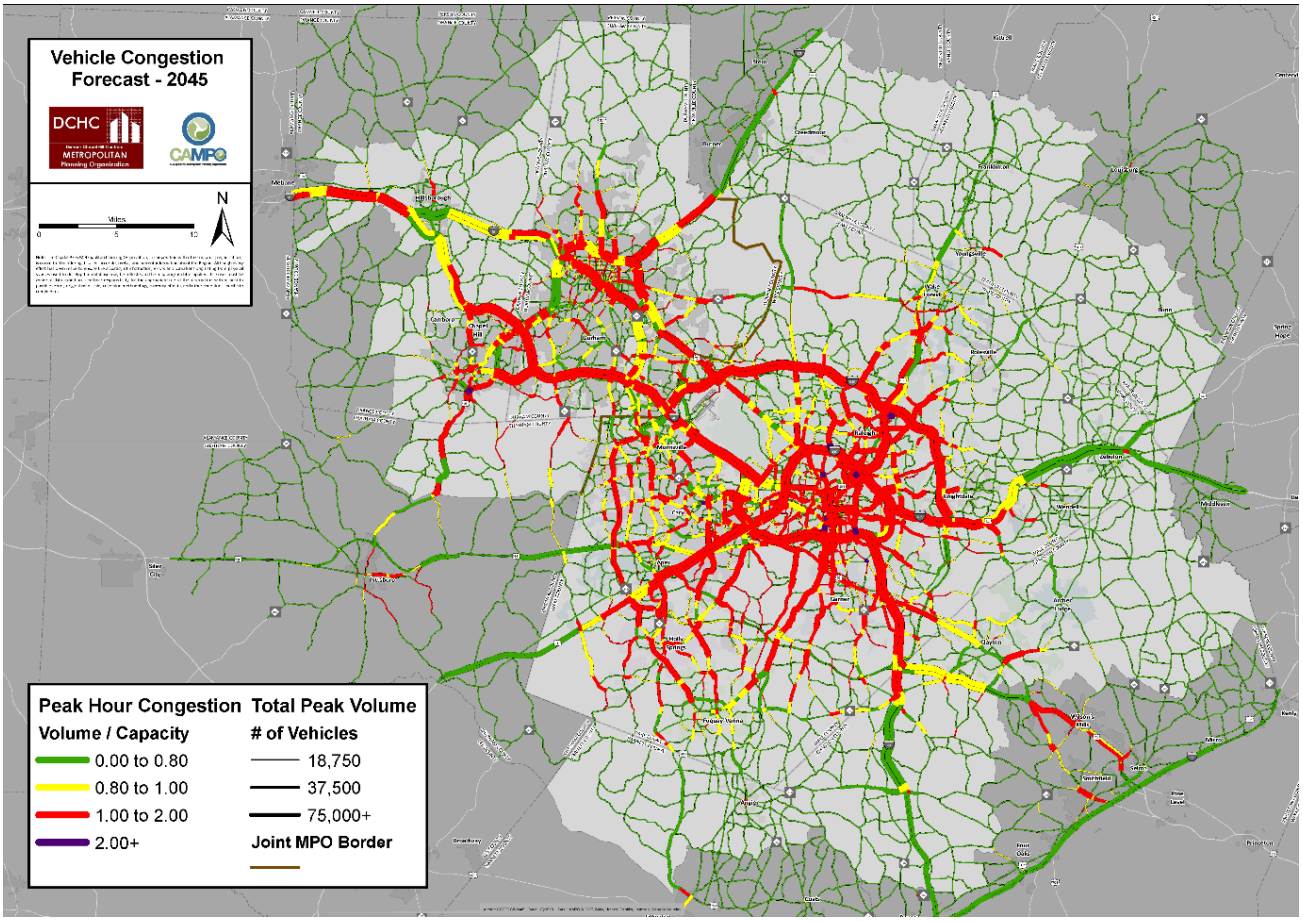
Travel Time

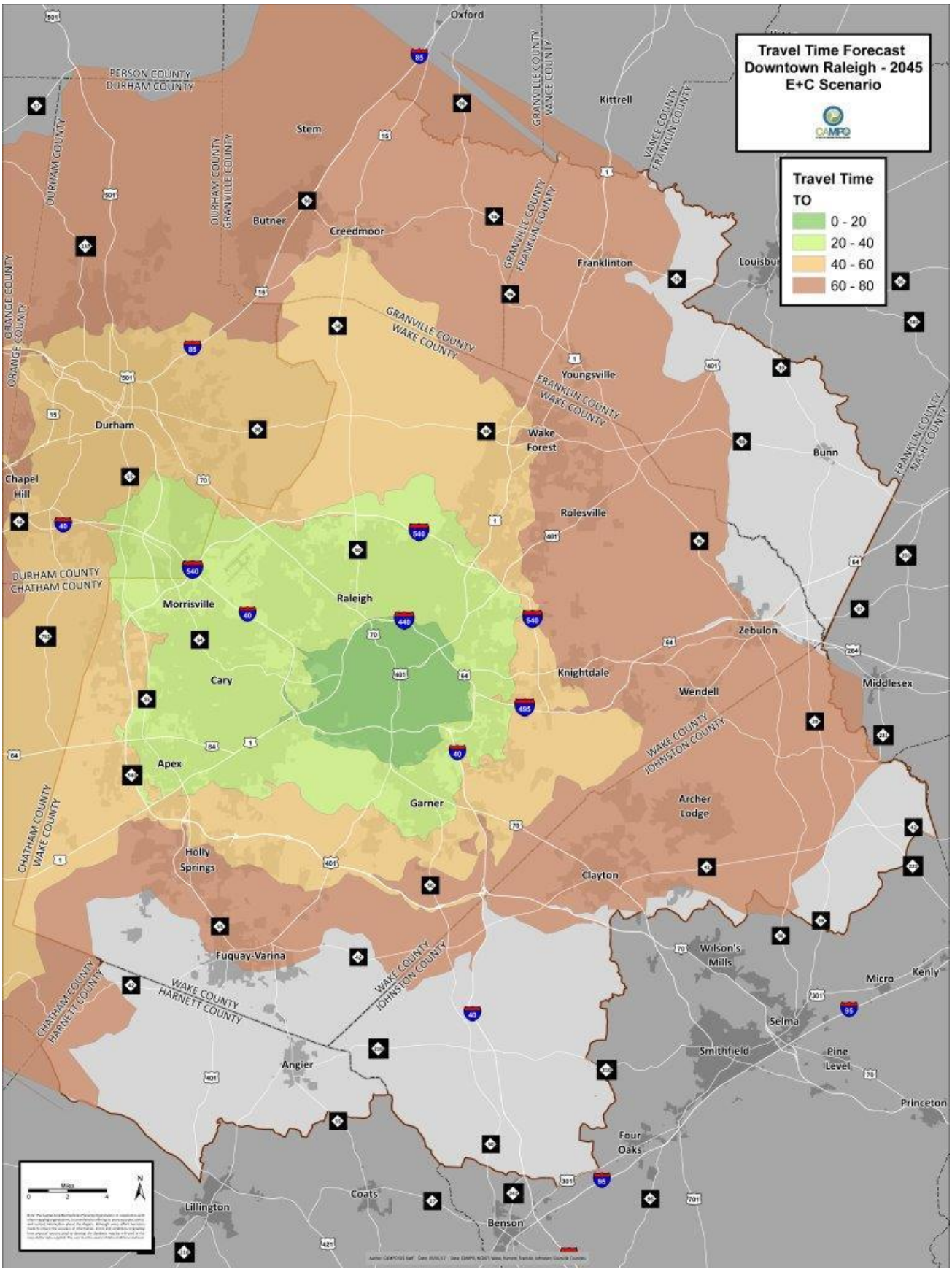
A more meaningful way to measure the effects of congestion to the average traveler is how it affects the time it takes to make a trip. Maps on the following pages illustrate these travel time effects in a number of ways.

The map at the lower right shows how average travel time in different zones changes between the road network that will be finished by 2013 and 2045 conditions. For example, if a zone has an average increase of four minutes, each trip in that zone in 2045 can expect to take an extra four minutes compared to today.




Vehicle Congestion Forecast - 2045 Existing + Committed Scenario
DCHC
METROPOLITAN Planning Organization
CAMPO
Miles
0
5
10
N
Peak Hour Congestion Volume / Capacity
0.00 to 0.80
0.80 to 1.00
1.00 to 2.00
2.00+
Total Peak Volume # of Vehicles
18,750
37,500
75,000+
Joint MPO Border


Vehicle Congestion Forecast - 2045
DCHC
METROPOLITAN Planning Organization
CAMPO
Miles
0
5
10
N
Peak Hour Congestion Volume / Capacity
0.00 to 0.80
0.80 to 1.00
1.00 to 2.00
2.00+
Total Peak Volume # of Vehicles
18,750
37,500
75,000+
Joint MPO Border

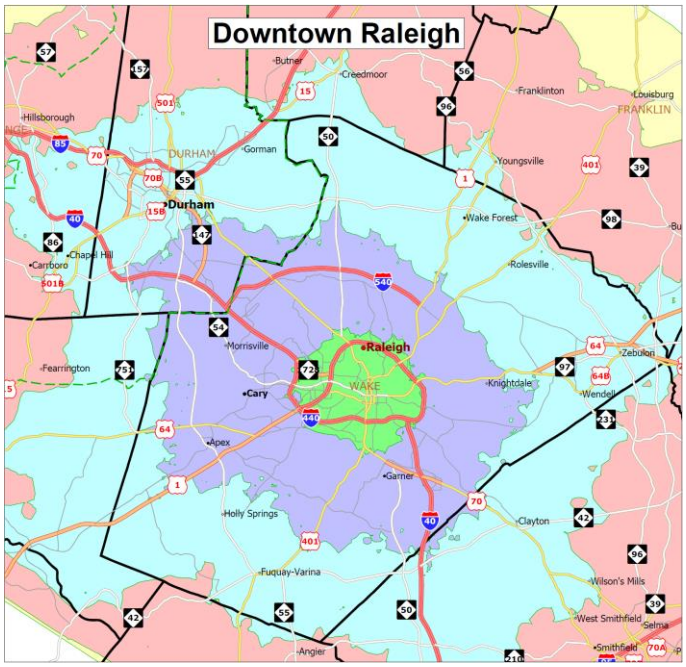

Travel Time Forecast
Downtown Raleigh - 2045
E+C Scenario
Travel Time
TO
0 - 20
20 - 40
40 - 60
60 - 80
Oxford
PERSON COUNTY
DURHAM COUNTY
GRANVILLE COUNTY
VANCE COUNTY
Kittrell
VANCE COUNTY
FRANKLIN COUNTY
Stem
DURHAM COUNTY
DURHAM COUNTY
GRANVILLE COUNTY
Butner
Creedmoor
GRANVILLE COUNTY
FRANKLIN COUNTY
Franklinton
Louisburg
ORANGE COUNTY
ORANGE COUNTY
GRANVILLE COUNTY
WAKE COUNTY
Youngsville
FRANKLIN COUNTY
WAKE COUNTY
Durham
Wake
Forest
Bunn
FRANKLIN COUNTY
WAKE COUNTY
Chapel
Hill
Rolesville
DURHAM COUNTY
CHATHAM COUNTY
Morrisville
Raleigh
Zebulon
Knightdale
Middlesex
Cary
Wendell
WAKE COUNTY
JOHNSTON COUNTY
Apex
Garner
Archer
Lodge
CHATHAM COUNTY
WAKE COUNTY
Holly
Springs
Clayton
Fuquay-Varina
Wilson's
Mills
Micro
Kenly
WAKE COUNTY
HARNETT COUNTY
WAKE COUNTY
JOHNSTON COUNTY
CHATHAM COUNTY
HARNETT COUNTY
Selma
Smithfield
Pine
Level
Angier
Princeton
Four
Oaks
Coats
Lillington
Benson
Miles
0
2
4
N

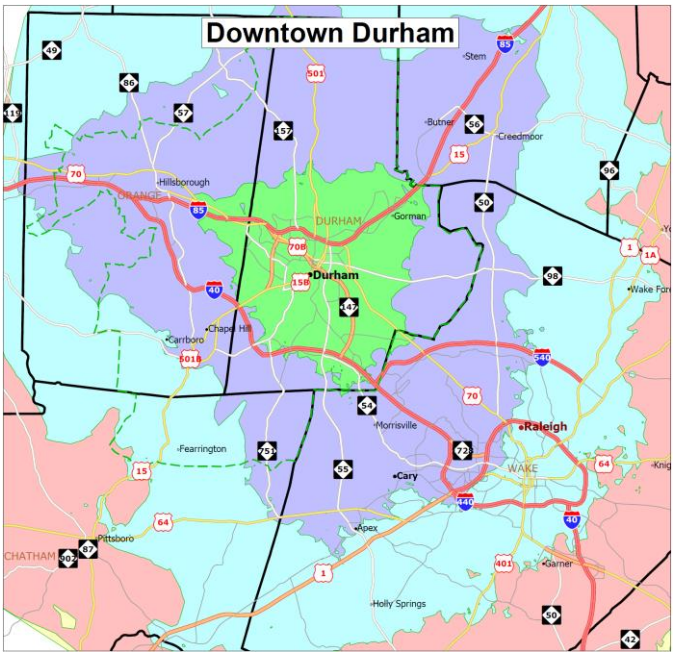
PM Peak Travel Time
(in Minutes)

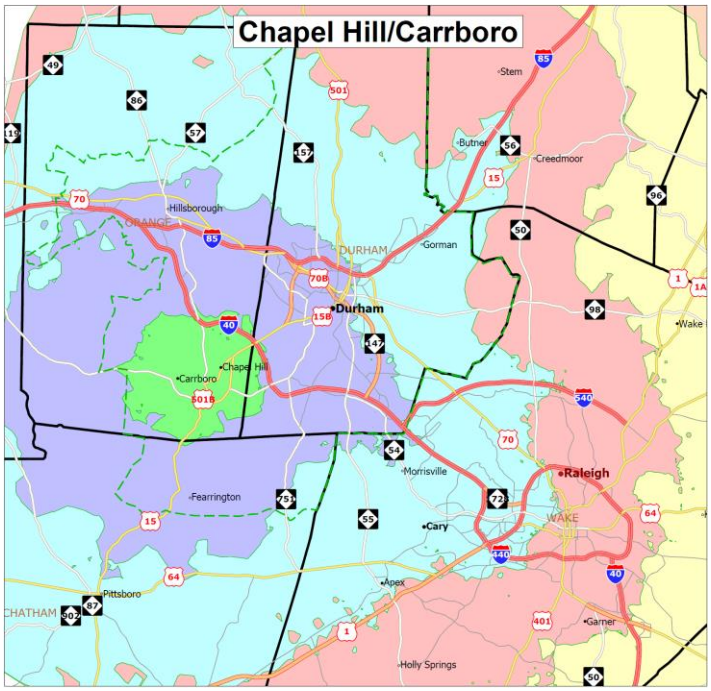
- 15
- 30
- 45
- 60
- 75
- 90

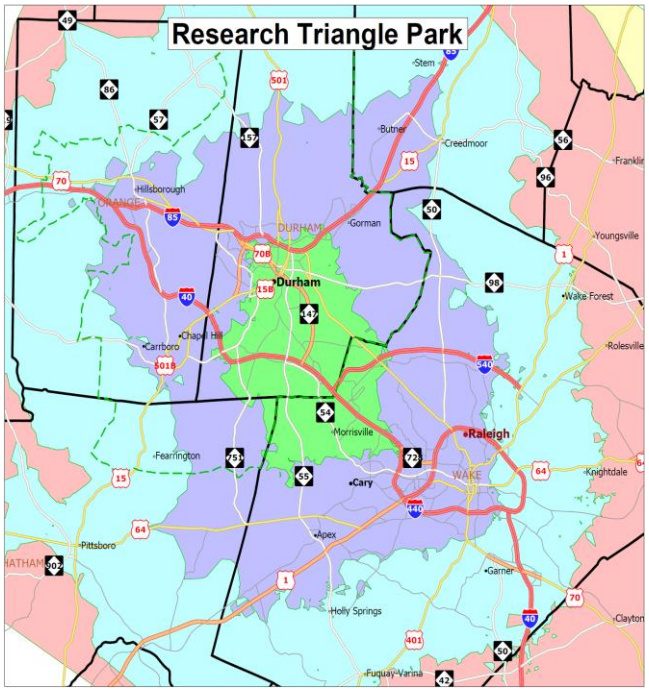
County Border

The maps below convey travel time impacts in a different way, showing how far a person could travel from a given location by motor vehicle in a given amount of time during a typical afternoon "rush hour" in the Year 2045. Each color band represents 15 minutes of travel time.









6.4 Alternatives Analysis

In order to address the expressed Goals and Objectives, CAMPO and DCHC MPO developed and evaluated several alternatives in the process to create the 2045 Metropolitan Transportation Plan (MTP). Each alternative was a combination of a transportation system, which includes a set of roadway, transit and other transportation improvements; and a land use scenario that distributes the forecasted population and employment for the Year 2045. These alternatives were run on the Triangle Regional Model (TRM) to produce a set of transportation performance measures that described how the transportation system will handle the travel demand generated by a particular population and employment distribution in the year 2045.

Performance measures, such as the level of roadway congestion, average travel time, and transit ridership, were used to evaluate and compare the various alternatives. No alternative in its entirety was advanced as the final adopted plan. The alternatives were designed to emphasize a particular mode in meeting the future travel demands so that the technical staff and public can understand how well that specific mode addresses travel demand and can choose various projects to create the final 2045 MTP. Figure 6.4.1 is a list of the combinations of transportation systems and land use that were used to create the Alternatives that were analyzed to develop the final 2045 MTP.

Figure 6.4.1 Alternatives Evaluated

#	Transportation System	Land Use Scenario
1	Constrained – Modest state and federal transit funding; current STI rail constraints remain; No increase in state or federal gas tax (declining revenues as efficiencies outpace growth); Wake County local option sales tax and funds per plan – additional projects beyond 10 years; STI-limited division tier road projects and ped-bike funding with no increase in historical local effort	By Right – Population and employment growth occurs based on current land use zoning or the equivalent.
2	Constrained – Modest state and federal transit funding; current STI rail constraints remain; No increase in state or federal gas tax (declining revenues as efficiencies outpace growth); Wake County local option sales tax and funds per plan – additional projects beyond 10 years; STI-limited division tier road projects and ped-bike funding with no increase in historical local effort	Community Plans – Population and employment growth occurs based on current land use plans.
3	Moderate – Restoration of original STI conditions with removal of rail constraints; No major change to state or federal gas tax or alternative, but assume FAST revenue trend; Wake County local option sales tax and funds per plan – additional projects beyond 10 years; Modest increase in local funding compared to historical trend	Community Plans – Population and employment growth occurs based on current land use plans.

#	Transportation System	Land Use Scenario
	Moderate – Restoration of original STI conditions with removal of rail constraints; No major change to state or federal gas tax or alternative, but assume FAST revenue trend; Wake County local option sales tax and funds per plan – additional projects beyond 10 years; Modest increase in local funding compared to historical trend	Anchor Institutions & Mainstays (AIM) - High – Population and employment growth based on current land use plans but incorporates development decisions of Anchor institutions (large "place-based" institutions with fixed locations that serve as major employment hubs and travel destinations) and Mainstays (key activity centers with the potential for significantly influencing mobility within the region).
4	Aspirational – More state/federal project success than local plans currently assume; Modest increase in federal or state revenues (e.g. based on higher investment states); STI refined to redefine statewide and regional projects for transit and remove constraints, while allowing more dollars for division tier roadways; Greater increase in local funding compared to historical record	Community Plans – Population and employment growth occurs based on current land use plans.
5	Aspirational – More state/federal project success than local plans currently assume; Modest increase in federal or state revenues (e.g. based on higher investment states); STI refined to redefine statewide and regional projects for transit and remove constraints, while allowing more dollars for division tier roadways; Greater increase in local funding compared to historical record	Anchor Institutions & Mainstays (AIM) - High – Population and employment growth based on current land use plans but incorporates development decisions of Anchor institutions (large "place-based" institutions with fixed locations that serve as major employment hubs and travel destinations) and Mainstays (key activity centers with the potential for significantly influencing mobility within the region).

The MPO staffs in conjunction with staff from the Triangle Regional Model Service Bureau worked together to create and run the model scenarios during the spring and summer of 2017. These options were further reduced to a “preferred option” that incorporated a road network, a bus transit network, and light rail and commuter rail transit investments. The resulting road, transit, and rail networks were approved by the Policy Boards of both MPOs, and modeled by the Triangle Regional Model Service Bureau.

The DCHC MPO developed a set of maps and tables to present the results of the Alternatives Analysis and posted them for easy access on the MPO web site.

CAMPO used the analysis results through an innovative method based on the return-on-investment within transportation corridors. Projects were identified for inclusion based on the results of input from local agency comprehensive and transportation plans as well as the recommendations from various special studies completed by CAMPO such as the Northeast Area Study and Southeast Area Study. These studies evaluated projects based on mobility and safety benefits as well as human and natural system impacts. From this "universe of projects", CAMPO evaluated over 600 roadway projects based on the benefits they would generate compared to their costs. This was used as a first draft of the plan, which was then refined via staff

input from the MPO and member agencies as well as stakeholder groups and the public. The majority of projects remained funded in the order of payback, while others were modified based on factors outside of what could be calculated.

The purpose of this step in the alternatives analysis was to calculate the benefit of each of the 600 projects with just two scenarios: one with no projects and one with all projects. After these two scenarios were run the payback calculation used the results to determine how much impact each road project had.

These calculations were based on three basic concepts; delay; primary and secondary benefits; change in vehicle miles traveled. Delay calculations measured a project's impact by the hours of delay it saves travelers. This is defined as the difference between the time to travel in light traffic compared to actual traffic conditions. The more cars on the road, the slower they travel, and the more delay increases.

The second concept is the idea of primary and secondary benefits. If a congested road is widened, vehicles will be able to travel faster and save time. This is the primary benefit of the project. Additionally, that project may alleviate traffic problems on other roads, improving their travel time as well. That is a secondary benefit. Thus, for all projects, both the primary and secondary delay improvements must be calculated.

The third, and final, concept is Vehicle-Miles-Traveled (VMT). This is a measurement of how much a road is being used. It is similar to volume, but introduces a length component which allows overall use of a project to be calculated. If two projects are built next to each other, the one with higher VMT is being used more.

To determine the payback metric for each project, two model scenarios were run. The scenario with every project will have much less delay because many new roads have been built or widened. For each road in the model, the first determination is how much of the improvement is primary and secondary. Once this is calculated, the primary benefit is simply added up along the length of widening projects. The last part, secondary benefit, is divided among neighboring projects based on the increase in their use (VMT). A widening on a facility with little use will have little to no secondary benefit. Widening a road with a large increase in the VMT indicates vehicles being taken off nearby roads creating a lot of secondary benefit.

The primary and secondary benefits are added together and compared to the costs. The cost of the project divided by its annual delay benefit provides a number that describes the years required for a project to pay for itself. It's important to point out that this number is not the absolute, actual payback metric of the project for a number of reasons. For one, road widening projects have other benefits, like safety, which are not included in this calculation. Instead, this payback number is only good in comparing projects to each other in a relative sense. A project with a payback period of 1.5 years is a good indicator that the project could be a more cost-effective choice than another taking 10 years.

6.5 Performance Evaluation Measures

Evaluation measures provide a comparative set of metrics for statistical analyses between transportation systems and land use scenarios. Comparisons between transportation systems and land use scenarios can be performed in a number of variations. The comparisons as shown in each evaluation measure table on the next two pages also validate the usefulness of the Triangle Regional Model as a tool to perform travel forecasts and create output necessary for staff, elected officials, and the public to determine the best approach to invest limited financial resources in the regional transportation system.

Figure 6.5.1 compares the transportation network performance for the Capital Area MPO and Durham-Chapel Hill-Carrboro MPO planning areas for the Year 2013, Year 2045 Deficiency network, and the 2045 Metropolitan Transportation Plan network. The Year 2013 represents the current state of the system. The Year 2045 E+C (existing plus committed) network includes only those projects that will be operational in the next few years , but serving the forecast Year 2045 population and employment. The 2045 system represents the highway and transit networks from the 2045 MTP, serving the forecast Year 2045 population and employment.

The performance evaluation measures in this summary table are system-wide metrics and therefore do not provide performance information on specific roadways or travel corridors, or at the scale of a municipality or type of area (e.g., urban and suburban). The congestion maps (V/C maps), presented in Section 6.3, provide a more localized picture of transportation performance for individual roadways or roadway segments. The conclusions drawn from the performance evaluation measures (system-wide) and congestion maps (roadway specific) tend to be similar. For example, the 2045 Deficiency congestion map illustrates a high degree of regional congestion as compared to the 2013 congestion map. This is validated by comparing performance measure values for the 2045 Deficiency and 2045 MTP networks such as daily “Vehicle Hours Traveled” (VHT daily – Row 1.2). Vehicle Hours Traveled is highest for the 2045 Deficiency roadway network as compared to the 2013 base year and 2045 MTP networks.

Figure 6.5.1: Performance Evaluation Measures By Scenario (Based on TRM)

		2013 Base Year		2045 Existing + Committed		2045 MTP	
		CAMPO	DCHC	CAMPO	DCHC	CAMPO	DCHC
1	**Performance Measures**						
1.1.1	Total Vehicle Miles Traveled (VMT-daily)	28,099,995	11,861,507	51,767,600	19,286,704	54,535,952	19,275,165
1.1.1a	Total Vehicle Miles Traveled (VMT-per capita)	25	28	24	29	27	30
1.2.1	Total Vehicle Hours Traveled (VHT-daily)	696,982	285,788	1,784,196	604,600	1,579,327	514,321
1.2.1a	Total Vehicle Minutes Traveled (VHT-per capita)	37	41	49	55	46	48
1.3	Average Speed by Facility (miles/hour)						
1.3.1	- Freeway	62	58	53	50	55	54
1.3.2	- Arterial	38	36	33	30	37	33
1.3.3	- All Facility	46	47	39	40	43	45
1.4	Peak Average Speed by Facility (miles/hour)						
1.4.1	- Freeway	60	57	47	47	52	52
1.4.2	- Arterial	37	35	30	28	36	31
1.4.3	- All Facility	45	46	36	38	41	43
1.5	Daily Average Travel Length - All Person Trips						
1.5.1	- Travel Time (minutes)	14	13	20	17	17	14
1.5.2	- Travel Distance (miles)	7.1	6.1	7.6	6.1	8	6
1.6	Daily Average Travel Length - Work Trips						
1.6.1	- Travel Time	22	20	33	24	27	21
1.6.2	- Travel Distance - Work Trips	12.9	10.9	13.7	10.2	14.1	10.5
1.7	Peak Average Travel Length - All Person Trips						
1.7.1	- Peak Travel Time	15	15	19	19	17	16
1.7.2	- Peak Travel Distance	7.2	7.1	7.0	7.0	7.0	6.9
1.8	Daily Avg. Travel Length - Commercial Vehicle Trips						
1.8.1	- Travel Time	10	10	12	11	11	10
1.8.2	- Travel Distance	7.2	6.7	6.8	6.5	7.2	6.9
1.9	Daily Average Travel Length - Truck Trips						
1.9.1	- Travel Time	12	11	14	13	13	12
1.9.2	- Travel Distance	8.5	7.9	8.2	7.6	8.6	8.1
1.10	Hours of Delay (daily)	67,957	25,300	577,595	165,151	339,957	86,529

		2013 Base Year		2045 Existing + Committed		2045 MTP	
		CAMPO	DCHC	CAMPO	DCHC	CAMPO	DCHC
1.10a	Minutes of Delay (daily) (per capita)	4	4	16	15	10	8
1.10.1	Truck Hours of Delay (daily)	2,442	1,206	16,980	8,457	10,382	4,732
1.10.1a	Truck Minutes of Delay (daily) (per trip)	1	1	5	6	3	3
1.11	Percent of Congested VMT (volume > capacity) - All Day						
1.11.1	- Freeway	1%	1%	18%	12%	15%	4%
1.11.2	- Arterial	3%	2%	17%	16%	10%	7%
1.11.3	- All Facility	2%	1%	16%	12%	10%	5%
1.12	Percent of Congested VMT (volume > capacity) - Peak						
1.12.1	- Freeway	2%	2%	32%	20%	25%	6%
1.12.2	- Arterial	5%	3%	28%	22%	15%	11%
1.12.3	- All Facility	3%	2%	27%	18%	17%	7%
1.12.4	- Designated truck routes	2%	3%	17%	20%	10%	9%
1.12.5	- Facilities w/bus routes	2%	3%	22%	18%	16%	6%
2	**Mode Share Measures**						
2.1	All Trips - Mode Share						
2.1.1b	- Drive alone (single occupant vehicle -SOV)	49%	46%	49%	45%	47%	44%
2.1.2b	- Carpool (Share ride)	43%	36%	42%	36%	42%	36%
2.1.3b	- Bus	1%	3%	1%	2%	1%	3%
2.1.4b	- Rail	N/A	N/A	N/A	N/A	0%	1%
2.1.5b	- Non-Motorized (Bike and Walk)	7%	15%	9%	16%	9%	17%
2.2a	Work Trips - Mode Share						
2.2.1b	- Drive alone (single occupant vehicle -SOV)	85%	80%	82%	79%	80%	77%
2.2.2b	- Carpool (Share ride)	11%	10%	10%	10%	11%	9%
2.2.3b	- Bus	2%	5%	1%	4%	4%	5%
2.2.4b	- Rail	N/A	N/A	N/A	N/A	1%	2%
2.2.5b	- Non-Motorized (Bike and Walk)	3%	5%	6%	7%	4%	7%
2.3a	Peak Trips - Mode Share						
2.3.1b	- Drive alone (single occupant vehicle -SOV)	48%	46%	47%	45%	45%	43%
2.3.2b	- Carpool (Share ride)	45%	39%	44%	38%	45%	39%
2.3.3b	- Bus	1%	3%	0%	2%	1%	3%
2.3.4b	- Rail	N/A	N/A	N/A	N/A	0%	1%

		2013 Base Year		2045 Existing + Committed		2045 MTP	
		CAMPO	DCHC	CAMPO	DCHC	CAMPO	DCHC
2.3.5b	- Non-Motorized (Bike and Walk)	7%	13%	9%	14%	8%	14%
3	**Transit Measures**						
3.1	Transit Ridership (regionwide)						
3.1.1	- GoTriangle (rail included in rail scenarios)	11,649		19,927		65,819	
3.1.2	- GoRaleigh	16,938		33,312		117,791	
3.1.3	- CHT	32,670		42,285		71,882	
3.1.4	- GoDurham	20,866		29,545		37,826	
3.1.5	- NCSU	17,820		22,728		16,693	
3.1.6	- DUKE	8,551		10,942		9,208	
3.1.7	- OPT	338		314		850	
3.1.8	- GoCary	1,869		3,194		6,670	
3.1.9	Total	110,699		162,247		326,735	
3.2	Total Rail Ridership	N/A		N/A		48,461	
4	**Other Measures**						
4.1	Total Daily Person Trips	4,705,474	1,907,904	8,260,218	3,022,162	8,878,617	3,022,820
4.1.1	Work Person Trips	710,791	238,603	1,215,124	379,742	1,299,322	374,656
4.2	Total Daily CV (commercial vehicle) Trips	306,988	121,623	533,629	199,019	559,006	199,405
4.2.1	Daily Truck Trips	128,046	50,122	223,043	82,975	233,985	83,979
4.3.1	Total Highway Lane Miles	6,532	2,533	6,987	2,632	9,496	2,904
4.3.2	Transit Service Miles	54,757		74,206		96,345	

Notes:

N/A = Not available

Travel time is in minutes, and travel distance is in miles.

CV = Commercial vehicles (which includes large and small trucks and vans).

Trucks = Subset of Commercial Vehicles that includes only large trucks.

Transit ridership is higher than transit trips because a trip involving a transfer counts as two riders in ridership numbers.

Average Speed (1.3 and 1.4), Percent of Congested VMT (1.11 and 1.12)and Hours of Delay (1.10) calculations do not include local streets or centroid connectors (which often represent local streets in modeling networks)

Key points from this section:

- The starting point for analyzing our choices is to understand how our communities' comprehensive plans envision guiding future growth.
- The next step is to make our best estimates of the types, locations and amounts of future population and job growth based on market conditions and trends and community plans.
- Based on these forecasts, we can look at future mobility trends and needs, and where our transportation system may become deficient in accommodating these trends and meeting these needs.
- Working with a variety of partners and based on public input, we then develop different transportation system alternatives and analyze their performance.
- We can compare the performance of system alternatives against one another and to performance targets derived from our goals and objectives.

7. Our Long Range Transportation Plan

Section 7 is the heart of our region's Metropolitan Transportation Plan. This section describes the investments we plan to make, when we intend to make them, and the associated land use development activities that promote an effective and efficient transportation system.

The transportation investments are summarized in the following categories:

- Roadways (with accompanying project list in Appendix 1)
- Public Transportation
- Bicycle and pedestrian projects
- Freight movement
- Aviation and Intercity Rail
- System Optimization including:
    - Programs to manage transportation demand
    - Intelligent transportation systems: technology investments
    - Transportation/congestion systems management: lower-cost roadway projects that do not add more travel lanes, but improve safety and/or operational efficiency.

7.1 Land Use & Development

Land use in the Triangle is the responsibility of each local government, not the MPOs. But few things influence the functionality and effectiveness of our transportation system as much as the locations, types, intensities and designs of existing and new developments in our region. If we are to successfully provide for the mobility needs of the 1.6 million people here today and the additional 1.3 million expected to be added over the timeframe of this plan, we will need to do a top-notch job of matching our land use decisions with our transportation investments.

The ties between regional transportation interests and local land use decisions are most pronounced in three cases:

1. Transit Station Area Development.
2. Major Roadway Access Management.
3. Complete Streets & Context-Sensitive Design.

Transit Station Area Development. The MPOs Metropolitan Transportation Plans include billions of dollars of capital investments in rail and bus rapid transit infrastructure to connect our region's five largest activity centers and link these centers to neighborhoods across the region (see major transit infrastructure investment descriptions in section 7.3). Ensuring that well-designed, compact, mixed use development occurs within the first half mile around transit stations is a key element in determining how cost-effective major transit investments will be. Working with a range of local and regional partners, the Triangle J Council of Governments and GoTriangle have been leading efforts to develop and share key land use and affordable housing practices that can be used by local governments and other organizations to support fixed guideway investments such as rail and bus rapid transit. Continuing to build on this collaborative approach is an important and cost-effective way to match local land use decisions with regional transportation investments.

Major Roadway Access Management. Roads serve two main purposes. One is mobility and the other is access. Mobility is the efficient movement of people and goods. Access is getting those people and goods to specific properties. A roadway designed to maximize mobility typically does so in part by managing access to adjacent properties. A good example is an Interstate Highway. While a motorist could expect to travel quite efficiently over a long distance using an Interstate Highway, the number of access points is restricted to only freeway interchanges every few miles. This type of roadway serves primarily a mobility function. At the other end of the spectrum, a local residential street would provide easy and plentiful access to all adjacent properties, but long distance travel on such a roadway would be time consuming and inconvenient. This type of roadway serves primarily an access function. Many costly road investments involve widening roads to provide additional travel capacity. Where these investments are made, the MPOs will work with the NCDOT and local communities to ensure that the new capacity is not inappropriately degraded by a pattern of "strip development" requiring numerous driveways and median cuts.

Complete Streets & Context-Sensitive Design. Roadways are the largest component of our communities' public realm: the spaces all of us share with our neighbors and which provide access to the front doors of homes and businesses. Especially where roadways traverse town centers, walkable neighborhoods and important activity centers such as college campuses, the MPOs will work with the NCDOT and local communities to ensure that roads are appropriately designed to accommodate the full range of travel choices and that adjoining development is sited and designed to promote alternatives to auto travel. As the benefits of walking and cycling are better understood, creating safe and healthy streets is becoming a higher priority for MPO support.

So in the three instances summarized above: transit station area development, major roadway access management and complete streets whose designs are sensitive to the neighborhoods of which they are a part, the DCHC MPO and CAMPO are committed to work with their member communities and regional organizations such as the Triangle J Council of Governments and GoTriangle to coordinate land use decisions and transportation investments.

7.2 Roadways

This section contains a list of major road investments in the 2045 Capital Area MPO and Durham-Chapel Hill-Carrboro MPO Metropolitan Transportation Plans. A full listing of all roadway projects, by time period is in Appendix 1.

Projects are separated into four categories based on anticipated date of completion. 2025 projects are projects already underway with full funding and an expected completion date by 2025, derived from the adopted Transportation Improvement Program (TIP). The 2035 and 2045 projects are composed of projects selected through the alternatives analysis process described in Section 6.4 and that can be funded with existing revenue streams or reasonably foreseeable new revenue streams.

Due to anticipated funding constraints, a fourth category includes projects that had merit but could not be completed by 2045 with anticipated revenue. These projects that are not part of our fiscally constrained plans are compiled separately in the Comprehensive Transportation Plan (CTP) for the DCHC MPO. Each project in the fiscally-constrained plan has a project identifier that is shown on the 2045 MTP Road Project Map. The project listing in Appendix 1 includes information on each project's limits, length, present and future lanes, funded completion year, cost estimation and whether it meets federal definitions for a regionally significant or exempt project.

The resiliency and reliability of the roadway network is expected to improve with the implementation of this Plan. The planned investment in highway maintenance is approaching 50% of the non-transit budget for both MPOs, up from about 30% in the previous plan.

Figure 1.1 in the Executive Summary is a map of roadway projects by time period (2025, 2035, 2045, post-2045) and Figure 7.2.1 on the next page is a listing of the major highway projects by time period in each MPO. A larger version of the roadway map is available on the MPO web sites.

Figure 7.2.1. Major Highway Projects by MPO and Time Period

Durham Chapel Hill-Carrboro MPO		
2018-25	**2026-35**	**2036-45**
East End Connector will link US 70 to NC 147 (Durham Freeway) to form I-885	I-40 managed lanes (Wade Avenue in Wake County to NC 147)	I-40 managed lanes (NC 147 to US 15-501)
NC 147 (Durham Freeway) widened (East End Connector to I-40)	I-40 widened (US 15-501 to I-85)	I-85 widened (I-40 to Durham County line)
	US 15-501 (Fordham Blvd) modernization (Columbia St. To I-40)	I-85 widened (US 70 to Red Mill Rd.)
	US 15-501 freeway conversion (I-40 to US 15-501 bypass)	
	US 70 lane addition and freeway conversion (East End Connector to I-540)	
Capital Area MPO		
2018-25	**2026-35**	**2036-45**
I-40 widened from Wade Ave. to Lake Wheeler Road	I-40 widened from I-440 to NC 42 in Johnston County	I-87 widened from US 64 Bus to US 264
I-440 widened from Wade Avenue to Crossroads	I-87 widened from I-440 to US 264	NC 210 widened from Angier to Lassiter Pond Rd.
I-40 widened from I-440 to NC 42 in Johnston County	US 1 widened south from US 64 to NC 540	NC 50 widened from NC 98 to Creedmoor
US 64 W corridor improvements from US 1 to Laura Duncan Rd.	Managed lanes added to I-540 (Northern Wake Expressway) from I-40 to I-87	US 401 widened from Fuquay-Varina to MPO boundary in Harnett County
NC 540 toll road extended from Holly Springs to I-40 south of Garner	NC 540 completed as a toll road from Holly Springs to I-87/US 64 bypass	NC 96 widened from US 1 to NC 98
NC 50 widened and access management from I-540 to NC 98	Managed lanes added to I-40 from Durham County to MPO boundary in Johnston County	NC 56 widened from I-85 to MPO boundary in Franklin County

7.3 Fixed Guideway and Premium Transit Services

A number of extensive transit planning efforts that have taken place in the last decade have resulted in transit plans in Durham, Orange, and Wake Counties. These county plans provide new dedicated revenue sources to finance significant transit improvements, including projects to produce enhanced regular bus

service, implement high-quality fixed-guideway transit projects, build improved transit infrastructure, and develop new services to connect job centers and population centers throughout the region.

Among the projects identified in the county transit plans and included in this 2045 MTP are a variety of premium transit investments that will provide dedicated transit corridors. These major projects will reduce transit time, improve reliability, and provide enhanced customer experiences. Three types of investments are included in this 2045 MTP:

- Light rail transit (LRT) provides frequent, all-day passenger rail service to serve allow compact and walkable development patterns. Light rail uses electric vehicles that run on a dedicated fixed-guideway to provide safe, quiet, and reliable transportation along congested transportation corridors, and stopping at stations that are easily accessible to existing neighborhoods and new transit-oriented development by walking, bicycling, bus, and automobile.
- Bus rapid transit (BRT) encompasses a variety of enhancements to regular bus service, such as enhanced stations with off-board ticketing, dedicated lanes that allow buses to bypass congested automobile traffic and improve system reliability, priority treatment at traffic signals, and other improvements.
- Commuter rail service operates in existing mainline rail corridors, serving stations that generally are spaced farther apart than in light rail networks. Commuter rail projects generally provide service during peak commuting hours, with occasional mid-day, evening, and weekend service.

The specific projects included in this 2045 MTP include:

- The Durham-Orange Light Rail Transit (D-O LRT) Project, a light-rail system connecting Chapel Hill and Durham. The project is currently within the Engineering phase of the Federal Transit Administration (FTA's) Capital Investment Grants/New Starts program and is under active development. The project is anticipated to begin construction in 2020 and be completed by 2028. Further information about D-O LRT is available at ourtransitfuture.com.
- A westward extension of the D-O LRT Project from its initial terminus at UNC Hospitals to serve the town centers of Chapel Hill and Carrboro. This project is scheduled for 2035-45.
- Chapel Hill Transit's North-South Corridor BRT, an 8-mile, 16-station project along the primary north-south corridor in Chapel Hill, Martin Luther King Jr. Blvd. and Columbia Street. It is currently in FTA's Small Starts Project Development program. Additional environmental analysis and project design is underway, and revenue service anticipated to begin in the 2026-35 time period of this plan. Further information about this BRT project is available at nscstudy.org.
- A commuter rail system with an initial focus linking, Garner, Raleigh, and Cary in Wake County with the Research Triangle Park downtown Durham and West Durham. This project is currently being evaluated as part of a Major Investment Study funded by Wake County and Durham County. This initial phase is scheduled for the 2026-35 time period of this plan.
- A westward extension of the commuter rail system from west Durham to Hillsborough, where a new Amtrak intercity rail station is currently being developed by NCDOT, and an eastward extension from Garner to Clayton. These extensions are scheduled for the 2036-45 time period of this plan.
- A commuter rail extension running between Apex and Wake Forest/Youngsville via Cary and Raleigh. This phase is scheduled for the 2036-2045 time period of this plan.
- A BRT system connecting Raleigh, Cary, Morrisville, Research Triangle Park, and Garner. These projects and services are currently being evaluated as part of the Major Investment Study funded by Wake and Durham County as well as the Bus Implementation Plan funded by Wake County. The initial phase includes portions of both dedicated fixed guideway as well as mixed traffic BRT service and is scheduled early in the 2026-2035 time period of this plan.
- An extension of dedicated fixed guideway for the initial BRT corridors in Wake County as well as the addition of BRT service to Midtown in Raleigh is scheduled for the latter part of the 2026-2035 time period of this plan.

- An extension of dedicated fixed guideway and BRT service to New Hope Rd. in the New Bern BRT corridor in Raleigh is scheduled for the 2036-2045 period of this plan.
- A north-south BRT corridor in Cary along the Harrison-Kildaire Farm-Tryon Rd. corridor that will connect the SAS/Weston area to the Regency business park via downtown Cary is scheduled for the 2036-2045 time period of this plan.
- An eastward extension of the commuter rail system from Clayton to the Smithfield/Selma area, where Amtrak intercity rail service is currently operating. This extension is not included in the fiscally constrained portion of this plan and is depended on various other rail transit partners in Johnston County that are outside of the MPO boundary.

7.4 Frequency- and Coverage-Based Bus Services

The 2008 Special Transit Advisory Committee (STAC) produced an initial report identifying the need for additional transit services and setting forth a vision for providing higher-quality transit services along multiple transportation corridors within the MPOs. This effort sparked additional planning efforts throughout the region involving multiple counties, municipalities, residents, and other stakeholders. These different efforts coalesced into three transit plans that direct dedicated revenue to a variety of transit projects throughout the region:

- Durham County: In 2011, Durham County commissioners and voters approved the Bus and Rail Investment Plan with a new ½-cent sales tax and other revenues to fund transit expansion, including improved bus service, improved infrastructure; and premium transit services including D-O LRT and commuter rail. The plan was updated and renamed the Durham County Transit Plan in April 2017.
- Orange County: In 2012, Orange County commissioners and voters approved the County's Bus and Rail Investment Plan and identical funding sources as Durham County. The new dedicated revenues are being used to provide improved bus service and infrastructure, and pay the local share of the D-O LRT and North-South Corridor BRT premium transit services. The plan was updated and renamed the Orange County Transit Plan in April 2017.
- Wake County: The Wake Transit Plan and dedicated revenue sources were approved by county commissioners and voters in 2016. The plan focuses on four "Big Moves" to 1) connect the region; 2) connect all Wake County communities; 3) create a frequent and reliable urban transit network; and 4) provide enhanced access to transit. The plan proposes to develop a greatly expanded frequent bus network, bus service that connects the 12 Wake County municipalities, passenger infrastructure improvements; and the BRT and commuter rail services.

Increased regular bus service has been implemented by transit agencies throughout the three counties as well as by GoTriangle, the regional transit provider. In addition, the counties and transit agencies are investing in infrastructure such as improved customer bus stops and shelters, park-and-ride lots, and new vehicles. Local public transit systems coordinate and share facilities with private intercity bus operations; for example, the Durham Central Transit Station serves both Greyhound and MegaBus along with local/regional public routes.

The transit systems and MPO are putting greater emphasis on the maintenance of transit assets. Both MPOs approved transit asset performance measures and targets addressing State of Good Repair in June 2017.

Further information about the projects are included in the Durham County Transit Plan, Orange County Transit Plan, and Wake Transit Plan. Please visit ourtransitfuture.com, waketransit.com, and gotriangle.org for copies of the plans and updated information.

More information on bus transit projects including implementation years and type of service is in Appendix 3. The bus transit investment includes extending current service areas, but also emphasizes service improvements to the current service areas, as outlined in the county transit plans. Area transit agencies and the counties continually revise their current and proposed future route networks to optimize transit performance.

The proposed improvements in bus service include:

- Increased frequency: In the region, most buses operate on 30-minute headways most of the day. Each transit plan provides for more frequent service. Using county transit plan revenues, Durham County has implemented a "frequent bus network" with 12 miles of services that operate all-day at 15-minute frequencies, while the Wake Transit Plan proposes to grow the county's frequent bus network from 17 miles in 2016 to 83 miles by 2027.
- Expanded span of service: By operating existing services later into the evening and on weekends, the bus system will provide enhanced access to jobs and other activities for more residents.
- Redesigned networks: Regular bus service will be reimagined to better connect with fixed-guideway services such as D-O LRT, N-S Corridor BRT, Wake County's BRT lines, and commuter rail, increasing access to these high-quality transit spines.
- New service: New bus service provided to additional communities, including express services that run during peak commute times and local services such as circulators.
- Improved infrastructure: The county plans provide for additional customer-facing infrastructure such as bus shelters, benches, park-and-ride lots, and access improvements such as sidewalks and trails.
- Last-mile connections: The plans provide for services to provide the "last mile" connection between bus routes and patrons' final destinations, using bus routes and innovative services such as on-demand bus shuttle routes.
- Electric buses: The area's transit agencies are considering purchasing buses that couple electric propulsion with battery storage. If implemented, electric buses will have local air quality benefits, and may also provide improved passenger comfort and reduced operating costs.

7.5 Bicycle and Pedestrian Facilities

Bicycle and pedestrian transportation are becoming integral forms of travel in the Triangle Region. The land use characteristics of local universities, business districts, and major activity centers encourage short trips that can be easily served by biking and walking. Urban centers retain attractive, grid street patterns with retail and residential developments that lend well to biking and walking, and the scenery of the region's rural landscape provides opportunities for bicycle and pedestrian tourism and recreational cycling. Additionally, the area's geography and mild year-round climate make these modes viable travel options.

Since the adoption of the region's previous long-range plan in 2013, several important initiatives have been undertaken, including the following:

- In 2014 the N.C. Department of Transportation held a Complete Streets Summit to highlight how NCDOT's Complete Streets Guidelines can be used to design and build streets that enable safe access for pedestrians, bicyclists, and public transportation users of all ages and abilities.
- Communities have hosted various bicycle and pedestrian events, including the annual Triangle Bicycle and Pedestrian Workshop sponsored jointly by the MPOs, and many activities during Bike Month and Bike to Work Week in May.
- The number of motor vehicle crashes involving pedestrians and bicycles has motivated federal, state, and local officials to conduct enforcement exercises and education campaigns focused on bicycle and pedestrian safety.
- Communities in both MPOs began participating in an NCDOT initiative to develop a systematic approach to counting pedestrian and cyclists by installing equipment that uses electromagnetic bicycle detectors and passive infrared technology to count bicycle and pedestrian traffic at key locations.
- The MPOs assisted N.C. State researchers study the economic impacts of bicycling and walking, with a particular focus on the usage and change in economic indicators on the American Tobacco Trail in Durham before and after the construction of a bridge that closed a gap in the 23-mile shared use path.

In response to the increased popularity of bike and pedestrian travel, CAMPO and DCHC MPO are encouraging the creation of a pedestrian and bicycle system that provides an alternative means of transportation, allows greater access to public transit, and supports commuting and recreational opportunities. Regional and statewide facilities such as the East Coast Greenway, the Cross-Triangle Greenway, and the American Tobacco Trail are heavily used as soon as segments are opened. Member governments coordinate planning efforts and strive toward the development of a safe, accessible, and convenient network of regional bicycle and pedestrian routes. Many local governments in the region have prepared their own citywide and county bicycle and pedestrian plans and/or facility inventories. Granville County, for instance, has established a Greenway Technical Committee to develop a network of trails for local and regional use.

Pedestrian Facilities

Pedestrian facilities in the Triangle region vary in type, condition and level of service. Urban areas within the MPO boundary are often outfitted with suitable sidewalk facilities, however many thoroughfares lack any pedestrian accommodations or relegate pedestrians to one side of the roadway. Historically, suburban development has been inattentive to pedestrian needs, leading to incomplete pedestrian networks within highly populated commercial and residential areas. Also, many areas once classified as rural are seeing increases in development, and citizens are demanding pedestrian access from their neighborhoods to nearby destinations. Local governments recognize these pedestrian needs, and are working toward filling the missing links in local sidewalk networks.

Many thoroughfares lack sidewalks

On a regional level, the MPOs encourage pedestrian projects. Most town and city governments have instituted sidewalk requirements for new development, and sidewalk upgrades are generally included in roadway construction projects. Most roadway projects in the 'Roadway Element' of the MTP are expected to provide appropriate accommodations for pedestrians, concurrent with roadway improvements. Missing links and gaps in the pedestrian networks will be constructed retroactively. Priority is generally given to areas with heavy pedestrian traffic generators, such as schools, parks and business districts.

The MPOs rely on the "NCDOT Complete Streets Planning and Design Guidelines" and other guidelines to identify appropriate facility type, and depend on local plans for project identification. The MPOs rely on the "NCDOT Bridge Policy" and "NCDOT Pedestrian Policy" to ensure that new bridges in the urban area include sidewalks or have sufficient bridge deck width to accommodate future sidewalks. Projects are prioritized on a regional level for funding allocation. The following table presents recent local plans and inventories used for facility recommendations.

Figure 7.5.1 – Local Plans and Inventories Used for Pedestrian Facility Recommendations

- Carrboro Sidewalk Policy (1989)
- Chapel Hill Mobility & Connectivity Plan (2017)
- Durham Bike+Walk Implementation Plan (2017)
- Durham Trails and Greenways Master Plan (2011)
- Hillsborough Vision 2020 Plan (1991, revised 1998)

- Angier Pedestrian Plan (2012)
- Apex Bicycle & Pedestrian Plan (2011)
- Cary Pedestrian Plan (Imagine Cary) (2017)
- Creedmoor Pedestrian Plan (2011)
- Fuquay Varina Pedestrian Plan (2012)
- Garner CTP (2018)
- Holly Springs CTP (2013)
- Knightdale Pedestrian Plan (2011)
- Raleigh Pedestrian Plan (2013)
- Youngsville Bicycle/Pedestrian Plan (2014)
- NCSU Bicycle/Pedestrian Plan (2011)

Bicycle Facilities

The 2045 MTP recommends extensive integration of bicycle needs into the design and construction specification of new highways and other future or ongoing transportation projects. The bicycle projects include off-road shared-use bicycle paths, on-road bicycle lanes and wide shared roadways in urban areas, as well as paved 4-foot shoulders on rural roads. Highway and transit project designs assume the provision of bicycle racks and other bicycle and pedestrian amenities at key locations such as park-and-ride lots, transit hubs, and major activity centers.

Bicycle parking at a bus stop near the American Tobacco Trail.

The 2045 MTP identifies statewide and regional bicycle routes in the Triangle region. Statewide routes include NCDOT-designated Bicycling Highways as well as the East Coast Greenway. Regional bicycle routes provide links between major destinations and between urban centers; facilitate primarily utilitarian bicycle trips, though the routes can also serve recreational cycling; and serve as a backbone to a finer grained system of local bicycle routes in each jurisdiction.

The "NCDOT Complete Streets Planning and Design Guidelines" and AASHTO "Guide for Development of New Bicycle Facilities" act as construction standards for projects, and local agencies play a lead role in the implementation of new projects. The MPOs rely on the "NCDOT Bridge Policy" to ensure that new bridges have sufficient bridge deck width to accommodate planned bicycle facilities. Local plans supplement the MTP regional bicycle routes by identifying additional projects and development requirements to complete the regional bicycle transportation network. Figure 7.4.2 lists these local plans.

Figure 7.5.2 – Local Plans Used for Bicycle Facility Recommendations

- Carrboro Comprehensive Bicycle Transportation Plan (2009)
- Chapel Hill Mobility & Connectivity Plan (2017)
- Durham Bike+Walk Implementation Plan (2017)
- Apex Bicycle & Pedestrian Plan (2011)
- Cary Imagine Cary Plan (2017)
- Capital Area MPO Bicycle & Pedestrian Plan (2003)
- Fuquay-Varina Bicycle Plan (2015)
- Garner Forward Transportation Plan (2018)
- Holly Springs Comprehensive Transportation Plan (2011)
- NC State University Bicycle & Pedestrian Plan (2011)
- Durham Trails and Greenways Master Plan (2011)
- Orange County Bicycle Transportation Plan (1999)
- Morrisville Land Use and Transportation Plan (2008)
- Raleigh Bicycle Transportation Plan (2016)
- Rolesville Bicycle Plan (2011)
- Youngsville Bicycle/Pedestrian Plan (2014)
- Zebulon Multimodal Transportation Plan (2001)

Education, Enforcement & Encouragement

In addition to facility improvement projects included in the MTP, the DCHC and Capital Area MPOs devised a series of local education, enforcement and encouragement programs. Outreach programs are essential

elements of any bicycle and pedestrian friendly community, and complement the engineered components of a bicycle and/or pedestrian route network. The following recommendations are intended to increase bicycle and pedestrian safety and provide the incentive to get more people biking and walking in the region.

Education

- Institutionalize bicycle and pedestrian safety education within public schools.
- Provide bicycle instruction to adult cyclists.
- Provide educational messages to better inform drivers and pedestrians about pedestrian and bicycle safety laws and best practices.
- Educate motorists on cyclists' rights to use the road.
- Establish a local fund for bicycle and motorist education.

Enforcement

- Update bicycle traffic laws.
- Provide an active enforcement program.
- Appoint a "Bicycle Liaison Officer".
- Develop "Bicycle Patrol Units" within local police departments.

Encouragement

- Offer incentives to employers to encourage employee bicycle commuting.
- Conduct a well-publicized annual "Bike-to-Work" week with multiple events.
- Improve access to transit for pedestrians and bicyclists.
- Develop a publicity campaign to raise awareness of cycling issues.
- Conduct annual regional bicycle events.
- Publicize the region as "bicycle-friendly."
- Encourage community-based support for cycling.
- Develop cooperative relationships.
- Promote Safe Routes to Schools and walk/bike to school events.
- Participate in the Triangle Transportation Demand Management activities and programs.

Bicycle and pedestrian resource materials

The MPOs are also developing supplementary resources, such as bicycle maps, safety-education materials, and community action plans that provide a development strategy for the implementation of the five "E's" – engineering, education, encouragement, enforcement, and evaluation. Many member jurisdictions are proceeding toward great accomplishments in the outreach sector, including the national recognition of Carrboro, Cary, Chapel Hill, Durham, and Raleigh as "Bicycle Friendly Communities" by the League of American Bicyclists. The MPOs continually seek funding for Safe Routes to School (SRTS) projects, and several school activities have been completed using this funding source. With such progress already being made, it is certain that the DCHC and Capital Area MPOs will continue to advance toward a sophisticated, well-integrated bicycle and pedestrian transportation system over the next three decades.

Summary

The 2045 MTP does not specifically list bicycle and pedestrian projects. Local municipalities and counties have identified and prioritized these projects, and have coordinated their interaction at the jurisdiction boundary areas. As a result, the 2045 MTP defers to those local government plans.

The DCHC MPO bicycle and pedestrian policy basically expects any roadway or other transportation project, whether it is a new or improved facility, to include appropriate pedestrian and bicycle accommodations. That policy provides extensive integration of bicycle and pedestrian needs into the design and construction of new and improved highway and other transportation projects. In addition, the "NCDOT Complete Streets Planning and Design Guidelines" and other related guidelines provide planning and design guidance for use when building new projects or making changes to existing infrastructure. For bicycle facilities, the Durham-Chapel Hill-Carrboro MPO adopted a Comprehensive Transportation Plan (CTP) in May 2017 that lists all the local bicycle projects from the jurisdiction and county plans in the MPO area. The MPO has also identified statewide and regional bicycle routes in the MPO region, as listed in Appendix 4.

The Capital Area MPO map communicates an extensive regional layout of off-road bicycle and pedestrian facilities in conjunction with on-road facilities that will receive bicycle-pedestrian accommodations only. This on-road/off-road network is congruent in scope, and communicates opportunities for multiple forms of access throughout the region. Note that many roadway projects will incorporate bicycle and pedestrian accommodations in conjunction with capacity improvements; which is consistent with the principle of "universal access" as addressed in the Capital Area MPO Bicycle and Pedestrian Plan adopted in 2003. Roads that will receive bicycle and pedestrian accommodations only are those roads that did not meet strict criteria for capacity improvements; but in practicing good transportation system management would qualify as candidates for bicycle and pedestrian accommodations.

Figure 7.5.3 - Bicycle & Pedestrian Investment

2018-2045 Bicycle and Pedestrian Investment ($2016)		
Total	CAMPO	DCHC MPO
$1,207,000,000	$915,000,000	$292,000,000

7.6 Freight Movement

Successful economic development depends on the fast and reliable movement of people, goods and information. For the 2045 Metropolitan Transportation Plan, the two MPOs have been engaged in an extensive and systematic examination of freight trends and opportunities through a new Triangle Regional Freight Plan to ensure that goods movement is a key component of long-term transportation investment decisions. Although the MPOs will not formally adopt recommendations until later in 2018, some key freight movement forecasts and principles are expected to guide MPO transportation investment decisions.

The growing regional attention to freight movement has been matched at the state and federal levels. The most recent federal transportation legislation, the FAST Act, and North Carolina's Strategic Transportation Investments (STI) law place increased emphasis on freight planning and investment. Looking for opportunities to leverage state and federal interest is a driving force in the MPO's approach to freight movement.

An examination of trends and forecasts for the regional freight plan found that:

1. The highway system is and will remain the principal freight mode in the region: 80% of both freight tonnage and freight value in the region moves by truck. By 2045, the amount of freight moved by truck is expected to grow by a third. Because of its advantage in moving heavy commodities, rail carries 16% of the region's freight tonnage, but only 2% of its freight value, and is not forecast to grow significantly.

2. "Truck tonnages are expected to increase considerably out to 2045, especially for shipments to and from the Triangle Region."
3. "Projects are needed to ensure that the roadway network keeps up with the rapid increase expected of inbound and outbound shipments....improving the routes that are already congested that provide regional connection to Interstates and the rest of the State."
4. "Total freight rail volumes are forecasted to have minimal growth in the Triangle Region over the coming decades...chiefly due to the decline in coal, which offsets growth in other areas...total tonnage is expected to remain roughly constant out to 2045."

Key freight movement principles that the MPOs will use to inform investment decisions include:

1. As with the movement of passengers, paying close attention to the location of major freight facilities and destinations relative to the transportation network is important; linking industrial land use decisions to the careful design of road and rail access can yield cost-effective solutions. Just as Transit-Oriented Development (TOD) has become a principal tool in regional land use planning to support transit corridor investments, Freight-Oriented Development can help inform industrial land use planning and supply chain logistics along strategic freight corridors and in freight industry clusters.
2. Logistics and supply chain performance expectations change rapidly. In particular, supply chains designed for home deliveries continue to grow in importance with the explosion in e-commerce.
3. On the road system, freight bottlenecks with significant truck volumes should be a key priority, with a tiered approach to address trade routes that connect the Triangle to other regions, distribution and connectivity routes that link freight industry clusters with activity centers, and critical access routes serving industrial sites and redevelopment areas.
4. On the rail system, network reliability and speed will be important considerations for goods movement as bulk commodities like coal become less important, with the added benefit that reliability and speed are also important to passenger rail that shares tracks with freight trains.

7.7 Transportation Demand Management (TDM)

Each year, hundreds of millions of dollars are spent in the region on the supply side of mobility: building and maintaining roads, buying and operating buses, building sidewalks and bicycle facilities. Some of the most cost-effective mobility investments we can make are on the demand side: encouraging commuters to use our transportation facilities as efficiently as possible by carpooling, vanpooling, taking transit, telecommuting, walking or bicycling.

TDM Coordinators tabling at Red Hat

These marketing and outreach efforts targeted to commuters and the employers they work for are called Transportation Demand Management, or TDM. The Triangle TDM program is active in Chapel Hill, Carrboro, Raleigh, Research Triangle Park, Durham County, Orange County, Wake County, Duke University, NC State University, UNC-Chapel Hill, and Wake Tech Community College. Since 2008, service providers in the region have undertaken a range of TDM projects, such as GoTriangle's New Year/New Commute and Bike Month regional campaigns, and Triangle J Council of Government's *Best Workplaces for Commuters* program. These TDM efforts can be very effective. In 2017, 96,000 workers were employed at a *Best Workplace for Commuters,* where their employer offers commute benefits such as subsidized transit passes, vanpooling, bicycle facilities or telework. The following travel, air

quality, and energy saving impacts were calculated due to the collective efforts of Triangle TDM service providers in FY16-17 :

- 5 million vehicle trips avoided
- 2.2 million gallons of gas saved
- 54 million commute miles reduced
- 36,027 alternative transportation users supported
- 43.8 million pounds of Carbon dioxide (CO2) release prevented

TDM Coordinators tabling at Rex Hospital

The region's TDM program is based on the Triangle Region Transportation Demand Management Plan for the Triangle. Implementing the plan is designed to achieve a goal of reducing the *growth* in the amount of *commuter* travel by 25%. The plan provides both a more systematic framework for TDM coordination and significantly more state and federal funding for TDM. TDM Plan details are available at http://www.tjcog.org/transportation-reports-downloads.aspx

The TDM Plan recognizes that the most effective TDM strategies are targeted to employment "hot spots:" places where employment is concentrated, including sites where transit service is available and/or parking is costly or inconvenient, such as in downtowns and at university campuses.

Continuing to implement and extend this TDM Plan is included in the Metropolitan Transportation Plan. Implementation includes:

- aggregating funding from the sponsors: state funds from NCDOT and federal funds allocated by the Capital Area MPO and Durham-Chapel Hill-Carrboro MPO,
- issuing a competitive "call for projects" from providers of TDM services, and
- working with an Oversight Committee of state and MPO staff that works with applicants to refine their proposals and makes recommendations for funding.

Based on this plan and the current level of the region's comprehensive, coordinated TDM program, the 2045 Metropolitan Transportation Plans include continued funding for TDM services and will follow the existing model where service providers supply a significant cost share to match federal and state funds.

The key Transportation Demand Management strategies in the 2045 Metropolitan Transportation Plan are:

1. Continue to invest in a collaborative regional program between the two MPOs and NCDOT through a single coordinating agency providing administrative, fiscal and measurement services.
2. Periodically review and update the regional TDM plan to serve as the guidance document for regional TDM collaboration roles and responsibilities.
3. Use the forthcoming NC DOT PTD strategic plan to align the regional program with statewide resources and to leverage opportunities to collaborate with other regional TDM efforts.
4. Continue and strengthen the regional collaboration's "three-legged stool" of services:
    a. "foundational" services provided throughout the region by a designated regional service provider,

   b. local services in selected hot spots provided through a competitive process involving local service provider funding matches, and
   c. support and recognition programs for measurable "best practice" employers
5. Periodically review and modify or expand "hot spot" locations where TDM efforts can be most effective, based on available funding.
6. Continue to examine the use of new technologies and innovative demand management techniques such as parking cash-out programs.

The region's transportation demand management program can be a crucial component of the overall transportation system, prompting employers to encourage the use of alternatives to driving alone and assisting commuters in understanding and using these alternatives.

7.8 Transportation Technology & Intelligent Transportation Systems (ITS)

Technology has always been an important part of the transportation system, from safety features on private vehicles to traffic information and traffic control signals and devices in public investments. This section of the plan addresses both vehicle technologies and public facility and service investments.

Technological advancement is anticipated to significantly affect mobility over the span of this plan. Much of this advancement is expected to be vehicle-oriented, with the advent of autonomous vehicles and connected vehicles. Levels of vehicle automation lie along a spectrum:

0	1	2	3	4	5
No Automation	**Driver Assistance**	**Partial Automation**	**Conditional Automation**	**High Automation**	**Full Automation**
A human driver is in control of all driving functions.	An advanced driver assistance system (ADAS) can assist the human driver in either steering or braking/accelerating, but never at the same time.	ADAS can control both steering and braking/accelerating simultaneously, but requires the human driver to continue to pay full attention at all times and assume control outside of those two functions.	All driving functions are performed by an automated driving system (ADS) in some circumstances, but the human driver must be able to respond when requested by the ADS. The driver assumes control in environments unmanageable by the ADS.	All driving functions are performed by an ADS in some circumstances, during which the driver does not need to pay attention. The driver assumes control in environ-ments unmanageable by the ADS.	All driving functions are performed by an ADS in all circum-stances. Human occupants are now passengers as opposed to drivers.

Although autonomous vehicle technology is expected to make in-roads in the near-term and mid-term, its market penetration may not result in substantial changes in public infrastructure investment decisions until the longer term period of this plan. Estimates of market penetration vary widely, but it is more likely that Level 4 and Level 5 vehicles will become a large enough share of the market to affect infrastructure design in the long-term phase of this plan than in the mid-term phase. Nevertheless, it would be appropriate to explicitly consider the possible impacts of faster or slower market penetration in decisions about fixed, costly and long-lived investments, such as parking garages or freeway widenings, especially if the investments would be difficult or costly to repurpose for a society with extensive automated and connected vehicles.

Significant market penetration may occur soonest for fleet vehicles such as trucks, buses and other vehicles where vehicle operators are a significant part of the cost of a service and where operator rest time (and thus vehicle down time) is important for safe operation. Appendix ___ includes additional information and sources on autonomous and connected vehicles.

In this plan, public investments in technology are grouped under the term "Intelligent Transportation Systems (ITS)," a set of diverse technologies designed to make existing transportation infrastructure, facilities and services more efficient and safer. The Capital Area MPO (CAMPO), Durham-Chapel Hill-Carrboro MPO (DCHC MPO) and NCDOT jointly developed a prioritized list of improvements and a coordinated framework for ITS solutions for the region. This framework is scheduled for updating beginning in 2018.

The most recent Triangle Regional ITS Strategic Deployment Plan (SDP) update was completed in 2010. The update followed a needs based approach to project development and created a comprehensive prioritization of regional project needs. The Triangle ITS SDP included 175 projects totaling $315 million across eight categories:

Triangle ITS Project Categories	
System Preservation	**Highway**
Emergency Management	**Turnpike**
Corridor Management	**Transit**
Regional Non-Infrastructure	**Statewide Non-Infrastructure**

The Triangle Strategic Deployment Plan contains a list of feasible ITS projects. The details of the solutions and technologies will continue to change as conditions change and transportation technologies advance. The list of ITS projects in the 2045 MTP and Triangle Regional ITS Plan is not intended to be exhaustive. As a result, it is possible that an ITS solution might be implemented that is not in these plans.

Following the completion of the SDP document in 2010, NCDOT began work on ten Highway, System Preservation, Transit, and North Carolina Turnpike related ITS projects totaling $13.5 million.

The Strategic Deployment Plan is designed to “mainstream” ITS projects into the overall transportation planning process for both CAMPO and the DCHC MPO. This is being accomplished in a variety of ways. CAMPO’s Locally Administered Projects Program (LAPP) has funded ITS projects annually using STP-DA funding, including investments in several strategic corridors such as US-64 and I-40. ITS projects are incorporated biennially through Transportation Improvement Program updates.

7.9 Transportation System Management (TSM)

Transportation System Management (TSM) solutions increase efficiency and safety by allowing the current transportation network to operate with fewer travel delays and increased capacity. These projects are often relatively inexpensive compared to building and widening roadways and making new public transit capital investments. They often provide cost effective solutions that can be implemented relatively quickly or in phases, and with comparatively few environmental impacts.
The following list provides examples of the types of TSM projects that are expected to be implemented through the 2045 MTP period. This list is not exhaustive because solutions will be designed for the unique challenges of a particular intersection or corridor, and the types of TSM solutions will continue to evolve.

- Widening of approach widths for key intersections;
- Installation and/or adjustment of traffic signals, including dynamic signal timing coordination and signal preemption;
- Provision and lengthening of turn lanes;
- Limitation or prohibition of driveways, turning movements, trucks, and on-street parking;
- Construction of median U-turn, Quadrant, continuous flow and other unique intersection and interchange designs;

- Fixing horizontal/vertical curves, insufficient ramp lengths, weaving sections and other geometric deficiencies;
- Implementing Bus on Shoulder System (BOSS) for transit buses and express shoulder lanes for all vehicles;
- Installation of traffic calming devices for residential neighborhoods; and,
- Traffic circles and roundabouts at appropriate intersections.

Individual TSM projects are not listed in the 2045 MTP because of their project-specific design characteristics and short planning-to-construction project cycle. Some projects might be included in project lists if they have been incorporated into a TIP or local CIP. The 2045 MTP financial plan specifically dedicates funding for TSM projects.

7.10 Rail Investments

The region is traversed by several key rail corridors, most notably the state-owned North Carolina Railroad Company (NCRR) right-of-way that stretches from Morehead City to Charlotte. Other major lines are owned by the region's two Class I railroads: Norfolk-Southern and CSX. The NCRR corridor carries both freight and intercity passenger rail traffic; existing passenger rail stations within the MPO boundaries include Raleigh, Cary and Durham. The CSX "S" line heading north from central Raleigh and south from central Cary intersects the NCRR corridor along a section carrying freight and passenger traffic. The CSX "S" line from Richmond to Raleigh and the NCRR from Raleigh to Charlotte is also part of the Federally-designated Southeast High Speed Rail (SEHSR) Corridor.

North Carolina Railroad Company/Nick D'Amato

This *Rail Investments* section of the plan focuses on freight rail and intercity passenger rail that links the Triangle to other regions. Commuter rail and light rail services within the region located within or adjacent to existing rail corridors are addressed in *Section 7.3 Transit Services*. General freight issues--including freight carried by rail--are addressed in *Section 7.5 Freight Movement*. The recently completed draft freight plan notes that the volume of rail freight carried in and through the Triangle is expected to decrease slightly through the 2045 horizon year of this MTP, due in part to declines in coal shipments as the region's energy mix changes.

Rail planning and investments are frequently a cooperative effort between owners and operators of rail assets and partner agencies. For example, a project to straighten curves and replace an at-grade crossing with a bridge may involve funding and other contributions from the North Carolina Railroad, Norfolk-Southern and NCDOT's Rail Division. Funding from NCDOT is from state and federal sources, including Federal Railroad Administration competitive grants. Rail-related investments that involve roadway improvements and are included in the Transportation Improvement Program are included in the fiscal constraint analysis and transportation modeling that are part of this 2045 Plan. Investments that do not affect track capacity or cross streets are not specified in 2045 MTP project lists. Examples include safety improvements at highway-rail crossings or short sidings that serve adjacent properties.

Several projects and studies have been recently completed, are underway, or are planned to improve the performance of rail services within the region. Many are included within NCDOT's Piedmont Improvement

Program that received $520 million in Recovery Act funding targeted specifically for passenger rail improvements. Recent and on-going Triangle rail projects and studies include:

1. Cary Depot ($2.3 million project completed in 2011)*
2. Raleigh Union Station
3. Hillsborough Passenger Rail Station
4. Raleigh West Street Grade Separation
5. NCDOT Capital Yard Railroad Maintenance in Raleigh ($6.1 million project completed in 2012)*
6. Hopson Road Grade Separation and Nelson to Clegg passing siding (completed in 2015)*
7. Morrisville Parkway Grade Separation (completed in 2016)*
8. "NC 54 and More" Corridor Feasibility Study (road project in Morrisville along the NCRR right-of-way, including proposed grade separations of connecting roads and the railroad)
9. Raleigh-Cary Traffic Separation Study (phased approach)
10. Durham Traffic Separation Study
11. Hillsborough Traffic Separation Study
12. Raleigh East 2nd Main Track (study completed in 2013)
13. Morrisville to Cary 2nd Main Track (study completed in 2011)
14. Blue Ridge Road Grade Separation
15. Boylan Junction Improvements
16. Churton Street bridge widening over NCRR
17. NCRR Bridge over NC 54 Replacement ($5.5 million project completed in 2006)

(* asterisk denotes part of Piedmont Improvement Program)
(** a Traffic Separation Study examines at-grade rail-highway crossings to determine short-, mid- and long-range opportunities for closure or bridges)

Current North Carolina intercity passenger rail service consists of three trains in each direction each day operated by Amtrak and serving the Durham, Cary and Raleigh stations. Two of the trains travel between Charlotte and Raleigh, while the third continues north from Raleigh to Washington, DC and New York City via a route heading east to Selma in Johnston County, then north along the CSX "A" line that roughly parallels I-95. Ridership has increased steadily on the service; during the federal fiscal year that ended in September 2017, ridership on the three trains was 427,000. During October 2017, 23,600 passengers boarded or alighted from the three trains at the three Triangle stations: Raleigh, Durham and Cary. Two additional Raleigh-Charlotte Piedmont daily trains are planned to be added upon completion of the Piedmont Improvement Program projects.

Planning for Southeast High Speed Rail envisions high performing rail operating within the region along the NCRR corridor east to Raleigh at speeds up to 90 mph, then north along the CSX "S" line at speeds up to 110 mph. The NCDOT Rail Division is leading efforts to provide a "sealed corridor" for higher speeds and additional trains, closing or bridging existing at-grade crossings where feasible to improve both safety and operations. The NCRR has led commuter rail capacity and ridership studies to better understand the interplay of freight and passenger rail operations within the region and the range of track investments that might be needed to accommodate increased shared use.

Due to the complexity of rail investments and the myriad of interested organizations, the MPOs helped initiate a Triangle Main Lines Forum in 2011 which has periodically brought together public and private sector owners and operators of critical rail assets along with the communities and anchor institutions adjacent to the rail lines. The forum is designed to help stakeholders: i) better understand projects affecting the region's main rail corridors, ii) identify interests of primary importance to the stakeholders, and iii) generate collaborative efforts to advance shared interests.

Ensuring that any investments affecting our rail corridors are done with detailed attention to longer term impacts on forecast freight movement, inter-city passenger rail, regional rail connections contained in this MTP, and opportunities for High Speed Rail is a key strategy for the two MPOs in this plan. Ensuring that near term decisions do not constrain choices or drive up costs for mid-term and long-term services is an important consideration for the MPOs. As both in-region rail connections are implemented, and intercity rail services connecting the Triangle to other regions is expanded, taking steps to make sure that service is fast and reliable will be important to attract and retain ridership. For the most recent month reported (October 2017), only roughly half of Carolinian and Piedmont intercity passenger trains arrived on time, defined as within 20 minutes of scheduled time for the Carolinian and 10 minutes of schedule time for the Piedmont.

7.11 Air Transportation

Raleigh-Durham International Airport (RDU) serves both MPOs with passenger and air cargo services. The airport is located on 5,000 acres near the boundary between the two MPOs in Wake County, and is governed as an authority with board members appointed by the largest jurisdictions in the two MPOs: Wake County, Durham County, Raleigh and Durham City.

During 2016, RDU served 11 million passengers, about 90,000 tons of cargo and 190,000 aircraft operations.

Recent major projects have been designed to improve aviation services:

- Terminal 2 was completed in 2011; this $573 million, 920,000 square foot project includes 37 boarding gates
- Terminal 1 reconstruction was completed in 2014; this $68 million project rebuilt the oldest terminal at RDU.

RDU completed a new master plan – Vision2040 – in 2017. For more information on Vision2040 – and the investments it considers – visit https://vision2040.rdu.com/

Vision 2040's baseline forecast, used for this plan, envisions growth in enplaned passengers (those boarding air carriers at RDU) from 5.5 million in 2016 to about 8.5 million. No additional terminal gates are planned in the first ten years. General aviation operations are expected to grow modestly and remain below pre-recession levels.

7.12 Recommended Special Plans, Projects & Studies

Section 5.4 already identified corridor studies, small area plans, feasibility studies, functional plans or similar efforts that have been completed to provide input into the development of the Metropolitan Transportation Plan. This section outlines possible plans or studies using the same format as the completed plans and studies described in Section 5.4. Although this section is not designed to list every plan or study that may be undertaken, it indicates some of the major efforts that the two MPOs and their partners anticipate to pursue through their annual Urban Planning Work Programs (UPWPs), the planning budget documents that guide

MPO activities each fiscal year. Also included are major efforts designed to improve the input data, accuracy and functionality of the region's principal analysis tool, the Triangle Region Travel Demand Model (TRM).

	Recommended Plan or Study	*Type*
1	*US 15-501 Corridor Study*. This MPO and NCDOT study will develop a corridor vision based on public and stakeholder input, identify capacity and safety deficiencies, propose policies and projects, and create an implementation plan. This is for the corridor between Fordham Blvd. and University Dr. 2019 completion expected.	Corridor Plan
2	*NC 54 West Corridor Study.* This MPO and NCDOT study will forecast and evaluate future land uses and traffic impacts, conduct public and stakeholder outreach, and develop projects and strategies for transportation improvements. 2018 completion expected.	Corridor Plan
3	*Downtown Durham Transportation Study.* This MPO and City of Durham study will create a transportation vision that will propose a strategy and projects that balance the current and future operational needs of all users. 2019 completion expected.	Small Area Plan
1	*Southwest Area Study Update.* Building off of the successfully completed comprehensive multi-modal studies (Southwest, Northeast, Southeast), the MPO will continue to develop updates of these studies on a recurring basis. The MPO will begin the update of the Southwest Area Study during FY 2018, with recommendations from that update carried forward to inform the 2050 MTP. The study will examine land use and socioeconomic forecasts in the area, and develop a long-range and interim list of multi-modal transportation improvement priorities for the subarea described.	Small Area Plan
2	*Northeast Area Study.* Building off of the successfully completed comprehensive multi-modal studies (Southwest, Northeast, Southeast), the MPO will continue to develop updates of these studies on a recurring basis. The MPO anticipates beginning the update of the Northeast Area Study during FY 2019, with recommendations from that update carried forward to inform the 2050 MTP. This study may include the municipalities Wake Forest, Rolesville, Knightdale, Wendell, Zebulon, Youngsville, Franklinton and Bunn, as well as the surrounding areas of Franklin and Wake Counties. The study would examine land use and socioeconomic forecasts in the area, and develop a long-range and interim list of multi-modal transportation improvement priorities for the subarea described.	Small Area Plan
3	*Southeast Area Study.* Building off of the successfully completed comprehensive multi-modal studies (Southwest, Northeast, Southeast), the MPO will continue to develop updates of these studies on a recurring basis. The MPO anticipates beginning the update of the Southeast Area Study during FY 2021 and inform future MTP updates. This study will cover the municipalities of Knightdale, Wendell, Zebulon, Archer Lodge, Clayton, and Garner. Surrounding areas in Johnston and Wake Counties will also be included. The study will examine land use and socioeconomic forecasts in the area, and develop a long-range and interim list of multi-modal transportation improvement priorities for the subarea described.	Small Area Plan
4	*Transit Systems Plan.* This study will assist in the development of the transit section of the Comprehensive Transportation Plan element of the MTP. This study will be conducted over multiple years, and will evaluate, identify and prioritize future transit needs for the region and will be incorporated into the next Metropolitan Transportation Plan. The study will utilize a needs-based planning process and engage transit stakeholders, including local governments and the public, throughout the	Transit Plan

	Recommended Plan or Study	*Type*
	study process. Specifically, the effort will include a detailed level of analysis of current and future transit system plans and needs, and provides recommendations for a regional decision-making framework to guide future transit policy decisions. The plan will identify priorities for transit and ancillary road, pedestrian, and bicycle improvements. The planning effort will also explore current demand-response service and make recommendations for improvements to meet future demand. Results of the planning effort should be a prioritized set of infrastructure improvements necessary to implement a fully-realized transit vision for the CAMPO area.	
5	*Major Corridors Study.* The MPO and NCDOT will create a transportation vision that will propose a strategy, projects, and programs that balance the current and future mobility needs, particularly in commuting corridors, for all users.	Corridor Study
1	*Triangle Regional Freight Plan.* The two MPOs and NCDOT conducted a freight flows, forecasts, capacities, performance, conditions and trends in the Triangle to develop a set of policy, program and project recommendations. 2018 completion expected.	Transportation Plan
2	*NC 98 Corridor Study.* The two MPOs and NCDOT are conducting a study to identify capacity deficiencies and safety issues, and to develop multimodal solutions to those deficiencies. 2018 completion expected. http://www.nc98corridor.com/	Corridor Plan
3	*Triangle Strategic Toll Study.* The two MPOs and NCDOT are conducting a study to develop a holistic implementation plan for tolling and managed lanes in the Triangle. It includes an evaluation of technologies, operational structures, performance measures, and financing/partnering mechanisms. 2019 completion expected.	Transportation Plan
4	*Intelligent Transportation Systems Plan Update*. The two MPOs and NCDOT are collaborating on an update of the Plan that will make recommendations on overall system architecture, data and other compatibility standards, infrastructure and operation needs.	Transportation Plan
5	*CommunityViz 3.0.* The 2040 MTP and 2045 MTP processes have provided the Triangle with future regional planning scenarios based on a land use model called Community Visualization. The model provides population and employment growth locations (socioeconomic data – SE Data) in a format that can be easily imported into the Triangle Regional Model (TRM). The CommunityViz3.0 effort will include an update of socio-economic data for use in the next MTP as well as more seamless links to TRM methods and technical changes to improve accuracy and precision of the forecasts.	Transportation Model Improvement
6	*Triangle Regional Model Services Bureau Activities.* The Triangle Regional Model Services Bureau will prepare for major model updates as well as shorter term model improvements. Examples of proposed activities include: (1) improve links to CommunityViz, (2) improve parking constraint model, (3) improve flexibility in treating the ridership benefits of premium transit services, and (4) examining ways to better address the travel of visitors and tourists and account for special events.	Transportation Model Improvement
7	*MPO & Transit Agency Information Sharing.* The MPOs and transit providers will develop mechanisms to share information to support transit performance measures, targets and project tracking.	Performance Measurement

8. Our Financial Plan

Federal regulations require the 2045 MTP to have a financial plan. This requirement means that the cost of the roadway, transit and other transportation facilities and services must be covered by state, federal, local, private and other transportation revenues that can be reasonably expected to be available. The Financial Plan provides a comparison of expected revenues and costs from 2015 through 2045 – the 30-year period of this plan.

All financial data in this section is presented in Year 2016 constant dollars, meaning the values indicate what it would cost to build the system if we paid for and built all the projects today. In reality, projects will be built over a 30-year time frame and inflation will affect costs. Appendix 11 provides additional data using the year-of-expenditure value that takes this inflationary effect into consideration.

The 2045 MTP divides projects into three time periods:

- Near-term: 2018 to 2025;
- Mid-term: 2026 to 2035; and
- Long-term: 2036 to 2045.

These periods are used not only as a matter of good planning practice that more evenly matches and distributes the total costs and revenues over the 30-year planning period, but also so we can analyze the impacts of our investments against air quality benchmarks.

8.1 Costs

The two MPOs used the same cost assumptions for the major parts of the plan, including:

- Roadway: The plan used the following hierarchy for highway costs. For example, the TIP cost was used for projects in the TIP, but if none is available (i.e., the project is not yet in the TIP), then the SPOT cost was used, and so on:
    - FY 2018-2027 Transportation Improvement Program (TIP);
    - Available feasibility studies
    - Strategic Planning Office of Transportation (NCDOT SPOT) data from the prioritization process.
    - 2015 highway cost estimate spreadsheet from NCDOT.
- Bus Transit and Rail Transit: Used two financial models with similar methodologies. One model is based on the Durham County and Orange County transit plans and the other is the model used by the Wake County transit plan.
- Travel Demand Management (TDM): Used costs estimates from the regional plan administered by the Triangle J Council of Governments.
- Intelligent Transportation Systems (ITS): Used cost estimates from the Triangle Region Intelligent Transportation Systems – Project Evaluation and Prioritization Report. (March 2010).

8.2 Revenues

Roadway Revenues

The MPOs made an assumption that future Strategic Transportation Investment (STI) revenues beyond the year 2027 would continue to grow at the same linear rate that they are projected to grow within the 2018-2027 State Transportation Improvement Program (STIP) period. STI represents the majority of state and federal funding available for capital projects. STI revenues are divided into three categories of funding: Statewide Mobility, Regional Impact, and Division Needs. The method assumed that CAMPO and DCHC would receive a portion of the Regional Impact and Division Needs revenues commensurate with the MPOs' portion of the population within their respective regions and divisions, and that CAMPO and DCHC would receive a portion of the Statewide Mobility revenues commensurate with the average proportion of this funding that has gone to each MPO in previous cycles under the STI policy (34% for CAMPO and 10% for DCHC).

A similar approach based on the 2018-2027 STIP annual growth trend was used for projecting growth of the Highway Fund, which is used for maintenance and operations projects. For the Highway Fund, each MPO was assumed to receive an amount proportional to its population within the state. Because the population of the area is expected to grow faster than the state as a whole, this results in a growing percentage of funds for this region over time—in 2018, CAMPO contains 13% of the state population and DCHC contains 5% of the state population, but by 2045 these grow to 16% and 6% respectively.

Congestion Mitigation and Air Quality (CMAQ) funds are exempt from STI, so they were calculated separately. The amount of funding for CMAQ was assumed to grow in the future at a rate consistent with the trendline growth rate of North Carolina Surface Transportation Block Grant (STBG) funds in the current federal transportation funding bill, the FAST Act.

The financial model assumes a 3.5% annual discount to adjust for inflation in the transportation sector. All revenues are reported in year 2016 dollars. It is important to note that some of the funds included in this statewide model, such as federal Surface Transportation Program (STP) do not have to be used for highways. Some of the funds can be "flexed," or transferred, to programs for other transportation modes such as transit, pedestrian and bicycles.

The method used the fiscal year 2018-2027 State Transportation Improvement Program (STIP) for the years 2018 through 2027. The STIP identifies the budgeted state and federal funding source for transportation projects and therefore is the best available source for near term revenue forecasts.

The NCDOT financial model and STIP do not represent all of the available highway revenue. The MPOs expect to have additional funding available from the following sources:

- Toll Revenues – A portion of revenues for managed lane and toll road projects are assumed to come from toll revenue bonds, which are paid back over time by users.
- Local Funding – Local governments often issue bonds to finance specific projects such as roadways, intersection improvements, street paving, bicycle facilities and sidewalks; the revenue to repay these bonds is typically the property or sales tax revenues received by the local government over time.
- Private Funding –Sections of some of the roads in the 2040 MTP, or widenings of existing roads, will be paid for by private developers as they develop adjacent property. Additionally, some of the rail crossing related projects include private funding from railroad partners.

Figure 8.1 identifies the highway revenue sources and calculation assumptions.

Figure 8.1: Roadway Revenue Assumptions

Item	CAMPO Assumptions	DCHC Assumptions
Capital - Federal / State (STI)	Continuation of linear revenue trend from 2018-2027 STIP period. Division Needs and Regional Impact category amounts based on MPO population within Division/Region. Statewide Mobility category amount based on average performance from previous two STI cycles.	Continuation of linear revenue trend from 2018-2027 STIP period. Division Needs and Regional Impact category amounts based on MPO population within Division/Region. Statewide Mobility category amount based on average performance from previous two STI cycles.
Maintenance -- Federal/State/Other	Portion of anticipated NCDOT Highway Fund revenues relative to MPO population. Future revenue growth based on linear revenue trend from 2018-2027 STIP period.	Portion of anticipated NCDOT Highway Fund revenues relative to MPO population. Future revenue growth based on linear revenue trend from 2018-2027 STIP period.
Congestion Mitigation and Air Quality	Amount of CMAQ funding suballocated to MPO is grown at an annual rate consistent with the annual growth rate authorized in the FAST act.	Amount of CMAQ funding suballocated to MPO is grown at an annual rate consistent with the annual growth rate authorized in the FAST act.
Toll roadway	Staff forecast.	Staff forecast.
Local (Capital Improvement Program)	Staff forecast.	Staff forecast.
Private	Staff forecast.	Staff forecast.
Annual Inflation Rate	Assumes 3.5% annual inflation rate.	Assumes 3.5% annual inflation rate.

Transit Revenues

The transit financial models discussed in an earlier part of this section are used to forecast transit costs and revenues. In April 2009, the North Carolina House passed the Congestion Relief and Intermodal 21st Century Transportation Fund (House Bill 148). The legislation permits a local voter referendum to increase the sales tax to raise revenues for transit systems. The half-cent sales tax increase has been approved in Durham, Wake and Orange Counties. There are several major transit revenue assumptions in *Figure 8.2* that forecast the implementation of new revenue sources permitted by House Bill 148, including the ½ cent sales tax for transit services. In addition to these major assumptions, there are many detailed bus and rail transit revenue assumptions that are important enough to be identified in this report. *Figure 8.3 and Figure 8.4* present the detailed assumptions used for calculating the bus transit and rail transit revenues.

Figure 8.2: Major Transit Revenue Assumptions

Item	CAMPO Assumptions	DCHC Assumptions
Year begin ½ cent sales tax	Wake County: 2016	Durham County: 2013. Orange County: 2013.
Growth in sales tax	Wake County: 4% and 5%	Durham County: 4.33% Orange County: 3.71%
Increase in Vehicle Registration Fee	Wake County: currently $5, increased to $8, at 2% growth rate.	Durham County: currently $5, increased to $8, at 2.7% growth rate. Orange County: currently $7, increased to $10, at 3.3% growth rate.
New Vehicle Registration Fee	Wake County: new $7 at 2% growth rate.	Durham County: new $7 at 2.7% growth rate. Orange County: new $7 at 3.3% growth rate.
Rental Car Tax	Wake County: 2.5% growth rate.	Durham County: 4.8% growth rate. Orange County: 4.8% growth rate.
Local Property Tax for Transit	None.	Durham County: 1 cent for 2 years to cover 30% of CRT extension local share. Orange County: 1 cent for 9 years to cover 70% of CRT extension local share. Chapel Hill/Carrboro: 1 cent for 13 years to cover LRT extension local share.

Figure 8.3: Detailed Transit Revenue Assumptions

Item	CAMPO Assumptions	DCHC Assumptions
Capital -- Federal & State	For existing services, assumes an amount of future federal/state funding that is consistent with current funding, keeping pace with inflation. For future CRT and BRT, assumes 50% of total cost is Federal. Uses 3.5% inflation factor.	For existing services, assumes an amount of future federal/state funding that is consistent with current funding, keeping pace with inflation. For Durham-Orange LRT, assumes 50% of total cost is Federal and 10% is State. For CRT, assumes 50% of total cost is Federal. For CRT extension to Hillsborough, assumes 62.5% Federal and 25% State. For LRT extension to Carrboro, assumes 65% Federal and 25% State. Assumes that STI regulations could be relaxed by final decade of plan to allow higher state contribution to projects. Uses 3.5% inflation factor.
Operations, Maintenance, Planning -- Federal & State	For existing services, assumes an amount of future federal/state funding that is consistent with current funding, keeping pace with inflation. For CRT, assumes 10% State funding and 28% Federal funding at start (Federal percentage decreasing over time after 2033). For BRT, assumes 10% State funding and $1.8 million per year in Federal funding. For future local bus service, assumes 5% Federal funding at start (decreasing in percentage over time).	For existing services, assumes an amount of future federal/state funding that is consistent with current funding, keeping pace with inflation.
Local	For existing services, assumes an amount of future local funding that is consistent with current funding, keeping pace with inflation. For new services, assumes portion of local sales tax and vehicle registration fees and portion of GoTriangle revenues (see Figure 8.2). 68% of GoTriangle revenues used in CAMPO area.	For existing services, assumes an amount of future local funding that is consistent with current funding, keeping pace with inflation. For new services reflected in the Durham County and Orange County Transit Plans, assumes portion of local sales tax and vehicle registration fees and portion of GoTriangle revenues (see Figure 8.2). 32% of GoTriangle revenues used in DCHC area. For new services not reflected in the county transit plans, assumes additional funding from local sources ($32 million).
Fares	For existing services, assumes future farebox revenues consistent with current levels, keeping pace with inflation. For CRT, assumes 20% of operating costs covered by fares. For BRT, assumes 24% of operating costs covered by fares. For local bus service, assumes increasing percentage over time for first decade, leveling out around 12% of operating expenses in 2026 and beyond.	For existing services, assumes future farebox revenues consistent with current levels, keeping pace with inflation. No assumption regarding farebox revenue for future services.
Bond Proceeds	Issue bonds for revenue to support system construction and capitalization.	Issue bonds for revenue to support system construction and capitalization.
Private (University Systems)	Private systems will cover own costs, thus revenues equal costs.	Private systems will cover own costs, thus revenues equal costs.

Additional/New Revenue Sources

The current transportation funding programs will not produce enough revenue to finance the multimodal transportation needs in the Triangle. Therefore, the MPOs have assumed Additional/New Revenue Sources to close this funding gap and presented this information in a separate table. The MPOs have a reasonable expectation to realize these new revenue sources based on the many local and statewide commissions that have studied transportation financing and recommended new funding sources. In fact, many solid steps have already been taken:

- In April 2009, the North Carolina House passed the Congestion Relief and Intermodal 21st Century Transportation Fund (House Bill 148). The legislation permits a local voter referendum to increase the sales tax to raise revenues for transit systems. The half-cent sales tax increase permitted in Wake, Durham and Orange counties by this legislation is used to calculate new revenue sources in the 2045 MTP. Since that time Durham, Orange, and Wake counties have enacted half-cent sales tax increases as well as increases in vehicle registration fees after successful local voter referenda. In Wake County these two revenue streams, along with the existing rental car tax, are on track to generate over $90 million in FY 18 and are forecasted to exceed $100 million by FY 2021.
- The Triangle Region has a rental car tax that produces approximately $7 million annually to fund Triangle Transit services and studies;
- Several municipalities, such as the City of Durham and Town of Chapel Hill, have pushed for and received increases in the vehicle registration fee;
- The North Carolina Turnpike Authority (NCTA) was created in 2004 and is currently working to build the extension of NC 540; and,
- The Charlotte area has a sales tax in place, and the North Carolina Board of Transportation and General Assembly have ensured that the required state match has kept pace with this large revenue source.
- The US Department of Transportation (USDOT) as well as several states (most notably Oregon and California) have begun pilot projects for mileage based user fees (VMT) that could be used in conjunction with or to replace and expand the existing motor fuels tax funded revenue system. In 2016 the USDOT announced a $95 million, five year grant program to test alternative revenue mechanisms including VMT based systems.

It is important to note the following background information on the Additional/New Revenue Sources proposed in the 2045 MTP:

- Many of these new revenue options would require legislation from the North Carolina General Assembly and/or the U.S. Congress. The MPOs are not empowered to invoke these tax and revenue program changes.
- The 2045 MTP envisions a level of effort to increase revenue for highways and transit that is similar to that depicted in the Plan. The exact type and mechanism for increasing these revenues, e.g., sales tax, property tax, VMT fees, is not a certainty. On the next page, Figure 8.4 presents the assumptions for Additional New Revenue Sources.

Figure 8.4: Assumptions for Additional/New Revenue Sources

Item	CAMPO Assumptions	CAMPO Amount
Sales Tax (or equivalent) Wake County	Level of effort equivalent to a 1/2 cent sales tax increase in 2026 for transportation improvements. Revenue increases commensurate with population. Requires legislation from N.C. General Assembly.	$ 3,326
Sales Tax (or equivalent) Non-Wake Counties	Level of effort equivalent to a 1/2 cent sales tax increase in in 2026 for transportation improvements. Revenue increases commensurate with population. Requires legislation from N.C. General Assembly.	$ 183
Vehicle Miles Traveled (VMT) fee	New funding for transportation improvements based on vehicle miles traveled (VMT). Revenue changes commensurate with VMT for the CAMPO region from 2026 to 2045. Level of effort equivalent to 1 cent/mile generates $1.265 Billion from 2026 to 2035 and $1.454 Billion from 2036-2045.	$ 2,729
Total		**$6,238**

Airport Revenues and Costs

The Vision 2040 Master Plan for Raleigh-Durham International Airport (RDU) projects revenues for upcoming years and defines a list of projects to be constructed with those revenues. Through 2040, the Airport is forecasting $2.7 billion in revenue (in year of expenditure dollars), from the following sources:

- $1.5705 billion from RDU funds
- $659.3 million from RDU debt
- $182.2 million from federal funds
- $281 million from customer facility charges
- $10.5 million from NCDOT

The Vision 2040 Master Plan shows the following expenditures through the year 2040, using the revenues identified above:

- $905.3 million in critical infrastructure preservation projects
- $1.8 billion in discretionary infrastructure projects

The Master Plan also identifies additional projects that could be constructed if demand warrants and additional funding can be secured:

- $677 million in private equity projects
- $2.04 billion in deferred projects

8.3 Balancing Costs and Revenues

DCHC MPO – Roadways – $7.5 Billion Roadway/Bike/Pedestrian Plan

Figure 8.5 shows the roadway related costs and revenues in separate sections and provides subtotals for the three horizon periods. The cost and revenue comparison shows a positive balance of $212 million. There are relatively small differences in the 2018-2025 and 2026-2035 time periods but these amounts are due to timing differences between the revenues that are reported in the decade revenue becomes available (including some revenues that are paying off expenses from prior projects) and the costs that are reported in the decade a project opens, and therefore will be balanced as projects move through the Transportation Improvement Program process. One noticeable difference from past MTPs is the larger amount of funding shown for maintenance and operations, which is likely to make up a larger portion of overall spending in the region over time.

Figure 8.5: DCHC Roadway Funding

Cost Category (millions $)	DCHC Total	TIP/'18 to '25	'26 to '35	'36 to '45
Roadways & Alternative Transportation				
Roadways (STI Statewide)	$ 2,618	$ 480	$ 1,048	$ 1,090
Roadways (STI Regional)	$ 390	$ 24	$ 190	$ 176
Roadways (STI Division)	$ 443	$ 53	$ 167	$ 223
Maintenance & Operations (Highway Fund)	$ 3,525	$ 874	$ 1,242	$ 1,409
Bicycle & Pedestrian (STI Division)	$ 292	$ 62	$ 130	$ 100
Transportation Demand Management (STI Division)	$ 44	$ 9	$ 20	$ 15
Intelligent Transportation Systems (STI Statewide)	$ 74	$ 14	$ 35	$ 25
Transportation System Management (All Categories)	$ 131	$ 27	$ 60	$ 45
Roadways & Alternative Transportation Cost Total	**$ 7,518**	**$ 1,542**	**$ 2,892**	**$ 3,083**
Revenue Category (millions $)	**DCHC Total**	**TIP/'18 to '25**	**'26 to '35**	**'36 to '45**
Roadways & Alternative Transportation				
STI Statewide Funds	$ 2,421	$ 542	$ 898	$ 981
STI Regional Funds	$ 667	$ 37	$ 277	$ 353
STI Division Funds	$ 606	$ 122	$ 228	$ 256
STI Transition Project Funds	$ 36	$ 36	$ -	$ -
Highway Fund (Maintenance & Operations)	$ 3,525	$ 874	$ 1,242	$ 1,409
Toll Revenue Bonds	$ 196	$ 0.1	$ 196	$ -
Local Funding - Bicycle & Pedestrian	$ 75	$ 35	$ 20	$ 20
Local Funding - Roadways	$ 75	$ 25	$ 25	$ 25
Private Funds	$ 81	$ 27	$ 30	$ 24
CMAQ Funding	$ 49	$ 17	$ 18	$ 15
Roadways & Alternative Transportation Revenue Total	**$ 7,730**	**$ 1,714**	**$ 2,933**	**$ 3,083**
Difference	**$ 213**	**$ 171**	**$ 41**	**$ 0**

DCHC MPO – Transit – $4.7 Billion Transit Plan

The values shown in Figure 8.6 represent both the costs and revenues for DCHC MPO transit services. The Existing Services section represents a continuation of the current transit services and program funding. The New Services section represents the additional funding made available by the transit sales tax and increased vehicle registration fees enabled by House Bill 148 and the subsequent county sales tax referendums, and the additional support from state and federal sources for improved bus transit services and new rail transit. The New Services are 70 percent of the total transit funding and include additional transit projects beyond those included in the Durham County and Orange County transit plans, indicating the MPO's increasing commitment to transit.

Figure 8.6: DCHC Transit Funding

Cost Category (millions $)	DCHC Total	TIP/'18 to '25	'26 to '35	'36 to '45
Transit				
Continued Funding for Existing Services	$ 1,350	$ 386	$ 482	$ 482
Funding for New/Expanded Services in County Plans	$ 3,130	$ 1,356	$ 1,303	$ 471
CRT Extension from West Durham to Hillsborough	$ 160	$ -	$ -	$ 160
LRT Extension from Chapel Hill to Carrboro	$ 120	$ -	$ -	$ 120
Transit Cost Total	**$ 4,760**	**$ 1,742**	**$ 1,785**	**$ 1,233**
Revenue Category (millions $)	**DCHC Total**	**TIP/'18 to '25**	**'26 to '35**	**'36 to '45**
Transit				
State/Federal - to support existing service	$ 259	$ 74	$ 93	$ 93
Local - to support existing service	$ 682	$ 195	$ 244	$ 244
Fares - existing service	$ 137	$ 39	$ 49	$ 49
Other Sources - to support existing service	$ 272	$ 78	$ 97	$ 97
Local - new/expanded service (from county plans)	$ 1,171	$ 320	$ 412	$ 439
Federal New Starts/Small Starts	$ 1,165	$ 481	$ 480	$ 205
Joint Development	$ 44	$ 0.4	$ 43	$ -
Borrowing/Debt	$ 736	$ 460	$ 272	$ 4
Additional local for CRT/LRT extensions	$ 32	$ -	$ -	$ 32
STI Regional Funds	$ 261	$ 95	$ 96	$ 70
Transit Revenue Total	**$ 4,760**	**$ 1,742**	**$ 1,785**	**$ 1,233**
Difference	**$ 0**	**$ -**	**$ 0**	**$ -**

CAMPO – Roadways – $27.7 Billion Roadway/Bike/Pedestrian/Other Projects

Figure 8.7 shows the roadway related costs and revenues in separate sections and provides subtotals for the three decades of the plan. The cost and revenue comparison shows fiscal constraint across all horizon years in the plan. One noticeable difference from past MTPs is the larger amount of funding shown for maintenance and operations, which is likely to make up a larger portion of overall spending in the region over time.

Figure 8.7: CAMPO Roadway Funding

Cost Category (millions $)		**CAMPO Total**	**TIP/'18 to '25**	**'26 to '35**	**'36 to '45**
Roadways & Alternative Transportation					
	Roadways (Statewide)	$ 5,891	$ 2,383	$ 2,929	$ 579
	Roadways (Regional)	$ 3,101	$ 804	$ 1,125	$ 1,172
	Roadways (Division)	$ 5,266	$ 371	$ 2,030	$ 2,864
	Maintenance & Operations (Highway Fund)	$ 9,342	$ 2,252	$ 3,284	$ 3,806
	Bicycle & Pedestrian	$ 925	$ 174	$ 347	$ 404
	System Optimization (TDM/TSM/CSM/ITS) All Categori	$ 337	$ 63	$ 126	$ 147
Roadways & Alternative Transportation Cost Total		**$ 24,862**	**$ 6,046**	**$ 9,842**	**$ 8,973**
Revenue Category (millions $)		**CAMPO Total**	**TIP/'18 to '25**	**'26 to '35**	**'36 to '45**
Roadways & Alternative Transportation					
	STI Statewide Funds	$ 8,020	$ 1,749	$ 2,936	$ 3,336
	STI Regional Funds	$ 3,101	$ 804	$ 1,125	$ 1,172
	STI Division Funds (Includes Additional Revenue)	$ 4,738	$ 371	$ 1,746	$ 2,620
	STI Transition Project Funds	$ 35	$ 35	$ -	$ -
	Highway Fund (Maintenance & Operations)	$ 9,342	$ 2,252	$ 3,284	$ 3,806
	Toll Revenue Bonds	$ 1,165	$ 579	$ 587	$ -
	Local/Development Funding	$ 1,213	$ 515	$ 442	$ 256
	CMAQ Funding	$ 131	$ 44	$ 47	$ 39
Roadways & Alternative Transportation Revenue Total		**$ 27,744**	**$ 6,348**	**$ 10,167**	**$ 11,229**
Difference		**$ 2,882**	**$ 302**	**$ 324**	**$ 2,256**

CAMPO – Transit – $6.6 Billion Transit Plan

The values shown in Figure 8.8 represent both the costs and revenues for CAMPO transit services. The Existing Services section represents a continuation of the current transit services and program funding. The New Services section represents the additional funding made available by the transit sales tax and increased vehicle registration fees enabled by House Bill 148 and the subsequent county sales tax referendums, and the additional support from state and federal sources for improved bus transit services and new rail transit. The New Services are approximately 70 percent of the total transit funding. This is consistent with the proportion of additional transit service identified in the 2040 MTP.

Figure 8.8: CAMPO Transit Funding

Cost Category (millions $)		**CAMPO Total**	**TIP/'18 to '25**	**'26 to '35**	**'36 to '45**
Transit					
	Continued Funding for Existing Services	$ 1,522	$ 435	$ 544	$ 544
	Funding for New/Expanded Services	$ 5,061	$ 1,664	$ 1,181	$ 2,216
Transit Cost Total		**$ 6,583**	**$ 2,099**	**$ 1,725**	**$ 2,760**
Revenue Category (millions $)		**CAMPO Total**	**TIP/'18 to '25**	**'26 to '35**	**'36 to '45**
Transit					
	State/Federal - to support existing service	$ 262	$ 75	$ 94	$ 94
	Local - to support existing service	$ 854	$ 244	$ 305	$ 305
	Fares - existing service	$ 233	$ 67	$ 83	$ 83
	Other Sources - to support existing service	$ 172	$ 49	$ 61	$ 61
	Local - new/expanded service	$ 2,459	$ 683	$ 875	$ 902
	Federal New Starts/Small Starts	$ 1,347	$ 509	$ 36	$ 802
	Fares, State/Federal Operating Grants for new service	$ 422	$ 40	$ 195	$ 186
	Borrowing/Debt	$ 834	$ 432	$ 76	$ 327
Transit Revenue Total		**$ 6,583**	**$ 2,099**	**$ 1,725**	**$ 2,760**
Difference		**$ 0**	**$ -**	**$ 0**	**$ 0**

9. Critical Factors in the Planning Process

Our transportation investments influence more than just our ability to get from one place to another. How and where we develop roads, transit lines and other transportation services impact other things we value. The health and well-being of the natural environment, our neighborhoods, and those who live in them are vital to maintaining the quality of life our region is known for. Federal law recognizes these important considerations by requiring that Metropolitan Transportation Plans specifically address eleven planning factors:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
- Increase the safety of the transportation system for motorized and nonmotorized users.
- Increase the security of the transportation system for motorized and nonmotorized users.
- Increase accessibility and mobility for people and freight.
- Protect and enhance the environment.
- Promote energy conservation.
- Improve quality of life for the community.
- Promote consistency between transportation improvements and planned State and local growth and economic development patterns.
- Enhance the integration and connectivity of the transportation system for all modes.
- Promote efficient system management and operation.
- Emphasize the preservation of the existing transportation system.

Each of these factors is addressed throughout this report. This section highlights the following critical factors:

- *Air quality*: demonstrating that transportation plans will further clean air goals and meet air pollutant standards;
- *Environmental Justice*: showing how transportation plans relate to communities that have been historically underserved or disproportionately impacted by transportation investments; and
- *Safety and Security*: addressing how the transportation plans and the organizations that implement them promote safer and more secure travel choices.

9.1 Transportation - Air Quality Conformity

Transportation-air quality conformity ("conformity") is a way to ensure that Federal funding and approval goes to transportation activities that are consistent with air quality goals. Conformity applies to metropolitan transportation plans—such as this one, to transportation improvement programs (TIPs), and to projects funded or approved by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA) in areas that do not meet -- or have recently not met -- air quality standards for ozone, carbon monoxide, particulate matter, or nitrogen dioxide. These areas are known as "non-attainment areas" or "maintenance areas," respectively.

A conformity determination demonstrates that the total emissions projected for a plan or program are within the emissions limits ("budgets") established by the State Implementation Plan (SIP) for air quality, and that transportation control measures (TCMs) – specific projects or programs enumerated in the SIP that are designed to improve air quality – are implemented in a timely fashion. As of October 1, 2016, the Triangle Region no longer has any conformity requirements related to our Metropolitan Transportation Plans and Transportation Improvement Programs as we have met all requirements under the Clean Air Act.

Although the region is no longer required to demonstrate air quality conformity, both MPOs are committed to protecting air quality and health through transportation investments, for example, by continuing to operate a robust regional Transportation Demand Management program to encourage travelers to use lower polluting forms of transportation such as transit, carpools, vanpools, cycling and walking. The MPOs recognize that good air quality is a key component of the region's quality of life and that continued effort is needed to accommodate on-going rapid growth in ways that won't harm air quality.

Air Quality Analysis

Although not currently required, the two MPOs still calculate the regional emissions that would be produced based on highway and transit usage predicted in this transportation plan, using the latest EPA air quality model, MOVES. The projected emissions for the plan are then compared to the emissions limits (or "budgets") that were last established by the SIP. The final version of this plan document will report those emissions so that that region can continue to understand and respond to air quality conditions.

The MPOs undertake this voluntary analysis to recognize the importance of clean air to our region.

9.2 Environmental Justice

The intent of environmental justice is to avoid, minimize, or mitigate disproportionately high and adverse effects on minority and low-income populations; and ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.

Environmental justice addresses fairness toward the disadvantaged and often addresses the possible exclusion of racial and ethnic minorities, low-income people, the elderly, and persons with disabilities or communication barriers from decision-making. The federal government has identified environmental justice as an important goal in transportation, and local and regional governments must incorporate environmental justice into transportation planning. Capital Area MPO and DCHC MPO goals that relate to the public transportation system, the protection of the natural environment and social systems, and the public involvement process each have objectives that support environmental justice. This support must be evident throughout the transportation planning process, including those processes for the long-range transportation plan, transportation improvement program, and specific project planning.

Even though the term “environmental justice” is not in federal legislation, the concept and its application have been developed through a succession of court cases, transportation regulations, agency memoranda, and Executive Orders. Much of the legal application is based on Title VI of the Civil Rights Act of 1964 that provides protection from discriminatory actions or results from federal, or federally assisted or approved, actions. In terms of transportation planning, environmental justice seeks to ensure that the disadvantaged:

1. Have access to the decision-making process;
2. Realize benefits from investments that are commensurate with the population as a whole;
3. Do not shoulder a disproportionate share of the negative effects and burden resulting from the implementation of transportation projects; and,
4. Do not incur a disproportionate share of the financial cost.

The Capital Area MPO and DCHC MPO have carried out a comprehensive and thorough set of activities to ensure that disadvantaged persons, as characterized in federal regulations, do not suffer discrimination in the transportation planning and implementation process. These activities have been in the area of both public participation and plan analysis. The following sections describe the environmental justice activities that occurred as part of the 2045 MTP. Detailed maps are contained in Appendix 12.

Access to the Decision-making Process

The Capital Area MPO and DCHC MPO ensured that all individuals, regardless of race, ethnicity, income, age, or disability, had access to the planning process. Throughout the plan's development, documents were available for public review several times.

CAMPO staff began conducting public outreach for the Draft 2045 MTP Preferred Scenario in the fall of 2017. The overarching goal for this phase of public engagement was to inform and consult. The specific goals were to

- Increase public awareness of CAMPO and the MTP (or that an official regional transportation planning process exists) in general
- Share information and solicit feedback on the Preferred Scenario (and later the Additional Funding scenario, as well),
- Inform the public of the comment period for the current 2045 Plan Update, and,
- Increase signups for CAMPO's email updates along with Twitter and Facebook followers.

One of the commitments in a consultative process is to circle back with public participants and inform them of any final decisions or outcomes, and how their input influenced those outcomes. Upon adoption of the 2045 MTP document in early 2018, it is the intention of CAMPO staff to send a media release, email update, website update, and social media posts advertising the adoption along with a spreadsheet of comments received including a CAMPO response regarding the disposition.

Outreach Mechanics

Each MPO has conducted outreach in ways that are most attuned to their audiences and consistent with their public engagement policies.

During the Fall of 2017, for the Draft 2045 MTP, CAMPO staff:

- Attended 10 public meetings or events to conduct outreach activities
- The CAMPO MTP website was regularly updated,
- Facebook, LinkedIn, and Twitter posts were repeatedly sent (Facebook campaign reached 11,500+ people),
- Multiple emails were sent to CAMPO's community contacts,
- Several community partners shared information (RTA, RTP, GoTriangle, GoRaleigh, Member Jurisdictions)

Public comments have come through a variety of sources, both official and unofficial. This includes verbal conversations with staff at public meetings, handwritten comment card submissions, emails, comments on Facebook, official letters from member jurisdictions, etc.

In the DCHC MPO, documents were available online and at all local public libraries and planning departments. Notice of the public review periods was published in local newspapers and sent by email and post office mail. Environmental justice community organizations and neighborhoods are included on the DCHC MPO's email and mail lists.

In addition, the DCHC MPO held public workshops for review of the Goals and Objectives, socioeconomic data and alternatives analysis. The DCHC MPO held three to four public workshops for each review period. These workshops were held throughout the MPO: one in Hillsborough, one in Chapel Hill/Carrboro, one in Pittsboro and one in Durham. The Hillsborough, Chapel Hill and Durham workshops were held at locations along public transportation routes. The Pittsboro workshop was not because Pittsboro does not have bus service. Accommodations were made at public meeting and hearings for the disabled.

Plan Benefits

The investments in transportation infrastructure included in the 2045 MTP will benefit the MPO's population in many ways including increased mobility, safety, time savings, economic development, and recreational opportunities. The investment in transit in particular will benefit low income populations that do not have access to personal vehicles and the disabled who may not be able to operate personal vehicles. Currently, tens of thousands of households in the Triangle do not have personal vehicles. The travel forecasts for the 2045 MTP estimate that a majority of transit trips will be made by people from households that do not have cars or low-income households with cars.

For the plan analysis, the DCHC MPO included performance targets that measured some of the plan's benefits to environmental justice communities including the percentage of the environmental justice population that lives within a ¼ mile of transit. The 2045 MTP results in the percentage of poverty households that lives within a ¼ mile of transit rising from 62% in the "no build" scenario to 65% with implementation of the 2045 Plan.

The bicycle and pedestrian network in the 2045 MTP is a composite of local government bicycle and pedestrian plans. Most of these local planning efforts included environmental justice criteria for project selection. Furthermore, the map of the bicycle network shows that the bicycle facilities are well distributed across the MPO – nearly all non-subdivision streets include on-road bicycle facilities in the plan. Therefore, the connectivity, safety, and recreational benefits that bicycle facilities provide are fairly distributed among the MPO's population.

Negative Project Impacts

The investments in transportation infrastructure included in the 2045 MTP will also have some negative impacts to some of the MPOs' population. While road widening projects may increase overall mobility, the residents near the project may be impacted negatively. Some of the negative impacts to nearby residents include increased traffic through their neighborhoods, increased vehicle speeds, land acquisition for necessary right-of-way, relocations of homes and businesses, a change in neighborhood character and land uses, etc. A project's net impact is not always clear and may be perceived differently by different residents. A project that increases property values, mobility, and economic development may also increase traffic, relocate homes and businesses, and change neighborhood character. Although it is difficult at this stage of project development to conclusively assess the overall impact of the highway projects included in the 2045 MTP, the two MPOs did complete several analyses of the potential negative impacts the projects may have on environmental justice communities.

During the development of the 2045 MTP, MPO staff often qualitatively evaluated individual projects for potential negative impacts and often eliminated projects that had significant potential negative impacts. Staff eliminated some projects based on factors such as limited right-of-way, neighborhood and community characteristics, and the historical impact of urban renewal.

The two MPOs analyzed the potential impact of the 2045 MTP highway projects and transit corridors to ensure that the potential negative project impacts were not disproportionately impacting environmental justice communities and that project benefits were also equitably distributed. This analysis was completed for the plan as a whole. Individual projects in the 2045 MTP may have significant negative impacts that will be studied more in depth during project development and design. These negative impacts are often able to be mitigated by context sensitive design.

Determining A Community Of Concern (Cofc)

The MPOs explored different methods to get at the fundamental question, "What is a community of concern?" Three principles guided the analysis:

1. If everyone is special, no one is special; we do not want to set the threshold too low or it could mask real and important differences between locations,
2. Be as inclusive as possible in light of the above; we do not want to leave areas out that could sustain meaningful negative impacts from the decisions we make, and
3. The final analysis should yield a pattern that allows for targeted outreach and a meaningful analysis of transportation investments.

The MPOs also gave careful consideration to the data values and sources used for the protected classes we evaluated:

1. Use of Census Block Groups in the 2-MPO region as the geographic unit. This is because they are updated each year, and some data are only available at this scale. It also helps compare urban, suburban, and rural areas in an "apples-to-apples" way.
2. Choice of which metric we use. By choosing to use the "median" as our measure, it gets around any extremes that may exist within the block group. For instance, if a millionaire has a house in a block group where most residents are low-income, the "mean" (what most people think of as the "average") will give a misleadingly high value. By using a median, the primary makeup of the block group is reflected because extremes will not have as much impact.
3. Measuring each item we evaluate as a percentage. This also helps to create an "apples-to-apples" comparison for urban, suburban, and rural parts of the region.

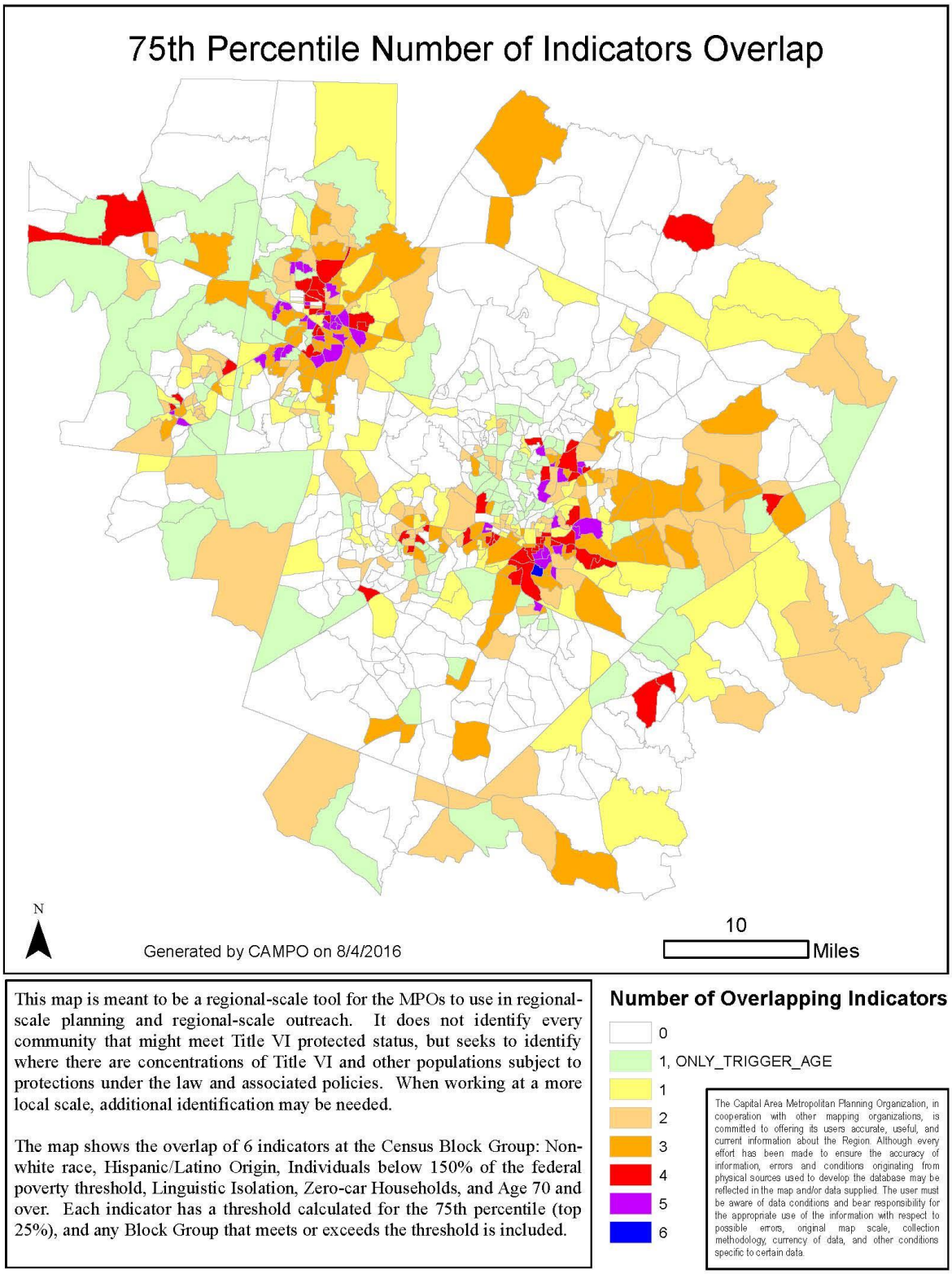
The MPOs also tried to match the data that are available to the protected classes under the Title VI Program Coverage umbrella. Choosing what gets measured can impact the outcome. Regional partners sat down with other regional stakeholders involved in the statistical definition of what goes into identifying CofCs on February 4, 2016. CAMPO, DCHC MPO, Triangle J Council of Governments and NCDOT Community Studies staff reviewed existing methodologies and a draft proposal from CAMPO using percentiles to determine a threshold for "in" or "out". On August 2nd the group reconvened with FHWA and NCDOT's Office of Civil Rights included as well.

In looking what to measure, some things came to light: Even though gender is a protected class, the even distribution of men and women did not make it a useful measure geographically. As such, it is the one protected class that was not used for determining CofCs.

The same was true for disability in terms of where people are, but for the people affected the most by transportation investments, the group supported using Zero-car Households as a surrogate measure. Using a composite "minority" measure may miss some key groups. As an example, a block group that might be included for "Black alone" only needs around 32% of the block group to identify as Black. In a single minority measure, the threshold is around 57%, and if no other minorities are present this might miss too many people that need to be included. The final selection of how to measure led to using "Non-white Race" and "Hispanic/Latino Origin" as separate variables. Some block groups with Asian minority presence that may not meet the combined race threshold for minority trigger under "Linguistic Isolation" and thus be included.

It is important to understand that these are regional-scale, planning level proxies for actual EJ communities. When working with individual projects or specific outreach efforts, this analysis is just a guidance or screening tool to begin the identification of the actual communities.

Figure 9.2.1



The two MPOs determined the percent of total 2045 MTP highway project length and the percent of total 2045 MTP cost by project type that were in any block group with the presence of any protected class in the top quartile (top 25%). The results of this analysis are shown in the Figures below. Transit investment corridors were also analyzed for length, but not cost since they are not project-specific.

Figure 9.2.2 Project Portfolio Impact on Communities of Concern

CofC=Community of Concern	Region Total Miles	Region Miles in CofC	Percent in CofC	Total Investment	Total Investment in CofC	Percent Investment in CofC
New Location Highway	215	144	67%	$ 3,011,713,868	$ 1,664,872,717	55%
All Other Highway	280	200	71%	$ 2,891,765,233	$ 2,087,208,674	72%
Existing Highway Widening	886	522	59%	$11,292,639,288	$ 6,536,393,574	58%
Transit Corridors	1693	1431	85%	Cost Not Reported-Corridor not Project		

	CAMPO Total Miles	CAMPO Miles in CofC	Percent in CofC	Total Investment	Total Investment in CofC	Percent Investment in CofC
New Location Highway	166	100	60%	$ 2,654,150,868	$ 1,335,413,138	50%
All Other Highway	182	112	62%	$ 1,825,195,233	$ 1,084,867,111	59%
Existing Highway Widening	711	379	53%	$ 8,248,301,288	$ 4,187,251,716	51%
Transit Corridors	867	601	69%	Cost Not Reported-Corridor not Project		

	DCHC Total Miles	DCHC Miles in CofC	Percent in CofC	Total Investment	Total Investment in CofC	Percent Investment in CofC
New Location Highway	49	44	90%	$ 357,563,000	$ 329,459,579	92%
All Other Highway	98	88	90%	$ 1,066,570,000	$ 1,002,341,562	94%
Existing Highway Widening	175	142	81%	$ 3,044,338,000	$ 2,349,141,858	77%
Transit Corridors	905	830	92%	Cost Not Reported-Corridor not Project		

The distribution of the two-MPO region's roadway projects, both in terms of total project length and project costs, mirrors the distribution of the minority, low-income, and other protected classes of populations for both the region as a whole and for the individual MPOs. Therefore, the Capital Area MPO and the DCHC MPO conclude that the roadway and transit projects in the 2045 LRTP do not disproportionately impact minority and low income populations or other protected classes of persons, and that the project benefits are also fairly distributed across populations. Again, this analysis does not substitute for the individual project level analyses that will be completed for each project during design and development.

Figure 9.2.3 Title VI Compliance: CAMPO/DCHC New Location Roadway

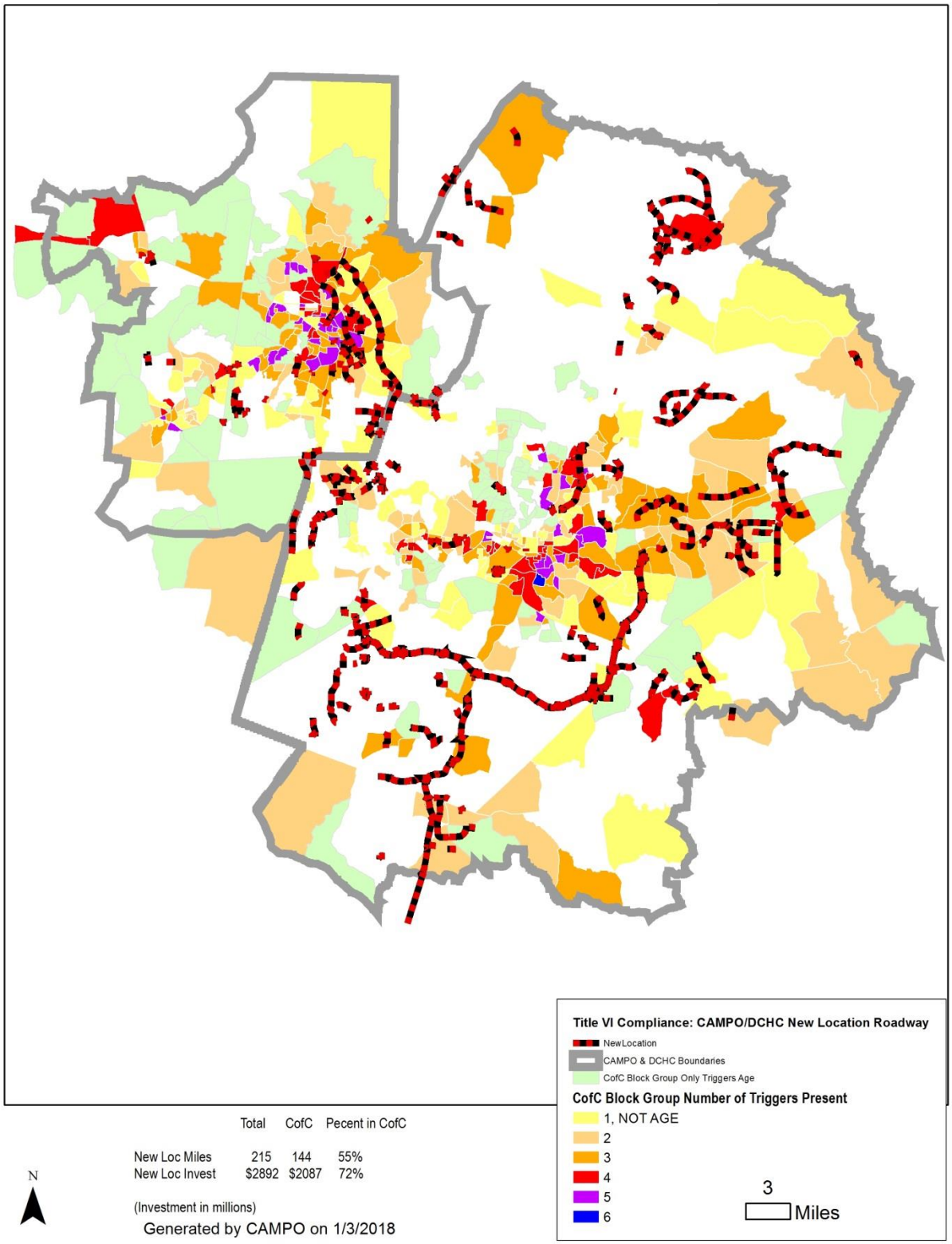


Figure 9.2.4 Title VI Compliance: Roadway Widenings

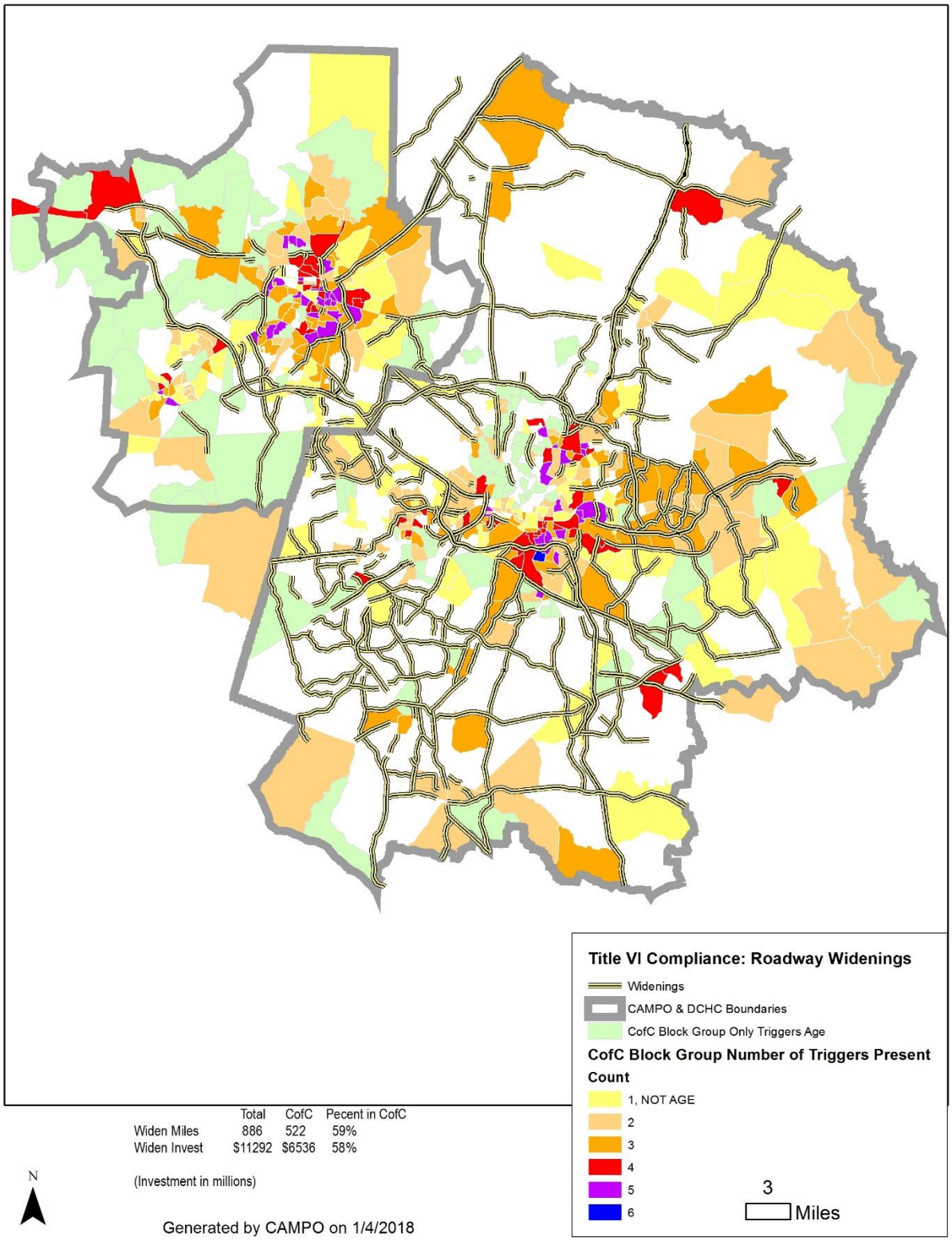
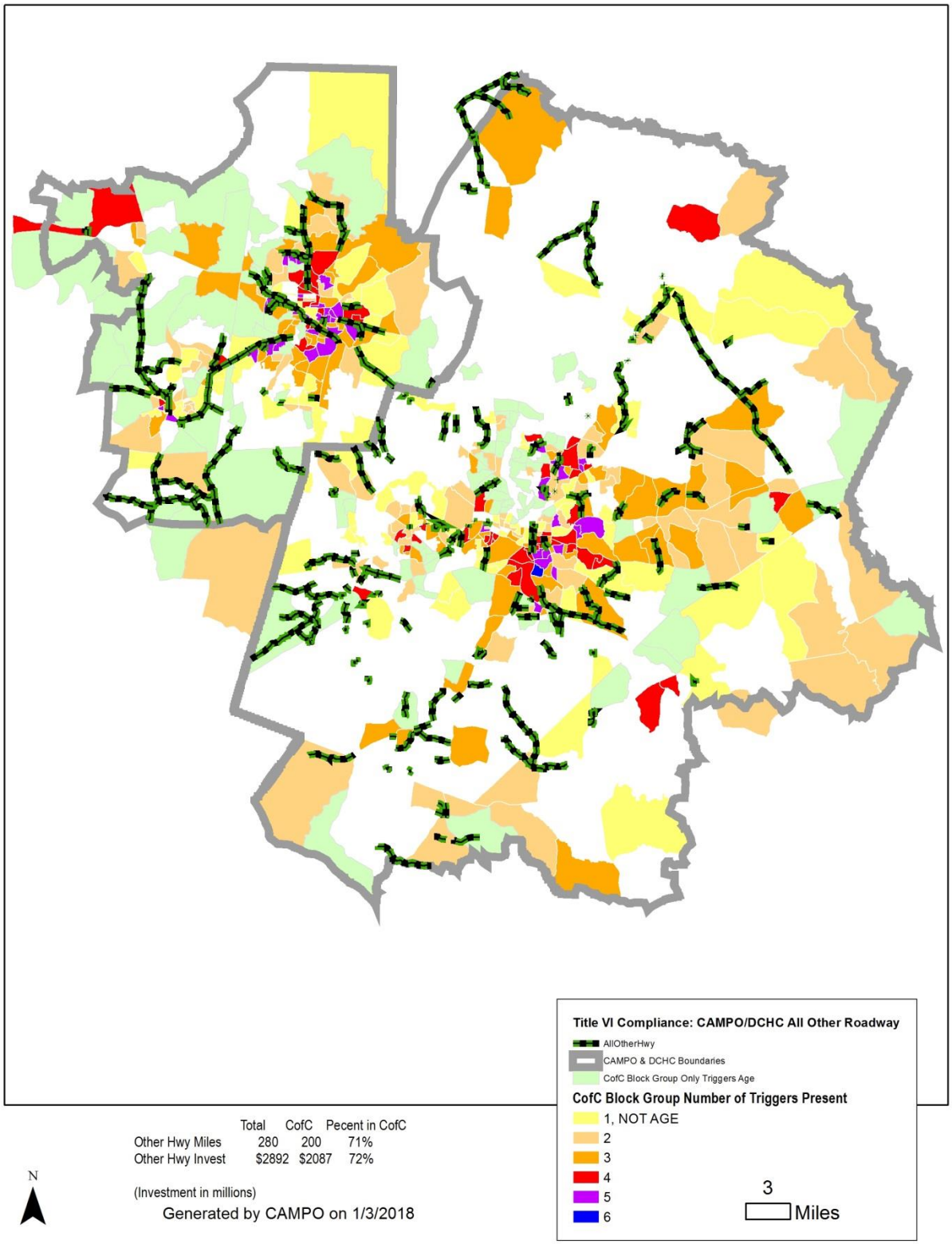


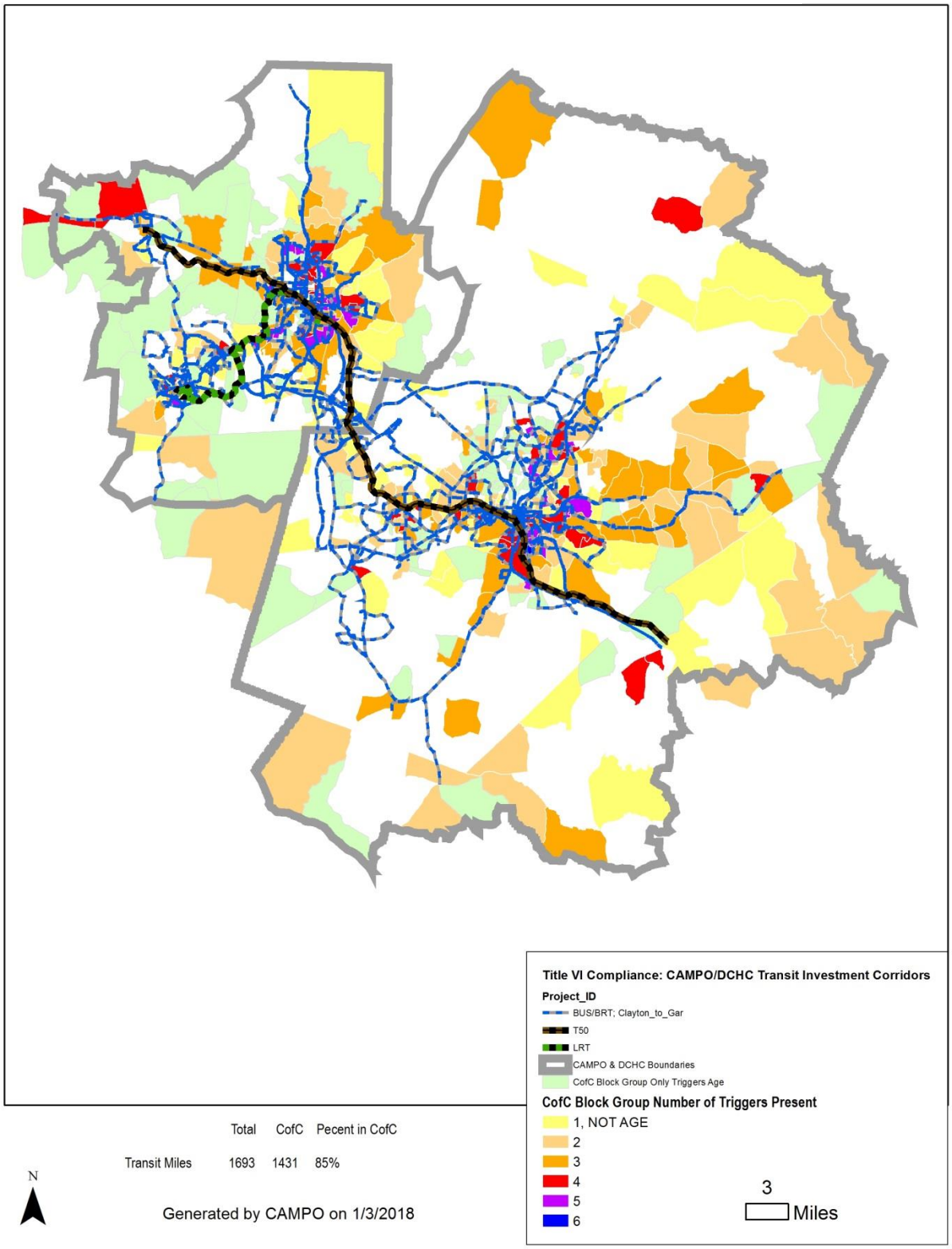
Figure 9.2.5 Title VI Compliance: CAMPO/DCHC All Other Roadway



	Total	CofC	Pecent in CofC
Other Hwy Miles	280	200	71%
Other Hwy Invest	$2892	$2087	72%

(Investment in millions)

Figure 9.2.6 Title VI Compliance: CAMPO/DCHC Transit Investment Corridors



Financial Cost

Lastly, environmental justice also requires that the disadvantaged population not bear a disproportionate share of the financial cost of the plan. The 2045 MTP is financed by traditional revenue sources and new revenue sources. The 2045 MTP does not propose a change to the traditional funding sources so this was not analyzed for environmental justice impacts.

The new sources of revenue are:

1. Sales tax increase for public transit
2. Car registration fee increase
3. Toll roads and managed lanes

Typically, sales taxes are regressive, meaning that lower income households pay a higher percentage of their income in sales taxes than do higher income households (higher income households pay more in *actual* dollars in sales tax than lower income households, but these payments represent a smaller *proportion* of the total income of higher income households). Approved legislation in NC seeks to mitigate the "who pays" side of the equation by excluding many necessities from the sales tax, including food, medicine, utilities and shelter. By excluding these items, a typical household in the lowest 20% income group would pay about $3 per month for the transit tax, based on analysis by the North Carolina Budget & Tax Center. Households in the top 1% income bracket would average $57 per month and those rounding out the top 5% income bracket would average $17 per month. Also, one financial analysis showed that the impact of a one dollar increase in the price of a gallon of gasoline is about ten times worse for low-income households than the impact of a ½ cent sales tax.

Moreover, looking at who pays is only half of the equation. Analysis should also consider who benefits. Transit service is disproportionately used by people with lower incomes and households that do not have access to cars. Currently, tens of thousands of households in the Research Triangle Region report having no vehicle available. Our region's travel forecasts estimate that the majority of transit trips after we invest in rail service and greatly expanded bus service will be made by people from households without cars and low-income households with cars. So looking at the whole equation, a sales tax that is spent entirely on transit would provide a net benefit to households most dependent on transit service to reach jobs and educational opportunities, different from if a sales tax were spent on services that were used equally by lower income and higher income households.

Toll roads and managed lanes projects will require a detailed environmental review during project development. At that point, the project-level environmental justice impacts will be studied. The I-40 managed lanes project would require the payment of tolls to use the new lanes. Low-income populations will still have the option to use the facility by using the existing general purpose lanes free of charge. In addition, public transit vehicles will be able to use the facility free of charge. High-occupancy vehicles may also be able to use the new managed lanes free of charge. A decision has not yet been made on if there will be an exception for high-occupancy vehicles on some facilities.

9.3 Safety and Security

Metropolitan Planning Organizations are being encouraged to effectively address safety and security issues in accordance with policies outlined with the Moving Ahead for Progress in the 21st Century (MAP-21) and subsequent Fixing America's Surface Transportation (FAST) Act.

Federal requirements maintain the existing core program called the "Highway Safety Improvement Program" (HISP). This program is structured and funded to make significant progress in reducing fatalities on highways as well as other modes that use highway, railroads, and other conduits within the transportation network. The HSIP increases the funds for infrastructure safety and requires strategic highway safety planning focused on measurable results. Other programs target specific areas of concern such as work zones and older drivers. Pedestrians, including children walking to school, are also a focus area for the program.

Both the Capital Area MPO and Durham-Chapel Hill-Carrboro MPO have been proactive in addressing safety and security as a component of our overall transportation processes by pursuing the following actions:

- Vision Zero, a new approach to traffic safety, maintains that the loss of even one life or serious injury on our roads is not an acceptable price to pay for mobility. Designers and users of the roads share responsibility for the safety of all road users under the Vision Zero approach. Vision Zero views human error on roadways as inevitable, and advocates for roadway and vehicle design that accounts for human mistakes .Vision Zero uses the "5 E Strategy" – education, encouragement, enforcement, engineering, and evaluation – to achieve zero fatalities and severe injuries on roadways. First implemented in Sweden in the 1990s, Vision Zero has achieved great success in Europe and continues to gain momentum internationally and throughout the US.

  The North Carolina Department of Transportation (NCDOT) adopted a Vision Zero program, NC Vision Zero, in 2016. NC Vision Zero serves as an umbrella organization for Vision Zero programs throughout the state. NC Vision Zero provides data, research, and other resources to support Vision Zero programs throughout North Carolina. NC Vision Zero has also assembled a statewide Vision Zero stakeholder group in order to facilitate communication between traffic safety stakeholders.

  On September 18, 2017, the Durham City Council adopted the Vision Zero Durham Resolution making Durham the first city in North Carolina, and the first among its peer cities nationally, to officially adopt a Vision Zero program. The Vision Zero Durham Resolution affirms the Durham's commitment to eliminating traffic deaths and serious injuries on Durham roadways, and provides a framework for City departments and community stakeholders to work together to achieve this goal. The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) passed a resolution in support of Vision Zero Durham on August 9, 2017. At the time of the 2045 MTP adoption, several other DCHC jurisdictions have begun to take action to adopt and implement Vision Zero programs.

- Video surveillance. The transit agencies in both MPOs (i.e. Capital Area Transit, Durham Area Transit Authority, Chapel Hill Transit, Cary Transit, Triangle Transit, and area human service providers) have or are in the process of providing on-board video surveillance cameras and transit station camera detection as a deterrent to crime; as well as providing Mobile Data Computers/Automatic Vehicle Locators on their vehicles. Cary Transit System's paratransit vehicles have automated vehicle locator systems as well as video surveillance via DriveCam.

- Safe Routes to Schools (SRTS). The Capital Area MPO has created a regional Safe Routes to School program that is designed to coordinate SRTS activities throughout the MPO as well as provide policy leadership and technical assistance to local agencies and schools. Agencies within the Capital Area MPO are continuing to develop and implement SRTS activities that will benefit elementary schools and their adjacent neighborhoods throughout the community.

- Safety Metrics. Both MPOs include "Accident/Safety" metrics when determining the technical scoring and prioritization of roadway projects for their Transportation Improvement Programs.

- "Four E's" for Biking and Walking. Both MPOs have adopted bicycle and pedestrian plans that include four significant pillars to strengthen the role of bicycle and pedestrian facilities in overall transportation planning. The "Four-Es" (i.e. education, engineering, enforcement, and encouragement) bring attention to the importance of safety through various public service announcements in the local media focused attention to these key areas of transportation network development. Furthermore, both MPOs continue to remain active in promoting bicycle and pedestrian activities through events such as Bike to Work Week and the SmartCommute Challenge.

These programs impact the region's overall transportation culture by promoting bicycle and pedestrian traffic and travel as a valuable mode of movement through the region.

- Watch 4 Me NC Campaign. Both MPOs have incorporated within those adopted bicycle and pedestrian plans expansion of bicycle accommodations and walkway infrastructure through both on-road and off-road facilities. The presence of walkway infrastructure will have a significant impact in the reduction of pedestrian crashes (particularly an 88 percent reduction in "walking along road" pedestrian crashes). The concern about pedestrian safety in the state of North Carolina (currently recognized by FHWA as a "Pedestrian Emphasis" state) has encouraged NCDOT to host pedestrian safety classes. These classes have been taken by staff from both MPOs. Both MPOs, in cooperation with the North Carolina Highway Safety Research Center (HSRC) and NCDOT are participating in the initial "Watch 4 Me, NC" campaign. This campaign is intended to improve pedestrian safety through educational messages directed at pedestrians and drivers as well as encouraging police enforcement of current pedestrian laws. The MPOs, along with NCDOT and HSRC, continue to build off of the initial campaign in Raleigh, Durham, Chapel Hill, and Carrboro. Both MPOs continue work to extended the campaign to the region's other communities in future years. A bicycle safety campaign will also be conducted in future years as well.

- Incident Management. Both MPOs have funded an Incident Management Plan, which includes strategies for improving:
  - Responder safety
  - Safe, quick clearance activities
  - Prompt, reliable, interoperable communications

  The program directly addresses eight of the twelve strategies aimed at improving responder safety and safe, quick clearance of incidents; particularly along I-40, and other Interstate/freeway candidate facilities in the region. Both MPOs have been active with Incident Management Planning. Following the authorization of approximately to work on a project to improve the Traffic Incident Management Program in the Triangle, the two MPO pursued goals that involved reducing incident clearance time, increasing responder safety, reducing secondary incidents, and education of the public. The aforementioned pursuit was important based on the fact that for every minute traffic is disrupted, the chances for secondary crashes increase exponentially. The accomplishments included the following:

  Incident Management Summit – August 15, 2013

  A summit was held in August 2013 involving 60 people from various service agencies where presentations highlighted the need for coordinated traffic incident management were made and a demonstration exercise was performed. Positive feedback was received from online survey completed by the attendees. Mr. Whitley indicated 70% of all drivers do not know the state has fender bender and move over laws; therefore an effort must be made to make the public aware of those laws.

  Establishment of the Incident Management Subcommittee

  An Incident Management Subcommittee was created to develop a MOU for CAMPO and to develop a public education campaign for motorists. The MOU has been endorsed by the emergency response agencies throughout the region. It is a non-binding statement of principles but all agree that the MOU is important. Roles at incident scenes have been agreed upon by various responder agencies. This was taken to local police and fire associations with agreement from both groups.

  Media Buys using Radio/TV, Online, Billboards

  NCDOT worked in cooperation with the MPOs to purchase billboards to advertise a "Move Over and Fender Bender Laws Ad Campaign". NCDOT staff also worked to host a news conference that included the Secretary of NCDOT; as well as the leaders of the Incident management Subcommittee

to address the Move Over and Fender Bender Public Service Announcements (PSAs). Furthermore, NCDOT's Dynamic Messaging Signs (DMS) have been used to display the Move Over and Fender Bender PSAs; along with radio ads for a brief period of time. Finally, the NCDOT Communications staff has used social media to broadcast information concerning the laws.

Traffic Incident Management Memorandum of Understanding
The final draft of the MOU was presented and endorsed by both the Incident Management Subcommittee Meeting and the Congestion Management Process (CMP) Stakeholders Group meeting. The MOU has been circulated throughout the region for review and future adoptions by local government boards.

- Safety Audits. Both MPOs receive Traffic Engineering Accident Analysis (TEAAS) data from NCDOT's Transportation Mobility & Safety Division. The aforementioned division uses the data for Road Safety Audits for state maintained roads. Both MPOs will continue to work with NCDOT's Transportation Mobility & Safety Division to utilize data from future road safety audits to prioritize and fund future road projects.

- Safety Countermeasures. Additional safety countermeasures that are utilized by both state and local agencies within both MPOs include:
  - buffers or planting strips,
  - marked crosswalks,
  - "road diets (narrowing or eliminating travel lanes on roadways)
  - traffic calming/traffic control devices.

  Both MPOs will support safety countermeasures on roads, and at signalized and unsignalized intersections where needed to ensure safety for the travelling public.

- ITS safety. Both MPOs were a part of the Triangle Regional ITS Strategic Deployment Plan Update that was finalized in May 2010. One of the goals of the ITS Strategic Deployment Plan is to "*Advance safe and efficient movement of people and goods throughout the region".* The three objectives associated with the goal include:
  - *Clear 90% of incidents in 60 minutes or less on the principle arterial network,*
  - *Reduce the number of crashes per 100 million vehicle miles by 10% over a three-year floating average on the principle arterial network, and*
  - *Decrease secondary incidents by 10% on the principle arterial network*

9.4 Critical Environmental Resources

The Capital Area MPO and DCHC MPO evaluated the 2045 MTP's impact on critical environmental factors. Developing a transportation system that provides mobility and access while protecting health, the environment, cultural resources, and social systems is important to both MPOs. Compliance with local, state, and federal laws and regulations is critical to the development of all transportation projects. The MPOs recognize that the MTP is one of the first steps in developing viable transportation projects that meet these laws and regulations. In addition, the MPOs recognize the tremendous impact that transportation projects have on land development patterns. The transportation network and land use regulations must be complimentary and work together to protect critical environmental resources.

This environmental evaluation at the long-range planning phase is the beginning of more extensive review. The NCDOT uses the Merger process to more effectively implement Section 404 of the Clean Water Act during the NEPA/SEPA decision-making phase of transportation projects. The MERGER process is supported by USACE, NCDENR, FHWA, stakeholder agencies and local units of government to more effectively mitigate environmental impacts such as those from storm water runoff.

The MPOs' environmental analysis was a voluntary effort coordinated with representatives from environmental and cultural resource agencies. At this stage in project development, it is impossible to conclusively and comprehensively analyze the impact each project may have on the environment. This analysis does not substitute for the more thorough project-level analysis that is required as part of the National Environmental Protection Act. The analysis below was intended to identify and flag early in the process projects that might have significant impacts on the environment and that might require costly mitigation measures.

For this analysis, the MPOs looked at all of the projects in the Comprehensive Transportation Plan project lists to ensure that a comprehensive record of all of the potential future projects was being evaluated. Many of the CTP projects are not in the final adopted 2045 MTP, and are considered to be beyond the 2045 time horizon of the plan. The MPOs created maps of the CTP projects overlaid on several environmental and cultural GIS files. The maps are grouped in the following themes with the following datasets:

- Biodiversity and Wildlife Habitat
  - NC Conservation Planning Tool – Biodiversity and Wildlife Habitat Assessment – this dataset classifies areas from 1 to 10 based on several metrics
  - Managed Areas
  - Conservation Tax Credit Properties
- Development
  - Hospitals
  - Schools (Public and Private) Colleges or Universities
  - Airports
  - Water and Sewer Service Boundaries
- Farmland
  - NC Conservation Planning Tool – Farmland Assessment – this dataset classifies areas from 1 to 10 based on several metrics
  - Voluntary Agricultural Districts
- Forest
  - NC Conservation Planning Tool – Forestry Lands Assessment – this dataset classifies areas from 1 to 10 based on several metrics
- Gamelands, Hunting Buffers, and Smoke
  - Gamelands
  - Gameland Hunting Buffers
  - Smoke Awareness Areas
- Hazards
  - Hazardous Waste Sites
  - Animal Operation Facilities
  - Active Permitted Landfills
  - Hazardous Substance Disposal Site
- Historic Sites
  - Local Landmarks
  - Local Historic Districts
  - National Register Historic Sites
  - National Register Historic Districts
- Jurisdictions
  - Jurisdictional Boundaries – This map is designed to identify the local jurisdiction that has planning and zoning authority in the vicinity of a project. Since each jurisdiction has different

zoning classifications and methodologies, a comprehensive zoning map could not be developed for the entire region.

- Parks and Recreation
  - Open Space and Conservation Lands
  - Boat Access Ramps
  - Trails
  - Greenways
  - Local and State Parks
- Water Resources
  - Impaired Streams
  - Outstanding Resource Management Zones
  - Ecosystem Enhancement Program
  - Target Local Watersheds
- Water Supply
  - Public Water Supply Sources
  - National Pollutant Discharge Elimination System (NPDES) Permitted Sites
  - Surface Water Intake
  - Water Supply Watersheds
  - Nutrient Sensitive Waters
- Wetlands and Floodplains
  - Floodplain Mapping Information Systems (FMIS)
  - Floodplains Wetlands

In addition, as a courtesy, the DCHC MPO also sent GIS shape files to resource agencies during the public review process. The agencies contacted were:

- United States Army Corps of Engineers
- NC Department of Natural Resources
- NC Wildlife Resources Commission
- United States Environmental Protection Agency
- United States Fish and Wildlife Service
- NC Department of Cultural Resources
- NC Department of Commerce
- NC Department of Environment and Natural Resources

The maps are shown in Appendix 12. Larger versions of the maps are posted on the MPOs' websites.

9.5 The Fixing America's Surface Transportation (FAST) Act and the 2045 Metropolitan Transportation Plan

The FAST Act initiated some new planning rules in *23 CFR 450* that are relevant to the MPOs' long-range transportation plans. The new planning rules (paraphrased in italics) and a discussion of how the MPOs have responded are presented below.

1. *New Planning Factors –306 (b)(9)(10)*
   A. *Improve resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation*

The resiliency and reliability of the transportation system has improved under the 2045 MTP because the investment in highway maintenance has substantially increased. In the previous MTP, the 2040 MTP, highway maintenance expenditures were 30% of the total non-transit budget. That figure is approaching 50% for both MPOs in the 2045 MTP.

In terms of storm water impacts, the local planning departments and NCDOT and the many resource agencies have taken an aggressive approach in implementing the state and federal regulations to limit the impacts from private structures and surface transportation. NCDOT continues to use the Merger process, which is supported by USACE, NCDENR, FHWA, stakeholder agencies and local units of government, to effectively implement Section 404 of the Clean Water Act during the NEPA/SEPA decision-making phase of transportation projects.

B. *Enhance travel and tourism*
The Triangle is not considered a travel or tourism destination. Nonetheless, the location of major universities draws travel to the area for university related special events, and some roadways such as I-40 serve as principal travel corridors for those traveling to the mountains or beaches. The 2045 MTP has a substantial investment in the roadways and public transportation that provide access to the major universities because the land use and travel modeling processes identify those areas as employment and education centers. Those centers and the subsequent forecasted congestion attract needed roadway improvements and transit services. For example, light rail or commuter rail provides access to all of the four major universities in the Triangle. In addition, there are major roadway improvements planned for those campuses, as well. In terms of tourism travel that passes through the Triangle, those travel corridors such as I-40 and the future I-87 will receive major capacity improvements.

2. *The MPO shall set performance targets no later than 180 days after the State or Public Transportation Provider establishes performance targets – 306 (d)(3)*
The CAMPO and DCHC MPO have approved these performance targets within the 180-day timeframe as the NCDOT and/or local public transportation providers have established them. The MPOs approved performance measures and targets for transit assets and State of Good Repair (SGR) on June 14, 2017 (DCHC MPO) and June 21, 2017 (CAMPO). In early 2018, the NCDOT safety measures and targets will be published as required by the FAST ACT and both MPOs will again review and approve those same measures within the 180-day time frame.

3. *The MPO and public transportation providers shall jointly agree upon and develop specific written provisions for developing and sharing information related to the following -- 314(h):*
    a. *Transportation performance data*
    b. *The selection of performance targets*
    c. *The reporting of performance targets*
    d. *The reporting of performance data to be used in tracking progress toward attainment of critical outcomes*
    e. *The collection of data for the State asset management plan for the NHS*

The MPOs and transit providers are working on agreements that will likely be part of an inter-local agreement.

4. *Documented Participation Plan shall include – 316(a):*
    a. *Public ports* – There are not any ports in the MPO's planning area.

    b. *Private providers of intercity bus operators* – Local transit systems coordinate and share facilities with the private, intercity bus operations. For example, the Durham Central Transit

Station, which provides access to local fixed-route and regional transit systems, also has access to Greyhound and Mega Bus services. The MPO Technical Committees (TC) have designated a member from these private providers but they do not attend the TC meetings. The MPOs will continue to coordinate with private providers by sending them participation information through public input processes.

c. Employer based commuting programs – The Triangle J Council of Governments (TJCOG) coordinates the Triangle TDM program for the entire Triangle Region. Chapter 7 of this report summarizes the TDM program. The following TDM Web page has program details that demonstrate the breadth and effectiveness of the program: http://www.tjcog.org/triangle-transportation-demand-management-program.aspx

d. Vanpool programs – These programs are an integral and successful part of the Triangle TDM program. See subpart "c" above.

e. Transit benefit programs – These programs are an integral and successful part of the Triangle TDM program. See subpart "c" above.

f. Parking cash-out programs – Local government, transit agency and downtown organization planners have promoted parking cash-out programs to large residential developments, employment centers and universities. For example, local planners discuss unbundling "free" parking spaces from apartment rental fees with developers and property management firms. However, the MPOs are not aware of any bona fide parking cash-out programs in the region.

g. Shuttle or telework programs -- These programs are an integral and successful part of the Triangle TDM program. See subpart "c" above.

5. *The MPO shall consult with agencies and officials responsible for other planning activities within the MPA when developing the MTP and TIP MPO – 316(b)*
   a. *Tourism* – The MPOs do not have specific internal requirements to work directly with tourism focused agencies. This requirement will be added to the next update of the MPO's public participation plan.

   b. *Natural disaster risk reduction* – The MPOs do not have specific internal requirements to work directly agencies that are focused on the reduction of natural disaster risks. This requirement will be added to the next update of the MPO's public participation plan.

6. *MPO has option to conduct and include PEL process – 318(e)*
   The MPOs have not conducted the PEL process.

7. *MPO shall have Congestion Management Process – 322*
   a. *An MPO serving a TMA may develop a congestion management plan*
      The MPOs have approved Congestion Management Process plans and have implemented the plans through completion of System Status Reports and other reports such as a Mobility Report Card.

   b. *Consider employer-based travel demand reduction strategies: intercity bus, employer-based programs, carpool, vanpool, transit benefits, parking cash-out, telework, job access projects.*
      The Triangle TDM program, which is summarized in chapter 7 of this report, makes use of these strategies. The following TDM Web page identifies the strategies and evaluates their effectiveness: http://www.tjcog.org/triangle-transportation-demand-management-program.aspx

8. *MPO shall include the consideration of intercity bus service – 324 (f)(2)*
   See the response to #4-c above.

9. *MPO shall have performance targets – 324(f)(3)(4)*
   a. *MTP shall include a description of the performance measures and targets used in assessing the performance of the transportation system*
   b. *A system performance report evaluating the condition and performance of the transportation system with respect to the performance targets including progress achieved by the MPO to reach performance targets*

   In response #2 above, the MPOs commit to approving regulated performance measures and targets by at least 180 days after state and/or public transportation providers have done so. In addition, as detailed in chapter 4 of this report, the MPOs have established a set of MTP performance measures and targets that are aligned with the agency's goals and objectives.

10. *MPO may voluntarily elect to conduct scenario planning – 324(f)(4) (ii)*
    As detailed in the land use plans and policies and Alternatives Analysis sections of chapter 5 of this report, the MPOs have made extensive use of scenario planning. Different land use plans are matched with different sets of transportation investments (e.g., large highway investments, large fixed-guideway investments) to create modeled outputs.

11. TIP shall include to the maximum extent practicable – 326(d)
    a. *Description of the anticipated effect of the TIP toward achieving the performance targets identified in the MTP*
    b. *Link investment priorities in the TIP to achievement of performance targets in the plans*

    The MPOs will provide written text and analysis as the performance measures take effect and as the Transportation Improvement Programs (TIP) under the 2045 MTP are updated and implemented.

10. Post-2045 Vision: Comprehensive Transportation Plan Projects

Many worthy projects that would help ease congestion, improve access and provide travel choices are not able to be funded within the constraints of existing and reasonably anticipated revenue sources, and therefore are not included in the fiscally constrained 2045 Metropolitan Transportation Plan. These projects are typically included in each MPO's Comprehensive Transportation Plan (CTP). These unfunded projects are listed in the appendices with an implementation year beyond 2045.

The Durham-Chapel Hill-Carrboro CTP was adopted in May 2017. The web page containing the full report and interactive maps is http://bit.ly/DCHCMPO-Adopted-CTP

Appendix 1. Roadway Project List – CAMPO and DCHC MPO

Each row in the table is a separate highway project. Projects are color-coded by MPO (green for DCHC MPO and yellow for CAMPO) and separated by time period. The three time periods, 2025, 2035 and 2045, are used in the financial plan. The attribute information for each project is presented by columns, and includes the following:

- MTP ID – This unique number facilitates the tracking and mapping of projects in the plan.
- Highway Project – The highway project is the name of the road.
- From/To – This usually identifies the name of the two road intersections between which the project is to be constructed.
- Existing Lanes – This identifies the number of current travel lanes. "-" indicates an interchange or a new road alignment – in other words, there is no existing road.
- Proposed Lanes – This identifies the number of travel lanes proposed in the plan; if the number of lanes does not increase from the existing lanes, the project does not propose to add through lanes but instead will make safety, intersection, multimodal s or other improvements.
- Improvement Type –
    - Widening is the addition of travel lanes.
    - Modernization can include safety, intersection (e.g., turn lanes), multimodal or other improvements, but does not include the addition of travel lanes.
    - Upgrade refers to capacity and safety improvements to interchanges.
    - New Location is a new roadway.
    - New is the conversion of an intersection to an interchange.
    - Freeway is the conversion of an existing road to a limited access highway (which is a roadway type often referred to as interstate).
    - Expressway is the conversion of an existing road to a highway that is mostly limited access.
- Length – The centerline mileage of the project.
- Estimated Cost – The total costs includes those estimated costs to be incurred from 2018 through 2045. Cost estimates come from feasibility studies, current and past Transportation Improvement Programs (TIP), NCDOT's SPOT prioritization process, and the NCDOT Contract Standards and Development Unit project cost workbook.
- STI – This indicates the project's STI (Strategic Transportation Investment) funding tier: statewide, regional or division.
- Regionally Significant – Regionally Significant projects provide access to and from the region, or to major destinations in the region. Note that the FHWA functional classifications serve a different purpose than the local functional classification used by the MPO, and as a result, the two classification systems are significantly different. Generally, the regionally significant designation includes interstate highways, U.S. highways, freeways, and North Carolina signed roads that are the primary road in a corridor. Rail transit facilities, which are described in a separate section, are considered regionally significant. The Regionally Significant designation can be important if the region is required to show the Air Quality Conformity Determination (AQ Conformity) for the MTP. Under AQ Conformity, if a Regionally Significant project is changed (e.g., completion year, capacity) after the 2045 MTP has been adopted, then the Conformity Determination process might have to be redone.
- TIP# -- The project reference number for those projects which are contained in the 2018-27 Transportation Improvement Program (TIP).

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
2025 MTP											
F10	I-440 Widening	US 1/64	Wade Avenue	4	6	Widening	3.5	$348,002,000.00	St	Yes	U-2719
F11-1a	US 1 North - Upgrade to Freeway	I-540	Thornton Road	4	8	Widening	1.62	$124,700,000.00	St	Yes	U-5307A
F11-1b	US 1 North - Upgrade to Freeway	Thornton Rd	Burlington Mills Rd	4	8	Widening	1.55	$120,100,000.00	St	Yes	U-5307B
F11-1c	US 1 North - Upgrade to Freeway	Burlington Mills Rd	New Falls of Neuse Blvd	4	6	Widening	1.96	$64,050,000.00	St	Yes	U-5307C
F11-1d	US 1 North - Upgrade to Freeway	New Fall of Neuse Blvd	NC 98 (Durham Rd)	4	6	Widening	2.32	$64,050,000.00	St	Yes	U-5307C
F13	NC 147 Toll Extension (CAMPO Portion)	NC 540	McCrimmon Pkwy / Little Drive	0	4	New Location	1.6	$23,880,000.00	St	Yes	U-5966
F15a1	US 64 / Laura Duncan Interchange (New)	US 64	Laura Duncan Rd	-	-	Interchange	0	$38,200,000.00	St	Yes	U-5301A
F15a2	US 64 / Lake Pine Interchange (New)	Lake Pine Drive	Lake Pine Drive	-	-	Interchange	0	$38,200,000.00	St	No	U-5301B
F15a3	US 64 (superstreet)	US 1	Lake Pine Dr	4	6	Superstreet	2.49	$36,400,000.00	St	Yes	U-5301C
F16	I-40	US 1-64	Wade Avenue	4	6	Widening	3.89	$81,058,666.94	St	Yes	I-4744
F43	I-40	US 1/64	Lake Wheeler Rd	6	8	Widening	4.43	$27,250,000.00	St	Yes	I-5701
F43b	I-40 / US 1 / US 64 Interchange	I-40 / US 1 / US 64	I-40 / US 1 / US 64	-	-	Interchange	-	$151,750,000.00	St	Yes	I-5703
F44a	I-40 (East)	I-440	US 70 Business (Garner)	6	8	Widening	4.4	$106,600,000.00	St	Yes	I-5111A
F44b	I-40 (East)	US 70 Business (Garner)	NC 42	4	8	Widening	6.3	$153,400,000.00	St	Yes	I-5111BA and BB
F44b1	Cleveland Road / I-40 Interchange	-	-	-	-	Interchange	-	$35,945,500.00	St	No	I-4739
F44b2	NC-42 / I-40 Diverging Diamond Interchange	-	-	-	-	Interchange	-	$35,945,500.00	St	No	I-4739
F4c1	NC 540 TriEx / Veridea Parkway Interchange	-	-	-	-	Interchange	-	$13,202,805.00	St	No	R-2635
F5	NC 540 Tri-Ex (Phase IV)	NC 55 Bypass	US 401 (South)	0	6	New Location	7.8	$172,519,000.00	St	Yes	R-2721
F6	NC 540 Tri-Ex (Phase V)	US 401 (South)	I-40 (South)	0	6	New Location	8.7	$425,527,000.00	St	Yes	R-2828
F82	I-40/NC 54 DDI	NC 54	NC 54	-	-	Interchange	2	$8,004,000.00	St	No	I-5873
F83	I-440 Interchange Improvements	Wake Forest Road (SR 2000)	Wake Forest Road (SR 2000)	-	-	Interchange	2	$10,632,000.00	St	No	I-5708

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A10	Old Wake Forest Rd	Litchford Rd / Atlantic Blvd	Capital Blvd	2	4	Widening	1.2	$8,600,000.00	Div	No	N/A
A104a	Morrisville Parkway	Green Level Ch Rd	NC 55	0	2	New Location	1.83	$24,802,000.00	Div	Yes	U-5315 A B
A111	Reedy Creek Turn Lane	N.E. Maynard Rd	Harrison Avenue	2	3	Turn Lane	1.17	$13,390,000.00	Div	No	U-5501
A114a	Ten Ten Rd	US 1	US 1	-	-	Interchange	0.4	$26,392,087.00	St	No	U-5825 A
A114b	Ten Ten Rd	Kildaire Farm Road	US 1	2	4	Widening	2.1	$15,259,000.00	Div	No	U-5825B
A118b	NC 55	Jicarilla Rd	Kennebec Church Rd	2	4	Widening	1.6	$27,514,000.00	Reg	Yes	R-5705 C
A118c	NC 55	Kennebec Church Road	North Broad St	2	4	Widening	0.94	$9,706,000.00	Reg	Yes	R-5705 B
A119	McCrimmon Parkway	Airport Blvd	NC 54	2	4	Widening	0.83	$20,702,000.00	Div	No	U-5747 B
A124c1	Northside Loop (east)	N. White St / Flaherty Ave	West of undeveloped section of Royal Mill Avenue / Oak Grove Church Rd	0	3	New Location	1	$8,768,623.50	Div	No	N/A
A124c2	Northside Loop (east)	Flaherty Ave	Eastern portion of existing Royal Mill Avenue	0	3	New Location	0.1	$8,768,623.50	Div	No	N/A
A127a	Ligon Mill Rd Connector	US 1A	NC 98 Bypass	2	4	Widening	0.61	$5,576,756.64	Div	Yes	N/A
A127b2	Ligon Mill Rd Connector	Richland Creek	NC 98	0	2	New Location	0.75	$5,851,243.13	Div	No	N/A
A130a	Mitchell Mill Rd (West)	US 401	Watkins Rd	2	4	Widening	1.37	$13,650,975.00	Div	No	N/A
A130c	US 401/Mitchell Mill Rd Interchange (New)	-	-	-	-	Interchange	2	$64,620,000.00	Reg	Yes	U-5748
A139	US 70 / Timber Drive Interchange (New)	Hammond Road	Timber Drive	-	-	Interchange	2	$18,938,000.00	Reg	No	U-5744
A13c	Falls of Neuse Blvd	I-540	Durant Rd	4	6	Widening	1.54	$11,798,000.00	Div	No	U-5826
A16	Rock Quarry Rd	Old Birch Dr	Sunnybrook Rd	3	5	Widening	1.2	$10,200,000.00	Div	No	N/A
A160a	Ralph Stephens Rd (Part NL)	Ralph Stevens Rd Ext	NC 55	2	4	Widening	0.59	$4,843,512.96	Div	No	U-5318
A160b	Ralph Stephens Rd (Part NL)	Ralph Stevens Rd	NC 55	0	4	New Location	0.38	$3,285,316.32	Div	No	U-5318
A160d	Ralph Stephens Rd (Part NL)	Piney Grove Wilbon	Ralph Stevens Rd	0	4	New Location	0.34	$3,260,846.16	Div	No	U-5318
A160e	Ralph Stephens Rd (Part NL)	Avent Ferry	Ralph Stevens Rd	0	4	New Location	0.48	$4,437,781.92	Div	No	U-5318
A164a2	Green Level Church Rd	O'Kelly Chapel Rd	McCrimmon Parkway	2	4	Widening	0.91	$8,319,423.84	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A164b	Green Level Ch Rd	Carpenter Fire Station Rd	Morrisville Parkway	2	4	Widening	1.21	$11,062,091.04	Div	No	N/A
A164c1	Green Level Church Rd	Folklore Way	O'Kelly Chapel Rd	2	4	Widening	0.4	$3,656,889.60	Div	No	NOT IN TIP
A166	Center St/1010	US 1	Apex Peakway	2	4	Widening	1.04	$9,507,913.00	Div	No	U-5825A
A171	Green Level West Rd	NC 55	I-540	2	4	Widening	0.9	$8,228,001.60	Div	No	U-5500
A174c	Martin Pond Road Widening	Wendell Falls Parkway	Poole Road	2	4	Widening	0.5	$4,104,672.00	Div	No	N/A
A187b1	Apex Peakway (East)	Center St / Ten Ten Rd	NC 55	0	4	New Location	0.8	$8,800,000.00	Div	No	N/A
A187c1	Apex Peakway (South)	Tingen Rd	Old US 1	0	2	New Location	0.65	$3,971,153.55	Div	No	N/A
A199	Pullen Rd	Western Blvd	Centennial Pkwy	0	2	New Location	0.4	$3,451,895.34	Div	No	N/A
A207a3	Judd Parkway NE	Products Road (future ext)	Old Honeycutt Road	2	4	Widening	0.6	$1,350,000.00	Div	No	U-5927
A207c	Judd Parkway W	Wilbon Rd	NC 42	0	4	New Location	1.2	$26,200,000.00	Div	No	U-5317
A20b	Hillsborough St Safety & Enhancement (Road Diet)	Gardner St	Gormat St	4	4	TSM	0.84	$1,000,000.00	Div	Yes	U-4447
A215a	Jones Dairy Rd	NC 98 (Wake Forest Bypass)	Chalk Rd	2	4	Widening	0.8	$7,313,779.20	Div	No	N/A
A218e	Jessie Dr (part NL)	NC 55	Ten Ten Rd	0	2	New Location	1.58	$10,417,520.30	Div	No	N/A
A219a1	McCrimmon Parkway Ext	NC 54	Davis Dr	2	4	Widening	1.1	$13,000,000.00	Div	No	U-5747A
A220a	Morrisville Carpenter Rd	Page St	Davis Dr	2	4	Widening	0.6	$9,000,000.00	Div	No	U-5618
A220b	Morrisville Carpenter Rd	Davis Dr	Louis Stephens Dr	2	4	Widening	0.7	$6,399,556.80	Div	No	N/A
A220c	Morrisville Carpenter Rd	Louis Stephens Dr	Good Hope Ch Rd	2	4	Widening	0.28	$2,559,822.72	Div	No	N/A
A222c	NC 54	Perimeter Park Dr	Northern Twn Limits	2	6	Widening	1.8	$25,336,000.00	Reg	Yes	U-5750
A236a	Chapel Hill Rd	NW Maynard Rd	Academy St	2	4	Widening	1	$11,310,000.00	Div	Yes	N/A
A236b	Chapel Hill Rd	Academy St	NE Maynard Rd	2	4	Widening	1	$11,500,000.00	Div	Yes	N/A
A240c	South Harrison Avenue	Dry Rd	Kildaire Farm Rd	0	2	New Location	0.23	$1,794,381.23	Div	No	N/A
A26a	McCrimmon Parkway	Airport Blvd	Aviation Parkway	0	2	New Location	1.43	$11,487,602.57	Div	No	U-3620
A26b	McCrimmon Parkway	Airport Blvd	Aviation Parkway	2	4	Widening	1.43	$11,870,000.00	Div	No	U-5828
A27c1	Louis Stephens Dr Ext (NL)	Little Drive	Poplar Pike Lane	0	4	New Location	0.72	$3,036,000.00	Div	No	U-5827
A28b	Davis Dr	Farm Pond Rd	US 64	2	4	Widening	1.1	$10,056,446.40	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A2b	Southall Rd	Southall Rd (Existing)	Hedingham Blvd	0	4	New Location	0.28	$3,800,000.00	Div	No	N/A
A407b3	NC 42	NC 50	I-40	2	4	Widening	2.17	$12,713,033.00	Reg	Yes	R-3410B
A412	US 70 - Upgrade to Freeway	Durham / Wake County Line	Lumley/Westgate Rd	4	6	Widening	2.69	$47,500,000.00	St	Yes	U-5518 A
A414	Kildaire Farm Connector	Sunset Lake Rd	Holly Springs Rd	0	4	New Location	0.9	$9,612,521.10	Div	No	R-2721
A427a	Avent Ferry Rd	Piney Grove Wilbon	Elm St	2	4	Widening	0.6	$5,485,334.40	Div	No	U-5889
A427b	Avent Ferry Rd	Cass Holt	Piney Grove Wilbon	2	4	Widening	0.72	$5,399,222.40	Div	No	U-5889
A439	Buck Jones Rd	Farmgate Rd	Xebec Way	2	3	Turn Lane	1.05	$6,500,000.00	Div	No	N/A
A440a1	Carpenter Fire Station Rd	Cameron Pond Drive	NC-55	2	4	Widening	0.94	$7,850,005.80	Div	No	N/A
A440b	Carpenter Fire Station Ext	NC 55	Morrisville Carpenter Rd	0	4	New Location	0.3	$3,204,173.70	Div	No	U-5502
A448	Six Forks Rd	Ramblewood Road	Lynn Road	4	6	Widening	2.4	$45,000,000.00	Div	No	N/A
A450	RTP Access Routes	Internal RTP access points	External access points	2	4	New Location	0.84	$6,299,092.80	Div	No	U-4410
A46a	Tryon Rd	Lake Wheeler Rd	Par Drive	2	4	Widening	1.3	$6,800,000.00	Div	No	U-4432
A46b	Tryon Rd	Norfolk Southern Rail	Existing Tryon Rd Alignment	0	4	Widening	0.5	$14,273,729.00	Div	No	U-4432
A46c	Tryon Rd	New Tryon Rd Alignment	S. Wilmington St	2	4	Widening	0.09	$2,569,271.00	Div	No	U-4432
A480b	US 401(South)	Ten Ten Rd	NC 540	4	6	Widening	1.07	$21,985,000.00	Reg	Yes	U-5746
A486	NC 54-Blue Ridge Grade Separation	Blue Ridge Rd	Beryl Rd	4	4	Grade Separation	1	$28,634,000.00	Reg	No	U-4437
A49a	Poole Rd	Maybrook Dr	Barwell Rd	2	4	Widening	1	$9,800,000.00	Div	No	N/A
A521	O'Kelley Chapel Rd	Louis Stephens Dr	NC 55	0	4	New Location	0.62	$5,946,248.88	Div	No	N/A
A54	Pleasant Valley Rd	Duraleigh Rd	Glenwood Avenue	2	3	Widening	0.34	$1,367,377.83	Div	No	N/A
A557	Green Lvl W Rd Widening	NC 540	Green Level Ch Rd	2	4	Widening	0.95	$12,923,000.00	Div	No	U-5500
A562	Wade Ave Widening	I-40	I-440	4	6	Widening	2.91	$39,565,000.00	St	Yes	U-5936
A57	Sandy Forks Rd	Falls of Neuse	Six Forks Rd	2	3	Turn Lane	1.31	$9,850,000.00	Div	No	N/A
A605a	High Speed Rail - Rogers Rd Intersection	Rogers Rd	Rogers Rd	2	4	Grade Separation	-	$10,890,000.00	Div	No	N/A
A608b	NC 98 Widening	Hampton Way	Tyler Run Dr	2	3	Widening	1.23	$2,547,625.00	Reg	Yes	U-5118BB

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A610	Stadium Dr Widening	US 1	US 1A	2	3	Widening	1.29	$893,000.00	Div	No	U-5515
A615	Marsh Creek/ Trawick Rd Median	Capital Blvd	New Hope Rd	2	3	Turn Lane	1.41	$10,700,000.00	Div	No	N/A
A619c	US 401 Median	NC 55/42 (FV)	Judd Parkway	4	4	Median	1.18	$9,120,000.00	Reg	Yes	U-5980
A622	NC 55 Widening	Apex Peakway (South)	Salem St	2	4	Widening	0.89	$5,581,930.00	Reg	Yes	U-2901 B
A623d2	Hilltop Needmore Extension	Herbert Atkins Road	Basal Creek (East Fork)	0	2	New Location	0.3	$1,938,327.30	Div	No	N/A
A630	Judd Parkway NW	NC 55	Judd Pkwy (NL)	2	4	Widening	0.57	$4,949,287.20	Div	No	N/A
A634	US 70 / Brier Creek Interchange	-	-			Interchange	0	$13,400,000.00	St	Yes	U-5518C
A635b	US 401 Superstreet	Legend Rd	Purser Dr	4	4	Superstreet	1	$3,245,000.00	Reg	No	U-5302
A637	401/55/42 Interchange	East of Fuquay-Varina	-			Interchange	2	$54,684,000.00	Reg	No	U-5751
A638	US 70 / Jones Sausage Int. Improvements	-	-	4	6	Widening	1.74	$7,000,000.00	Reg	Yes	U-5520
A640	Aviation Parkway Interchange (Impr)	National Guard Dr	I-40	-	-	Interchange	0.42	$24,853,000.00	St	Yes	I-5506
A641	Airport Blvd Interchange (Impr)	-	-			Interchange	0.82	$34,720,000.00	St	Yes	I-5700
A642	N Harrison Ave HSR Grade Sep	Adams St	W Chatham St	4	4	Grade Separation	0	$22,600,000.00	St	No	P-5708
A644	Chatham / Maynard Grade Separation	-	-	2	2	Grade Separation	0	$38,000,000.00	St	No	P-5718
A645	US 70 / TW Alexander Interchange	-	-	-	-	Interchange	2	$29,300,000.00	St	No	U-5518B
A646	Tarboro St Road Diet	New Bern Ave	Martin Luther King Jr	4	3	TSM	0.88	$1,000,000.00	Div	No	N/A
A647	West St Extension	Martin St	Cabarrus St	0	2	New Location	0.28	$10,000,000.00	St	No	U-5521
A648	US 1 / Friendship Interchange	Old US 1 Highway	Friendship Road	-	-	Interchange	0	$13,946,625.00	St	Yes	
A64a	Aviation Parkway	Gateway Centre Blvd	Dominion Dr	2	4	Widening	0.58	$6,957,000.00	Div	No	U-5811
A64b	Aviation Parkway	Evans Rd	NC 54	2	4	Widening	0.9	$10,795,000.00	Div	Yes	U-5811
A64d	Aviation Parkway	I-40	Gateway Centre Blvd	4	6	Widening	0.92	$11,035,000.00	Div	Yes	U-5811
A650	Kipling Realign	US 401	Harnett Central Rd	0	2	New Location	0.49	$1,625,000.00	Div	No	R-5523
A651	Apex Peakway / Salem St Interchange	-	-	-	-	Interchange	0	$12,500,000.00	St	No	U-5928

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A656	New Hope Road Grade Separation	-	-	-	-	Grade Separation	-	$15,346,000.00	St	No	P-5715
A659	Durant Rd Grade Separation	-	-	-	-	Grade Separation	-	$12,525,000.00	St	No	P-5720
A681	Dixie Forest Road	Spring Forest Road	Atlantic Ave / Litchford Road	2	3	Widening	0.25	$1,600,000.00	Div	No	N/A
A682	Blue Ridge Rd	Duraleigh	Crabtree Valley Avenue	2	3	Turn Lane	2	$10,500,000.00	Div	No	N/A
A683a	Barwell Rd	Rock Quarry Rd	Berkley Lake Drive	2	3	Turn Lane	1.15	$10,800,000.00	Div	No	N/A
A684	Blount/Person Streets Two Way Conversion	Blount St / Person St / Sasser St	Blount St / Person St / Hoke St	-	-	TSM	4.1	$6,100,000.00	Div	No	N/A
A685	Wake Forest Rd / Brookside Drive Roundabout	-	-	-	-	TSM	-	$2,300,000.00	Div	No	N/A
A686	Atlantic Avenue Widening	Highwoods Blvd	New Hope Church Rd	4	4	Widening	1	$11,600,000.00	Div	No	N/A
A696	New Hope Church Rd	Green Rd	Deana Ln	2	3	Widening	0.4	$2,637,180.00	Div	No	N/A
A82a	Trinity Rd Ext	Walnut Creek	Cary Towne Blvd	2	4	Widening	0.34	$8,938,045.41	Div	No	N/A
A82b	Trinity Rd Ext	Walnut Creek	Chatham St	0	2	New Location	0.44	$2,688,165.48	Div	No	N/A
A85b1	Leesville Rd	Westgate Rd	O'Neal Rd (@ Leesville Road Campus)	2	4	Widening	1	$11,600,000.00	Div	No	N/A
A86a	Leesville Rd	I-540 Interchange	New Leesville Blvd	2	4	Widening	1.17	$10,696,402.08	Div	No	N/A
A90b	US 401 Rolesville Bypass	US 401	US 401	0	4	New Location	4.5	$42,625,440.00	Reg	Yes	R-2814b
A90c	US 401 Widening	US 401 Rolesville Bypass	Flat Rock Church Rd	2	4	Widening	6.64	$27,950,000.00	Reg	Yes	R-2814C
A96b	NC 55	Salem St	Bryan Dr	2	4	Turn Lane	0.53	$3,324,070.00	Reg	Yes	U-2901 B
Grnv108	NC 56 Realignment	NC 50	US 15	2	2	Intersection Realignment	0.5	$4,480,000.00	Reg	No	R-5707
Hrnt4a	NC 55	North Broad Street	Church St	2	3	Turn Lane	1.78	$12,400,000.00	Reg	Yes	R-5705A
Jhns11	Front St Ext	Front St	NC 42	0	2	New Location	0.92	$4,901,925.60	Div	No	U-3605
Jhns1b	NC 42 East Widening	Glen Laurel Rd	Buffaloe Rd	2	4	Widening	4.35	$43,100,000.00	Reg	Yes	R-3825
Jhns2a	NC 42 West	US 70 Business	US 70 Bypass	2	4	Widening	3.1	$27,430,000.00	Reg	Yes	R-3410A
Jhns2b	NC 42 West Widening	US 70 Bypass	I-40	2	4	Widening	4.27	$25,015,967.00	Reg	Yes	R-3410B
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MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
F110	US 1	US 64	NC 540	4	6	Widening	5.3	$200,716,129.00	St	Yes	U-6066
F110a	US 1 / NC 55 Diverging Diamond Interchange	-	-	-	-	Interchange	-	$22,300,000.00	St	No	N/A
F11-1e1	US 1 North - Upgrade to Freeway	NC 98 (Durham Road)	Harris Road	4	6	Widening	1.85	$90,112,000.00	St	Yes	U-5307 D
F11-1e2	US 1 North - Upgrade to Freeway	Harris Road	US 1A (Youngsville)	4	6	Widening	3.91	$43,981,165.80	St	Yes	N/A
F14	Clayton Bypass Widening	I-40	US 70	4	6	Widening	8.69	$97,748,422.20	St	Yes	N/A
F15a	US 64 West Conversion to Expressway	Laura Duncan Road	I-540	4	6	Widening	5.7	$51,193,039.59	St	Yes	N/A
F15b	US 64 West Conversion to Freeway	NC-540 Tri-Ex Turnpike	NC 751	4	6	Widening	3.2	$67,978,386.00	St	Yes	N/A
F17	Aviation Parkway Ext	Brier Creek Parkway	US 70	0	4	New Location	1.79	$33,160,066.14	Div	Yes	U-4721[A]
F3	NC 540 Tri-Ex (Phase VI)	I-40 (South)	US 64 East Bypass	0	6	New Location	10.8	$315,430,000.00	St	Yes	R-2829
F40	I-40 Managed Lanes	Durham County Line	Wade Avenue	0	2	Widening	9.2	$579,090,000.00	St	Yes	I-5702
F41	I-40 Managed Lanes	Wade Avenue	Johnston County	0	2	Widening	21.29	$211,274,569.00	St	Yes	N/A
F41b	I-40 Managed Lanes	Johnston County	Cornwallis Rd	0	2	Widening	2.88	$20,462,870.00	St	Yes	N/A
F42b	I-540 Managed Lanes	I-40	US-64 Bypass	0	2	Widening	25.82	$367,809,456.96	St	Yes	N/A
F44c	I-40 (East)	NC 42	NC 210	4	6	Widening	6.78	$89,679,815.78	St	Yes	N/A
F44d	I-40 (East)	NC 210	CAMPO MAB	4	6	Widening	6.78	$94,574,375.28	St	Yes	N/A
F45	I-40 Managed Lanes	Cornwallis Rd	NC 210	0	2	Widening	4.47	$26,920,480.00	St	Yes	N/A
F46	I-40 Managed Lanes	NC 210	CAMPO MAB	0	2	Widening	6.75	$36,179,936.00	St	Yes	N/A
F7a	US 64 East	US 64 Bypass (Wendell)	US 64/US 264 (Zebulon)	4	6	Widening	7.35	$92,070,546.75	St	Yes	N/A
F81a	I-40 Widening	Wade Avenue	US 1/64	6	8	Widening	4.18	$37,734,000.00	St	No	I-5704
F81b	I-40 / Wade Avenue Interchange Improvement	-	-	-	-	Interchange	-	$30,000,000.00	St	No	N/A
F86	Capital Blvd - Corridor Upgrades	I-440	I-540	0	0	New Location	5.25	$54,227,013.75	St	No	N/A
A1	Perry Creek Rd Ext (Widening)	US 401	Fox Road	2	4	Widening	0.53	$4,350,952.32	Div	No	N/A
A101	US 70	Lumley/Westgate Rd	Duraleigh/Millbrook Rd	4	6	Widening	3.3	$105,548,000.00	Reg	Yes	U-2823
A104b	Morrisville Parkway	Green Level Ch Rd	NC 55	2	4	Widening	1.83	$15,000,000.00	Div	Yes	N/A
A112a	Smithfield Rd	US 64 Bypass	Major Slade Rd	2	4	Widening	2.6	$23,769,782.40	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A113	Ten Ten Rd	Holly Springs Rd	Bells Lake Rd	2	4	Widening	1.95	$17,827,336.80	Div	No	N/A
A114c	Ten Ten Rd	Holly Springs Rd	Kildaire Farm Road	2	4	Widening	1.3	$11,884,891.20	Div	No	N/A
A120	Tryon Rd Ext	Garner Rd	Rock Quarry Rd	0	4	Widening	2.15	$26,310,434.85	Div	No	U-3111
A124a	Northside Loop (Harris Rd)	US 1A	White St	0	3	New Location	0.44	$7,205,384.34	Div	No	N/A
A133	Burlington Mills Rd	US 1	US 401	2	4	Widening	4.77	$35,769,848.40	Div	No	N/A
A134	Litchford Rd	Old Wake Forest Rd	Falls of Neuse Rd	3	4	Widening	2.99	$27,335,249.76	Div	No	N/A
A135a	Lead Mine Rd	Town & Country Rd	Millbrook Rd	3	4	Widening	0.54	$4,936,800.96	Div	No	N/A
A135c	Lead Mine Rd	Lynn Rd	Sawmill Rd	2	4	Widening	0.99	$9,050,801.76	Div	No	N/A
A136a	Lake Wheeler Rd	Tryon Rd	Penny Rd	2	4	Widening	1.79	$13,423,066.80	Div	No	N/A
A136b	Lake Wheeler Rd	Penny Rd	Ten Ten Rd	2	4	Widening	3.55	$29,143,171.20	Div	No	N/A
A136c	Lake Wheeler Rd	Ten Ten Rd	Hilltop-Needmore Rd	2	4	Widening	3.4	$27,911,769.60	Div	No	N/A
A137a	Old Stage Rd	US 401	Ten Ten Rd	2	4	Widening	4.2	$31,495,464.00	Div	No	N/A
A137b	Old Stage Rd	Ten Ten Rd	Rock Service Statoin	2	4	Widening	1.49	$11,470,823.93	Div	No	N/A
A137c	Old Stage Rd	Rock Service Station	NC 42	2	4	Widening	3.27	$24,521,468.40	Div	No	N/A
A138a	Timber Dr/Jones Sausage Connector	US 70	Timber Dr Ext	0	4	New Location	0.72	$7,690,016.88	Div	No	N/A
A138b	Timber Dr/Jones Sausage Connector	Jones Sausage Rd	US 70	0	4	New Location	0.28	$10,400,000.00	St	No	N/A
A138c	Timber Dr/Jones Sausage Connector	White Oak Rd	I-40 (South)	2	4	Widening	1.68	$15,358,936.32	Div	No	N/A
A138d	White Oak-Guy Rd Connector	White Oak Rd	Guy Rd	0	4	New Location	1.92	$18,186,854.40	Div	No	N/A
A13d	Falls of Neuse Blvd	Durant Rd	Old Falls of Neuse Blvd	4	6	Widening	2.06	$20,372,215.50	Div	No	N/A
A140a	Vandora Springs Rd & Ext	Timber Dr	Old Stage Rd	2	4	Widening	1.02	$9,325,068.48	Div	No	N/A
A140b	Vandora Springs Rd & Ext	Old Stage Rd	US 401	2	4	Widening	1.62	$14,810,402.88	Div	No	N/A
A142a	Timber Dr East	Waterfield Rd	White Oak Rd	0	4	New Location	1.17	$12,496,277.43	Div	No	N/A
A143a	White Oak Rd	US 70	I-540	2	4	Widening	4.46	$40,774,319.04	Div	Yes	N/A
A143a1	I-40 / White Oak Interchange	-	-	-	-	Interchange	-	$13,946,625.00	St	No	N/A
A143b	White Oak Rd	I-540	NC 42 (Johnston Co.)	2	4	Widening	2.53	$23,129,826.72	Div	No	N/A
A148a1	Eagle Rock Rd	Kioti Dr	Old Tarboro Rd	2	4	Widening	0.7	$5,845,749.00	Div	No	N/A
A148a2	Eagle Rock Rd	Old Tarboro Road	Martin Pond Rd	2	4	Widening	0.75	$6,263,302.50	Div	No	N/A
A149b2	Poole Rd	Richardson Road	Jake May Drive	2	4	Widening	1	$7,498,920.00	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A150	NC 98	Durham County Line	NC 98 Bypass	2	4	Widening	8.86	$81,000,104.64	Reg	Yes	N/A
A155c	T.W. Alexander Dr Ext	Brier Creek Parkway	Leesville Rd	0	4	New Location	1.8	$17,050,176.00	Div	No	N/A
A161	Skycrest Dr Ext	New Hope Rd	Forestville Rd	0	4	Widening	3.4	$50,923,058.29	Div	No	N/A
A162	Buffaloe Rd	Southall Rd	Stone Station Drive	2	4	Widening	1.5	$13,713,336.00	Div	No	N/A
A163a	Holly Springs Rd	Old Holly Springs Rd	N. of 540 Interchange	2	4	Widening	4.44	$40,591,474.56	Div	No	N/A
A163c	Friendship Rd Widening	Richardson Rd	Old Holly Springs Apex	2	4	Widening	3.58	$31,084,996.80	Div	No	N/A
A164c2	Green Level Church Rd	Kit Creek Road	Precept Way	2	4	Widening	0.95	$8,685,112.80	Div	No	N/A
A165a2	Airport Blvd Ext	Garden Square Ln	NC 54	0	4	New Location	0.84	$15,852,021.36	Div	Yes	N/A
A165b	Airport Blvd Ext	Davis Dr	Louis Stephens Rd	0	2	New Location	0.36	$3,139,829.04	Div	No	N/A
A167	Wendell Northern Bypass	US 64 BUS (west)	Old Zebulon Road	0	2	New Location	2.4	$14,240,772.00	Div	No	N/A
A168a	Green Level Ch Widening	Green Level West	Jenks Rd	2	4	Widening	1.76	$13,198,099.20	Div	No	N/A
A168b	Green Level Church Rd	Green Level West	Morrisville Parkway	2	4	New Location	1.86	$13,947,991.20	Div	No	N/A
A169c	Richardson Rd (East)	Poole Rd	Knightdale-Eagle Rock Rd	0	4	New Location	0.5	$4,736,160.00	Div	No	N/A
A173	New Hill Olive Chapel Rd	Old US 1	Chatham Co.	2	3	Widening	4.46	$16,106,496.12	Div	No	N/A
A174b	Old Battle Bridge / Tarboro Rd	Knightdale-Eagle Rock Rd	Wendell Blvd	0	4	New Location	0.8	$7,577,856.00	Div	No	N/A
A181b	Old US 1	Humie Olive Rd	Apex Peakway	2	4	Widening	2.53	$18,972,267.60	Div	No	N/A
A186c	Holland Rd Turn Lane	Old US 1	Kelly Rd	2	3	Turn Lane	1.49	$5,380,869.78	Div	No	N/A
A187b2	Apex Peakway (East)	Laura Duncan	Old Raleigh Road	2	4	New Location	0.3	$2,742,667.20	Div	No	N/A
A187b3	Apex Peakway (East)	Old Raleigh Rd	Center Street	2	4	New Location	0.75	$6,856,668.00	Div	No	N/A
A190	New Hill Holleman Rd Widening	Old US 1	Avent Ferry Rd	2	4	Widening	4.85	$39,377,514.30	Div	No	N/A
A193a	Sunset Lake Rd	US 401	Hilltop-Needmore Rd	2	4	Widening	2.65	$19,872,138.00	Div	No	N/A
A193b	Sunset Lake Rd	Hilltop-Needmore Rd	Optimist Farm Rd	2	4	Widening	2.55	$23,312,671.20	Div	No	N/A
A195	Creedmoor Rd	Glenwood Ave	Strickland Rd	4	6	Widening	4.11	$40,645,536.75	Reg	Yes	N/A
A2	Perry Creek Rd Ext (Part NL)	Fox Rd	Buffaloe Road	0	4	New Location	1.77	$22,251,814.83	Div	No	N/A
A200	Creech/Jones Sausage Connector	Creech Rd	Jones Sausage Rd	0	4	Widening	1.09	$10,324,828.80	Div	No	N/A
A201a	Rock Quarry Rd	New Hope Rd	Battle Bridge Rd	2	4	Widening	1.4	$20,350,000.00	Div	No	N/A
A201b	Rock Quarry Rd	Battle Bridge Rd	East Garner Rd	2	4	Widening	3.3	$30,169,339.20	Div	No	N/A
A202	East Garner Rd	Rock Quarry Rd	Shotwell Rd	2	4	Widening	3.22	$24,146,522.40	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A203	Auburn-Knightdale Rd	Grasshopper Rd	Raynor Rd	2	4	Widening	7.58	$56,841,813.60	Div	No	N/A
A205	Six Forks Ext	Atlantic Avenue	Capital Blvd	0	4	New Location	0.56	$25,981,124.00	Div	Yes	N/A
A207a2	Judd Parkway NE	NC 55	Products Road (future ext)	2	4	Widening	1.5	$11,248,380.00	Div	No	N/A
A21	Lake Boone Trail Ext	Blue Ridge Rd	Edwards Mill Ext	0	4	Widening	0.28	$2,990,562.12	Div	No	N/A
A217a	Sunset Lake Rd	Main St	Optimist Farm Rd	2	4	Widening	3.4	$31,083,561.60	Div	No	N/A
A217b	Sunset Lake Rd Ext	Old Holly Springs Apex	Main St	0	4	New Location	1.7	$18,156,984.30	Div	No	N/A
A217c	Sunset Lake Rd Ext	Woodfield Deadend Rd	Main St	2	4	Widening	0.99	$7,423,930.80	Div	No	N/A
A218a	Old Holly Springs Apex Rd	Holly Springs Rd	Jessie Dr	2	4	Widening	2.52	$23,592,212.28	Div	No	N/A
A218b	Jessie Dr (part NL)	Veridea Parkway	NC 55	0	4	New Location	1.64	$17,516,149.56	Div	No	N/A
A218c	Veridea Parkway	Tingen Rd	Jessie Dr	2	3	Turn Lane	1.06	$3,828,001.32	Div	No	N/A
A218d	Tingen Rd	Apex Peakway	Old Holly Springs Apex Rd	2	3	Turn Lane	0.55	$3,598,001.55	Div	No	N/A
A219a2	McCrimmon Parkway Ext	Davis Dr	Louis Stephens Rd	2	4	Widening	0.82	$4,727,273.00	Div	No	N/A
A219b	McCrimmon Parkway Ext	Louis Stephens Rd	NC 55	0	4	New Location	0.94	$8,903,980.80	Div	No	N/A
A221	NC 54	N.W. Maynard Rd	Wilson Rd	2	6	Widening	0.93	$8,502,268.32	Reg	Yes	N/A
A222b	NC 54	Weston Parkway	McCrimmon Pkwy Grade Sep	2	4	Widening	2.4	$59,132,337.60	Reg	Yes	N/A
A223a	Kit Creek Rd	Wake Rd	Green Level Ch Rd	0	4	New Location	0.42	$3,978,374.40	Div	No	N/A
A224a	Johnson Pond Rd	Optimist Farm Rd	Hilltop-Needmore Rd	2	4	Widening	2.05	$18,741,559.20	Div	No	N/A
A228a	NC 50	Timber Dr	I-540	2	4	Widening	4.91	$36,819,697.20	Reg	Yes	N/A
A228c	NC 50	NC 42	NC 210	2	4	Widening	5.63	$42,516,352.73	Reg	Yes	N/A
A230	S.E. Maynard Rd	Cary Towne Blvd	Walnut St	4	6	Widening	0.26	$2,571,250.50	Div	No	N/A
A231	Trinity Rd	Edwards Mill Rd Ext	Trenton Rd /Arrington Rd	2	4	Widening	1.1	$10,056,446.40	Div	No	N/A
A233a	NC 54	Reedy Creek Rd	Chapel Hill Rd	4	6	Widening	0.4	$3,955,770.00	Reg	No	N/A
A237a	Old Apex Rd	West Chatham St	Cary Parkway	2	4	Widening	1.55	$14,170,447.20	Div	No	N/A
A27d	Louis Stephens Dr Ext (part existing)	Poplar Pike Lane	Airport Blvd	2	4	Widening	1.22	$10,188,305.40	Div	No	N/A
A3	Spring Forest Rd Ext	US 401	Buffaloe Rd	0	4	New Location	1.52	$31,389,472.00	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A300	US 70	US 401	I-40	4	6	Widening	4.3	$70,417,777.50	Reg	Yes	N/A
A301	US 70	I-40	NC 42	4	6	Widening	7.21	$71,302,754.25	Reg	Yes	N/A
A302b	Eastern Angier Bypass	Benson Rd	NC 210	0	4	New Location	0.5	$4,104,672.00	Div	No	N/A
A302f	Eastern Angier Bypass	Kennebec Rd	NC 55	0	4	New Location	0.35	$3,356,753.40	Div	No	N/A
A37	Walnut St	Maynard Rd	Macedonia Rd	4	6	Widening	1.29	$12,757,358.25	Div	No	N/A
A39	Alston Avenue	Kit Creek Rd	NC 55	2	4	Widening	2.12	$15,897,710.40	Div	No	N/A
A402a	Buffaloe Rd	Spring Forest Rd Extension	Forestville Rd	2	4	Widening	0.95	$19,247,948.00	Div	No	N/A
A403a	Hodge Rd (Widening)	Poole Rd	US 64	2	4	Widening	3.15	$30,180,781.13	Div	No	N/A
A404	South Franklin St (part NL)	NC 98 (Wake Forest Bypass)	Rogers Rd	2	4	Widening	1.1	$10,056,446.40	Div	No	N/A
A406a	Shotwell Rd	East Garner Rd	US 70	2	4	Widening	0.86	$7,862,312.64	Div	No	N/A
A406c	Shotwell Rd Widening	Main St	Old Baucom Rd	2	4	Widening	2.12	$15,897,710.40	Div	No	N/A
A407a	NC 42	NC 401	Old Stage Rd	2	4	Widening	4.1	$30,745,572.00	Reg	Yes	N/A
A407b2	NC 42	John Adams Rd	NC 50	2	4	Widening	4.39	$32,920,258.80	Reg	Yes	N/A
A41	Kildaire Farm Rd	Ten Ten Rd	Kildaire Farm Connector	2	4	Widening	2.03	$18,558,714.72	Div	No	N/A
A415	Milburnie Rd	Hodge Rd Ext	Forestville Rd	2	4	Widening	1.5	$14,044,568.34	Div	No	N/A
A416	Fox Rd	Old Wake Forest Rd	US 401	2	4	Widening	2.06	$18,832,981.44	Div	No	N/A
A417	Spring Forest Rd	Fox Rd	US 401	3	4	Widening	0.67	$8,125,290.00	Div	No	N/A
A422	New Pearl Rd	Barwell Rd	Auburn Church Rd	0	3	New Location	1.77	$15,520,463.60	Div	No	N/A
A423	Woods Creek Rd	Friendship Rd	Old Holly Springs Apex Rd	2	4	Widening	1.46	$14,002,457.04	Div	No	N/A
A429a	Leesville-Westgate Connector	Westgate Rd	Leesville Rd	0	4	New Location	1.18	$26,880,940.56	Div	No	N/A
A432	Skycrest Dr	Brentwood Rd	New Hope Rd	2	4	Widening	1.6	$14,627,558.40	Div	No	N/A
A434	Sunnybrook Rd	Rock Quarry Rd	Poole Rd	3	4	Widening	1.81	$16,547,425.44	Div	No	N/A
A435	Battle Bridge Rd	Rock Quarry Rd	Auburn-Knightdale Rd	2	3	Turn Lane	1.85	$6,680,945.70	Div	No	N/A
A440c	NC-55/Carpenter Fire Station Road DDI	NC-55	Carpenter Fire Station Road	-	-	Interchange	-	$14,876,400.00	Reg	No	N/A
A444	NC 50	I 540	NC 98	2	4	Widening	5.06	$82,016,000.00	Reg	Yes	U-5891
A446	Glenwood Avenue	Womans Club Dr	Oberlin Rd	4	6	Widening	1.07	$10,581,684.75	St	Yes	N/A

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A449	Perry Rd Ext	Apex Peakway	NC 55 Bypass	0	4	New Location	2.01	$35,414,588.79	Div	No	N/A
A457	Westgate Rd	Leesville Rd	US 70	2	4	Widening	1.4	$12,799,113.60	Div	No	U-2918
A480a	US 401(South)	US 70	Ten Ten Rd	4	6	Widening	5.59	$77,328,266.79	Reg	Yes	N/A
A49b	Poole Rd	Barwell Rd	I-540	2	4	Widening	1.57	$14,353,291.68	Div	Yes	N/A
A51	Smithfield Rd	Forestville Rd	Bethlehem Rd	2	4	Widening	1.57	$14,353,291.68	Div	No	U-3441
A511	Piney Grove Wilbon Rd	Brayton Park Rd	Southern FV Bypass	2	4	Widening	6.5	$48,742,980.00	Div	No	N/A
A530	Evans Rd	Aviation Parkway	Weston Parkway	4	6	Widening	0.5	$4,944,712.50	Div	No	N/A
A531a	Purfoy Rd Widening	US 401	Holland Rd	2	4	Widening	1.41	$12,242,973.60	Div	No	N/A
A534b	US 401 Widening	Judd Pkwy	Eastern Parkway	2	4	Widening	1.53	$11,473,347.60	Reg	Yes	N/A
A535c	NC 42 Widening	Christian Light Rd	Cass Holt Rd	2	4	Median	2.94	$22,046,824.80	Reg	Yes	N/A
A543b	Rex Rd Realignment	Avent Ferry Connector (NL)	Cass Holt Rd	0	4	New Location	0.31	$3,119,945.40	Div	No	N/A
A544a	Avent Ferry Cnctr	Old Holly Springs Apex	Holly Springs Rd	0	4	New Location	0.99	$9,377,596.80	Div	No	N/A
A544b	Avent Ferry Cnctr Widening	Holly Springs Rd	Rex Rd	0	4	New Location	3.33	$31,542,825.60	Div	No	N/A
A545	Arthur Pierce Rd	Kildaire Farm	Holly Springs Rd	2	3	Turn Lane	1.03	$6,097,806.00	Div	No	N/A
A547	Stephenson Rd	Ten Ten Rd	Sunset Lake Rd	2	4	Widening	2.03	$13,279,896.63	Div	No	N/A
A559	Sweet Springs Ext.	Rex Rd	Cass Holt	0	2	New Location	1.31	$7,600,352.76	Div	No	N/A
A560a	Jones Franklin Widening	Western Blvd	I-440	2	3	Turn Lane	1.09	$6,750,451.13	Div	Yes	N/A
A560b	Jones Franklin Widening	I-440	Dillard Dr	2	4	Widening	1.22	$10,015,399.68	Div	Yes	N/A
A564	Hillsborough St Widening	Western Blvd	Bashford Rd	2	4	Widening	1.09	$9,965,024.16	Div	No	N/A
A577	Ackerman Road	NC 50	White Oak Rd	0	2	New Location	1.64	$11,710,846.29	Div	No	N/A
A579	Old Faison Rd Widening	Hodge Rd	Bethlehem Rd	2	4	Widening	2.06	$19,164,213.78	Div	No	N/A
A580	Old Faison Rd Ext	Bethlehem Rd	Smithfield Rd	0	4	New Location	0.76	$7,198,963.20	Div	No	N/A
A584	Western Wendell Loop	Wendell Blvd	Poole Rd	0	4	New Location	1.69	$12,673,174.80	Div	No	N/A
A589	Forestville Rd Ext	Mailman Rd	Old Knight Rd	0	2	New Location	3.52	$24,659,606.40	Div	No	N/A
A591	Mailman Rd Widening	Smithfield Rd	Knightdale-Eagle Rock Rd	2	4	Widening	1.45	$11,800,932.00	Div	No	N/A
A59a	N.E. Regional Center	Gresham Lake Rd	I 540	0	4	Widening	0.59	$9,979,963.95	Div	No	N/A
A59b	Sumner Blvd Ext	Old Wake Forest Rd	Capital Blvd	0	4	New Location	0.38	$14,058,620.00	Div	No	N/A
A59c	N.W. Regional Center	Ruritania	Gresham Lake Rd	0	4	Widening	0.99	$10,905,005.55	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A613	Harris Rd Widening	US 1	US 1A	2	4	Widening	1.42	$23,171,966.40	Div	No	N/A
A616a	New Hill Place	NC 55 (Bus)	NC 55 Bypass	0	3	New Location	1.08	$8,503,775.28	Div	No	N/A
A616b	New Hill Place	NC 55 Bypass	Old Holly Springs Apex	0	4	New Location	0.71	$6,389,079.84	Div	No	N/A
A617a	US 401 Bypass	US 401 (E of FV)	NC 55	0	6	New Location	6.41	$145,979,684.40	Reg	Yes	N/A
A619a	US 401 Widening	NC 540	US 401 Bypass	4	6	Widening	1.58	$17,772,440.40	Reg	Yes	N/A
A619b	US 401 Widening	US 401 Bypass	NC 55/42 (FV)	4	6	Widening	3.32	$37,344,621.60	Reg	Yes	N/A
A623b	Hilltop Needmore Widening	Johnson Pond Rd	Sunset Lake Rd	2	4	Widening	2.09	$15,672,742.80	Div	No	N/A
A623c	Hilltop Needmore Widening	Sunset Lake Rd	Keith Hills St	2	4	Widening	0.68	$5,099,265.60	Div	No	N/A
A624a	Honeycutt Connector	Avent Ferry Rd	Cass Holt Rd	0	4	New Location	0.82	$7,767,302.40	Div	No	N/A
A624b	Honeycutt Connector	Cass Holt Rd	Piney Grove Wilbon	0	4	Widening	0.87	$8,240,918.40	Div	No	N/A
A625	James Slaughter Rd Widening	Stewart Rd	Bass Lake Rd	2	3	Turn Lane	0.55	$3,256,110.00	Div	No	N/A
A629	Stewart Rd	James Slaughter Pkwy	Judd Pkwy	2	3	Turn Lane	1.3	$7,696,260.00	Div	No	N/A
A639	I-87 / I-495 Bypass Widening	I-440	US-64	6	8	Widening	9.73	$115,124,664.60	St	Yes	N/A
A643	Chatham / Trinity Grade Separation	-	-	2	2	Grade Separation	0	$50,410,000.00	St	No	N/A
A64c	Aviation Parkway	I-40	Airport Blvd	4	6	Widening	1.6	$30,818,341.13	Div	No	N/A
A652	NC 55	Morrisville Carpenter Rd	NC 540	4	6	Widening	1.55	$17,434,989.00	Reg	Yes	N/A
A664	Hilltop Road Relocation	Hilltop Road	Lake Wheeler Road	0	2	New Location	0.53	$2,350,000.00	Div	No	N/A
A669	Lucas & Old Crews Connector / Mama's Way & Hinton Oaks Ext	Hinton Oaks Avenue	Marks Creek Road	0	2	New Location	4.66	$28,470,116.22	Div	No	N/A
A66a	O'Kelley Chapel Rd	Alston Avenue	NC 55	2	4	Widening	1.21	$9,073,693.20	Div	No	N/A
A66b	O'Kelley Chapel Rd	Alston Avenue	NC 751	2	4	Widening	1.13	$8,473,779.60	Div	No	N/A
A672	Unicon Drive Ext	Height Lane	Unicon Drive	0	2	New Location	0.15	$1,187,576.25	Div	No	N/A
A675b	Southport Drive Connector	Southport Drive	Southport Drive	0	2	New Location	0.5	$2,966,827.50	Div	No	N/A
A678	Square Loop Interchange	US 401 South	Ten Ten Road	-	-	Interchange	-	$18,753,676.70	Reg	No	N/A
A679a	Northern Judd Parkway	NC 55 / Broad St	Old Honeycutt Road	0	2	New Location	2.74	$53,449,214.70	Div	No	N/A
A679b	Northern Judd Parkway	NC 55 / Broad St	Old Honeycutt Road	2	4	Widening	2.74	$25,049,693.76	Div	No	N/A
A683b	Barwell Rd	Berkley Lake Drive	Poole Rd	2	3	Turn Lane	1.2	$7,911,540.00	Div	No	N/A

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A687	Corporate Center Extension	Corporate Center Dr	Bashford Rd	0	2	Grade Separation	0.5	$22,000,000.00	St	No	N/A
A689	Beryl Road Realignment	Beryl Road	Royal St	2	2	Intersection Realignment	0.24	$5,000,000.00	St	No	N/A
A69	Holly Springs Rd	Cary Parkway	Penny Rd	2	4	Widening	2.22	$18,224,743.68	Div	No	N/A
A70	Holly Springs Rd	Penny Rd	Ten Ten Rd	2	4	Widening	1.22	$10,015,399.68	Div	No	N/A
A71	Holly Springs Rd	Ten Ten Rd	Kildaire Farm Rd Connector	2	4	Widening	0.84	$7,679,468.16	Div	No	N/A
A75b	Yates Store Rd	Yates Store Rd	Morrisville Parkway	0	4	New Location	1.09	$10,453,889.16	Div	No	N/A
A75c	Wimberley Rd	Morrisville Parkway	Green Level West Rd	0	4	New Location	1.46	$14,002,457.04	Div	No	N/A
A77b2	West Lake Rd	Ten Ten Rd	Middle Creek Park Avenue	2	4	Widening	1.23	$11,244,935.52	Div	No	N/A
A79a	Crabtree Valley Ave / I-440 Connector	I-440	Blue Ridge Rd	0	2	New Location	0.15	$72,568,194.00	St	No	I-5870
A79b	Crabtree Valley Ave Widening/Realign	Blue Ridge Rd	Creedmoor Rd	3	4	New Location	0.61	$18,096,806.00	St	No	I-5870
A82c	Trinity Rd Ext	Walnut Creek	Chatam St	2	4	Widening	0.44	$4,022,578.56	Div	No	N/A
A85b2	Leesville Rd	O'Neal Road (A Leesville Road Campus)	Lynn Rd	2	4	Widening	1.75	$15,998,892.00	Div	No	N/A
A86b	Leesville Rd	New Leesville Blvd	TW Alexander Dr Ext	2	4	Widening	0.97	$8,867,957.28	Div	No	N/A
A87	New Leesville Blvd Ext	Terminus	Carpenter Pond Rd	0	4	New Location	0.47	$9,500,000.00	Div	No	N/A
A88	New Rand Rd	NC 50	Old Garner Rd	2	3	Turn Lane	1.63	$10,746,508.50	Div	No	U-3607
A90c1	US 401 & NC 98 Interchange	-	-	-	-	Interchange	-	$12,523,500.00	St	No	N/A
A90d	US 401 Widening	Flat Rock Church Rd	Fox Park Rd	2	4	Widening	5.32	$16,333,091.00	Reg	Yes	R-2814D
A94	NC 55	NC 540	Kit Creek Rd	4	6	Widening	1.58	$11,907,535.07	Reg	Yes	N/A
A98	NC 55 Bypass	North Main St	Honeycutt Connector	4	6	Widening	5.95	$66,927,861.00	Reg	Yes	N/A
A98a	Holly Springs Road Interchange	Holly Springs Road	NC-55 Bypass	-	-	Interchange	-	$19,897,185.00	Reg	No	N/A
A98b	South Main Street Interchange	South Main Street	NC-55 Bypass	-	-	Interchange	0	$19,897,185.00	Reg	No	N/A
Frnk1	US 1	Extend frwy project from US-1A	CAMPO MAB	4	6	Widening	8.28	$131,004,519.53	St	Yes	N/A
Frnk11	Lane Store Extension	Oak Park Blvd	Lane Store Rd	0	2	New Location	1.39	$8,064,496.44	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
Frnk13	Western Service Rd	Bert Winston Rd	Pocomoke Rd	0	2	New Location	2.7	$14,812,340.40	St	No	N/A
Grnv35	Woodland Church Rd	Wake Co. line	Bruce Garner Rd	2	3	Turn Lane	4.41	$15,925,930.02	Div	No	N/A
Grnv94	I-85 / Brogden Interchange (New)	-	-	-	-	Interchange	3.94	$13,946,625.00	St	Yes	N/A
Grnv951	24th Street Extension	26th Street	East Lyon Station Rd	0	2	New Location	0.72	$8,219,000.00	Div	No	U-5829
Jhns13a	Ranch Road Extension	US 70 BUS / NC 42	Ranch Road	0	2	New Location	0.4	$2,556,411.00	Div	No	N/A
Jhns4a1	North Connector	NC 42 East	Covered Bridge Rd	0	2	New Location	2.33	$12,782,501.16	Div	No	N/A
2045 MTP											
F7b	US 64 East	US 64 Bypass (Wendell)	US 64/US 264 (Zebulon)	6	8	Widening	7.35	$85,609,455.75	St	Yes	N/A
F84	I-540 Managed Shoulder	US 1	I-495 (Kinightdale Bypass)	0	1	TSM	18.1	$77,089,736.00	St	No	N/A
F85	I-540 Managed Shoulder	I-40	US 1	0	1	TSM	7.72	$32,880,263.00	St	No	N/A
A102	Edwards Mill Rd Ext - part III	Chapel Hill Rd	Western Blvd Ext	0	4	New Location	0.7	$46,425,000.00	Div	Yes	U-3817
A112b	Smithfield Rd	Major Slade Rd	Johnston Co. line	2	4	Widening	1.4	$12,799,113.60	Div	No	N/A
A117	New Hope Rd	Old Poole Rd	Rock Quarry Rd	2	4	Widening	1.8	$16,456,003.20	Div	No	N/A
A118a	NC 55	Old Honeycutt Road	Jicarilla Rd	2	4	Widening	2.69	$29,055,000.00	Reg	Yes	R-5705D
A125a2	Forestville Rd	Buffaloe Rd	Rogers Rd	2	4	Widening	7.5	$68,566,680.00	Div	No	N/A
A125b	Heritage Lake Rd	Rogers Rd	End of Existing Heritage Lake Rd	2	4	Widening	0.93	$8,502,268.32	Div	No	N/A
A126a	Ligon Mill Rd	Burlington Mills Rd	US 1A	2	3	Turn Lane	2.32	$9,330,342.84	Div	No	N/A
A126b	Ligon Mill Rd	US 401	Burlington Mills Rd	2	3	Turn Lane	2.57	$16,943,881.50	Div	No	N/A
A127b1	Ligon Mill Rd Connector	NC 98 Bypass	Richland Creek	0	4	New Location	0.25	$8,499,834.00	Div	No	N/A
A127b3	Ligon Mill Rd Connector	Richland Creek	NC 98	2	4	Widening	0.75	$6,856,668.00	Div	No	N/A
A127c	Ligon Mill Rd Connector	NC 98	Stadium Dr	0	4	Widening	0.78	$8,330,851.62	Div	No	N/A
A130b	Mitchell Mill Rd (East)	Watkins Rd	Jonesville Rd	2	4	Widening	1.57	$14,353,291.68	Div	No	N/A
A131c	NC 96	US 401	SE of Youngsville	2	3	Turn Lane	4.14	$30,160,768.37	Reg	Yes	N/A
A135b	Lead Mine Rd	Millbrook Rd	Lynn Rd	2	4	Widening	1.12	$10,239,290.88	Div	No	N/A
A136d	Lake Wheeler Rd	Hilltop-Needmore Rd	US 401	2	4	Widening	0.57	$4,679,326.08	Div	No	N/A
A137d	Old Stage Rd	NC 42	NC 210	2	4	Widening	5.39	$40,419,178.80	Div	No	N/A
A137e	Old Stage Rd	NC 210	NC 55	2	4	Widening	3.57	$26,771,144.40	Div	No	N/A
A14	Ray Rd	Leesville Rd	Strickland Rd	2	3	Turn Lane	3.21	$21,163,369.50	Div	No	N/A

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A144	NC 50	Timber Dr	US 70	2	3	Turn Lane	1.5	$9,889,425.00	Reg	Yes	N/A
A148b	Eagle Rock Rd	Martin Pond Rd	Lake Myra Rd	2	4	Widening	2.47	$18,522,332.40	Div	No	N/A
A148c	Eagle Rock Rd	Lake Myra Rd	Covered Bridge Rd	2	4	Widening	4.97	$37,567,065.53	Div	No	N/A
A148d	Eagle Rock Rd	-	-	2	4	Widening	3.08	$23,096,673.60	Div	No	N/A
A149a	Poole Rd	I-540	Martin Pond Rd	2	4	Widening	5.6	$51,196,454.40	Div	No	N/A
A155b	T.W. Alexander Dr	Aviation Parkway	US 70	4	6	Widening	1.02	$17,722,990.69	Div	Yes	N/A
A157a	Eastern Parkway	Piney Grove Wilbon	NC 55	0	4	New Location	4.2	$40,081,177.13	Reg	No	N/A
A157a1	Eastern Parkway / US 401 Interchange	-	-	-	-	Interchange	-	$12,523,500.00	Reg	No	N/A
A157a2	Eastern Parkway / Angier Road Interchange	-	-	-	-	Interchange	-	$12,523,500.00	Reg	No	N/A
A163b	Friendship Rd Widening	Old Holly Springs Apex	New Hill Holleman	2	4	Widening	1.93	$17,075,830.20	Div	No	N/A
A169d1	NC 231 (Southern Wendell) Bypass (pc)	NC 231	Wendell Blvd	0	4	New Location	2.7	$25,894,954.80	Div	Yes	N/A
A169d2	NC 231 (Southern Wendell) Bypass (pc)	Wendell Road at Stott's Mill Road	NC 231	0	4	New Location	0.7	$6,713,506.80	Div	Yes	N/A
A172	Kelly Rd	Jenks Rd	Old US 1	2	4	Widening	5.23	$47,813,831.52	Div	No	N/A
A178a	Olive Chapel Rd	Kelly Rd	NC 55	2	4	Widening	1.93	$17,644,492.32	Div	No	N/A
A178b	Olive Chapel Rd	Richardson Rd	Kelly Rd	2	3	Turn Lane	1.81	$11,933,239.50	Div	No	N/A
A178c	Olive Chapel Rd	New Hill Olive Chapel Rd	Richardson Rd	2	3	Turn Lane	1.31	$8,636,764.50	Div	No	N/A
A179a	Richardson Rd	US 64 (West)	Olive Chapel Rd	0	4	New Location	1.42	$25,974,194.40	Div	No	N/A
A179b	Richardson Rd	Olive Chapel Rd	Humie Olive Rd	2	4	Widening	1.86	$13,947,991.20	Div	No	N/A
A179c	Richardson Rd	Humie Olive Rd	Old US 1 Highway	0	4	New Location	2.33	$22,070,505.60	Div	No	N/A
A184	Apex Barbecue Rd	Old US 1	Olive Chapel Rd	2	3	Turn Lane	1.32	$8,702,694.00	Div	No	N/A
A186a	Friendship Rd Widening	Friendship Road	Winding Way	2	3	Turn Lane	1.23	$4,921,659.60	Div	No	N/A
A186b	Friendship Rd Widening	Winding Rd	Old US 1	2	3	Turn Lane	0.5	$4,341,480.00	Div	No	N/A
A187a	Apex Peakway Widening (North)	Olive Chapel Rd	Laura Duncan Rd	2	4	Widening	1.6	$14,627,558.40	Div	No	N/A
A187c	Apex Peakway Widening (South)	Broadstone Way	Old US 1	2	4	Widening	1.25	$11,427,780.00	Div	No	N/A
A187d	Apex Peakway (West)	Old US 1	Olive Chapel Rd	2	4	Widening	1.09	$9,965,024.16	Div	No	N/A
A192	Graham Newton Rd	Penny Rd	Optimist Farm Rd	2	2	Widening	2.83	$18,513,353.43	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A197b	Cent Campus Connector & Interchange	Main Campus Dr Connector	I-40	0	4	New Location	0.38	$18,336,477.36	Div	Yes	N/A
A204	Bethlehem Rd	Smithfield Rd	Old Faison Rd	2	4	Widening	0.93	$6,973,995.60	Div	No	N/A
A207d	Judd Parkway SE	US 401	US 401	2	3	Turn Lane	1.76	$10,419,552.00	Div	No	N/A
A214	Garner Rd	Tryon Rd	Rock Quarry Rd	2	3	Turn Lane	7.16	$47,205,522.00	Div	No	N/A
A215b	Jones Dairy Rd	Chalk Road	Averette Rd	2	4	Widening	2.1	$19,198,670.40	Div	No	N/A
A216a	Jones Dairy Rd Ext	Averette Rd	US 401	2	4	Widening	2.87	$26,238,182.88	Div	No	N/A
A218f	Jessie Dr (part widening)	NC 55	Ten Ten Rd	2	4	Widening	1.58	$11,884,891.20	Div	No	N/A
A224b	Johnson Pond Rd	Hilltop-Needmore Rd	US 401 North	2	3	Turn Lane	2.56	$16,877,952.00	Div	No	N/A
A228b	NC 50	I-540	NC 42	2	4	Widening	1.85	$13,873,002.00	Reg	Yes	N/A
A229	NC 54	Chapel Hill Rd	Harrison Avenue	4	6	Widening	0.8	$7,911,540.00	Reg	No	N/A
A233b	NC 54	Reedy Creek Rd	Harrison Avenue	4	6	Widening	0.99	$9,790,530.75	Reg	No	N/A
A234	Western Blvd	Gorman St	Pullen Rd	4	6	Widening	1.21	$11,966,204.25	Div	No	N/A
A235b	US 1A	Rogers Rd	Forbes Rd	2	4	Widening	0.26	$2,376,978.24	Reg	No	R-3600
A237b	Old Apex Rd	Cary Parkway	Laura Duncan Rd	2	4	Widening	0.39	$3,565,467.36	Div	No	N/A
A240a	North Harrison Avenue	Reedy Creek Rd	Weston Parkway	4	6	Widening	0.81	$8,010,434.25	Div	No	N/A
A240b	North Harrison Avenue	Weston Parkway	I-40	6	8	Widening	0.48	$12,564,134.10	Div	No	N/A
A27a	Louis Stephens Dr Ext (part NL)	Wake County Line	Kit Creek Rd	2	4	Widening	1.23	$9,223,671.60	Div	No	N/A
A27b	Louis Stephens Dr Ext (part NL)	Kit Creek Rd	O'Kelly Chapel Rd	2	4	Widening	1.13	$8,473,779.60	Div	No	N/A
A2a	Southall Rd	Skycrest Dr	Buffaloe Rd	2	4	Widening	1.54	$15,000,000.00	Div	No	N/A
A302c	Rawls Ch Rd Widening	US 401	Rawls Ch Rd Extension	2	4	Widening	3.32	$27,255,022.08	Div	No	N/A
A302d	Eastern Angier Bypass	Wimberly Rd	Stratus St	0	4	New Location	0.39	$3,740,382.36	Div	No	N/A
A302e	Eastern Angier Bypass	Stratus St	Kennebec Rd	2	4	Widening	0.96	$7,880,970.24	Div	No	N/A
A302g	Kennebec Ch Realign	Rawls Ch Rd	NC 55	0	4	New Location	0.7	$6,713,506.80	Div	No	N/A
A34	Cary Parkway	Evans Rd	Harrison Avenue	2	4	Widening	1.74	$15,907,469.76	Div	No	N/A
A36c	Chatham St	N.E. Maynard Rd	I-40 bridge	2	4	Widening	0.93	$8,502,268.32	Div	No	N/A
A38	Tryon Rd	US 64	Kildaire Farm Rd	4	6	Widening	0.8	$7,911,540.00	Div	No	N/A
A400a	Ten-Ten Rd	Bells Lake Rd	Old Stage Rd	2	4	Widening	5.1	$38,244,492.00	Div	No	N/A
A400b	Ten Ten Rd	Old Stage Rd	NC 50	2	4	Widening	3.43	$25,721,295.60	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A401a	NC 97	Wendell Blvd	Hospital Rd	2	4	Widening	4.6	$42,054,230.40	Reg	Yes	N/A
A401b	Hospital Rd	NC 97	Mack Todd Rd	2	4	Widening	0.18	$1,645,600.32	Div	No	N/A
A401c	Hospital Rd	Mack Todd Rd	Barbee St Ext	0	4	New Location	0.42	$4,485,843.18	Div	No	N/A
A401d	Moss Rd	Barbee St Ext	Morphus Bridge Rd	2	4	Widening	1.86	$13,947,991.20	Div	No	N/A
A402b	Buffaloe Rd-Riley Hill Connector (part NL)	Forestville Rd	Rolesville Rd	2	4	Widening	4.44	$35,347,540.80	Div	No	N/A
A402c	Buffaloe Rd-Riley Hill Connector (part NL)	Rolesville	Riley Hill Rd	0	3	New Location	4.4	$28,306,449.60	Div	No	N/A
A402e	Proctor St	NC 96 (North)	Shepard School Rd	2	4	Widening	0.85	$6,374,082.00	Div	No	N/A
A403b	Hodge Rd Ext	US 64	Old Milburnie Rd	0	4	Widening	1.31	$12,314,016.00	Div	No	N/A
A403c	Hodge Rd	Auburn-Knightdale Rd	Poole Rd	2	4	Widening	1.9	$14,247,948.00	Div	No	N/A
A406b	Amelia Ch Rd	US 70	East of NC 42	2	4	New Location	2	$14,997,840.00	Div	No	N/A
A407b1	NC 42	Old Stage Rd	John Adams Rd	2	4	Widening	0.95	$7,123,974.00	Reg	Yes	N/A
A410	Lake Pine Dr/Old Raleigh Rd	Cary Parkway	Apex Peakway	2	4	Widening	1.7	$15,541,780.80	Div	No	N/A
A413	NC 54 (Chapel Hill Rd)	Corporate Center Dr	Hillsborough St	2	4	Widening	1.33	$14,159,158.00	Reg	Yes	N/A
A418	NC 96 Bypass (Youngsville)	NC 96	US 1	0	4	New Location	2.99	$30,411,959.76	Reg	Yes	N/A
A419	Knightdale Eagle Rock Rd	First Avenue	US 64/Knightdale Bypass	2	4	Widening	2.7	$20,247,084.00	Div	No	N/A
A420	Intersection Realignment @ Mitchell Mill/Riley Hill/Old Milburnie/Rolesville	-	-	2	3	Intersection Realignment	1	$6,592,950.00	Div	No	N/A
A426	NC 55 (Main St)	Holly Springs Rd	Technology Drive	2	4	Widening	2.79	$25,506,804.96	Reg	Yes	N/A
A427c	Avent Ferry Rd	New Hill Holleman	Cass Holt	2	4	Widening	3.69	$27,671,014.80	Div	No	N/A
A429b	Leesville-Westgate Connector	Leesville Rd	Carpenter Pond Rd	2	4	Widening	1.35	$26,619,859.74	Div	No	N/A
A42a	Penny Rd	Ten Ten Rd	Kildaire Farm Rd	2	4	Widening	1.25	$11,427,780.00	Div	No	N/A
A42b	Penny Rd	Kildaire Farm	Holly Springs Rd	2	4	Widening	1.62	$14,810,402.88	Div	No	N/A
A43	Lake Wheeler Rd	Tryon Rd	I-40	2	4	Widening	1.3	$17,884,891.00	Div	No	N/A
A433	Trawick Rd	Marsh Creek Rd	New Bern Avenue	2	3	Turn Lane	1.44	$5,791,247.28	Div	No	N/A
A443a	Jenks Rd	NC55	Wimberly Rd	2	3	Turn Lane	2.17	$7,836,568.74	Div	No	N/A
A443b	Jenks Rd	Wimberly Rd	US 64	2	4	Widening	0.51	$1,841,774.22	Div	No	N/A
A445a	NC 50	NC 98	Beaver Creek Rec	2	4	Widening	3.9	$32,016,441.60	Reg	Yes	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A445b	NC 50	Beaver Creek Rec	Old Weaver Trail	2	4	Widening	2	$16,418,688.00	Reg	Yes	N/A
A4c	Rogers Lane	Daleview Dr	Southall Rd	3	4	Widening	1.06	$10,021,989.78	Div	No	N/A
A510	Cass Holt Rd Widening	Avent Ferry	NC 42	2	4	Widening	7.13	$28,674,717.44	Div	No	N/A
A52	Smithfield Rd	Bethlehem Rd	US 64 Bypass	2	4	Widening	1.8	$16,456,003.20	Div	No	N/A
A520a	Pleasant Grove Church Rd	Nelson Rd	Airport Blvd	2	4	Turn Lane	2.4	$21,941,337.60	Div	No	N/A
A520b	Pleasant Grove Church Rd	Airport Blvd	Aviation Parkway	0	2	New Location	1.11	$11,855,442.69	Div	No	N/A
A531b	Purfoy Rd Widening	Holland Rd	Chalybeate Springs Rd	2	4	Widening	4.12	$35,773,795.20	Div	No	N/A
A532a	Holland Widening	Purfoy Rd	NC 55	2	4	Widening	2.28	$17,413,281.60	Div	No	N/A
A532b	Holland Rd Turn Lane	NC 55	Kennebec Rd	2	3	Turn Lane	1.08	$3,218,220.72	Div	No	N/A
A533	Old Honeycutt Turn Lane	Judd Pkwy	Kennebec Rd	2	3	Turn Lane	2.74	$8,164,745.16	Div	No	N/A
A535a	NC 42 Widening	Christian Light Rd	Coley Farm Rd	2	4	Widening	2.98	$22,346,781.60	Reg	Yes	N/A
A536	Wilbon Rd Widening	Judd Pkwy	Piney Grove Wilbon	2	4	Widening	1.45	$10,873,434.00	Div	No	N/A
A538	Bass Lake Rd Widening	Holly Springs Rd	Hilltop-Needmore Rd	2	4	Widening	2.77	$21,069,441.53	Div	No	N/A
A539	Banks Rd Turn Lane	US 401	Fanny Brown Rd	2	3	Turn Lane	1.55	$11,292,075.11	Div	No	N/A
A540a	Rock Service Station Turn Lane	Old Stage Rd	NC 42	2	3	Turn Lane	3.68	$24,371,334.41	Div	No	N/A
A540b	Rock Service Station Turn Lane	NC 42	Mt Pleasant Rd	2	3	Turn Lane	2.56	$16,747,061.76	Div	No	N/A
A541	Mt Pleasant Rd Widening	NC 42	Old Fairground Rd	2	4	Median	5.31	$43,591,616.64	Div	No	N/A
A543a	Rex Rd Widening	New Hill Holleman	Avent Ferry Connector (NL)	2	4	Widening	2.15	$18,668,364.00	Div	No	N/A
A549	Wimberley Rd	Jenks Rd	Green Level West Rd	2	3	Widening	1.97	$7,114,304.34	Div	No	N/A
A554	Laura Duncan Widening	US 64	Old Apex Rd	2	4	Widening	1.04	$7,798,876.80	Div	No	N/A
A563	Trinity Rd	NC 54	Chatham St	2	4	Widening	1	$2,934,653.90	Div	No	N/A
A568	Kit Creek Turn Lane	Davis Dr	Green Level Ch Rd	2	3	Turn Lane	1.81	$13,623,781.76	Div	No	N/A
A56c	NC 98	NC 98 Bypass	US 401	2	4	Widening	5.29	$48,362,364.96	Reg	Yes	N/A
A570	Ebenezer Ch Rd Turn Lane	Ebenezer Ch Rd	Westgate Rd	2	3	Turn Lane	1.96	$14,279,011.11	Div	No	N/A
A571	Slater Rd Turn Lane	Airport Blvd	West of NC 540	2	3	Turn Lane	1.4	$10,530,525.99	Div	No	N/A
A574	Grovemont Rd Turn Lane	Old Stage Rd	Timber Dr	2	3	Turn Lane	0.86	$6,265,280.39	Div	No	N/A
A575	Woodland Rd Turn Lane	Old Stage Rd	Vandora Springs Rd	2	3	Turn Lane	1.47	$10,709,258.33	Div	No	N/A
A576	Buffaloe Rd Turn Lane	NC 50	Buffaloe Rd	2	3	Turn Lane	1.48	$10,782,110.43	Div	No	N/A
A578	Auburn Ch Rd Turn Lane	Jones Sausage Rd	Garner Rd	2	3	Turn Lane	2.84	$18,578,771.64	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A581	Bethlehem Rd Turn Lane	Old Faison Rd	Grasshopper Rd	2	3	Turn Lane	2.47	$18,572,584.27	Div	No	N/A
A585	Industrial Drive	Wendell Blvd	Western Wendell Loop	2	3	Turn Lane	0.79	$5,346,631.29	Div	No	N/A
A586	Landing View Drive Ext	Western Wendell Loop	Hollybrook Rd	0	2	New Location	1.64	$13,121,728.62	Div	No	N/A
A588a	NC 96 Bypass	NC 96	NC 96	0	4	New Location	4.52	$45,820,526.40	Reg	Yes	N/A
A590	Mark's Creek Widening	Knightdale-Eagle Rock Rd	Rolesville Rd	2	4	Widening	3.54	$26,546,176.80	Div	No	N/A
A592	First St Widening	Smithfield Rd	Horton Rd	2	4	Widening	2.87	$22,488,866.40	Div	No	N/A
A593	Horton Rd Turn Lane	Forestville Rd	Horton Rd	2	3	Turn Lane	1.79	$11,709,859.59	Div	No	N/A
A594	Rolesville Rd	Kioti Dr	Mark's Creek Rd	2	4	Widening	2.54	$21,426,721.80	Div	No	N/A
A596	NC 96 Widening	US 64/264	Ferrel Road	2	4	Widening	2.88	$24,214,301.10	Reg	Yes	N/A
A599	Old Milburnie Rd Turn Lane	US 64	Milburnie Rd	2	3	Turn Lane	1.31	$8,569,785.51	Div	No	N/A
A601	Old Wake Forest Rd	Falls of Neuse Rd	Atlantic Ave	2	3	Turn Lane	1.43	$10,417,849.94	Div	No	N/A
A602	Fox Rd Turn Lane	Spring Forest Rd	Old Wake Forest Rd	2	3	Turn Lane	0.84	$6,119,576.19	Div	No	N/A
A604	Peebles Road Ext.	US 401	US 401	0	2	New Location	2.81	$14,972,185.80	Div	No	N/A
A605	Rogers Rd Widening	US 1A	W. of Heritage Branch Rd	2	4	Widening	0.44	$4,022,578.56	Div	No	N/A
A607	Falls of Neuse Widening	New Falls of Neuse Blvd	NC 98 Bypass	2	4	Widening	3.14	$26,516,575.80	Div	No	N/A
A608a	NC 98 Widening	Old NC 98	Ligon Mill Rd (future connector)	2	4	Widening	1.21	$10,104,794.70	Reg	Yes	N/A
A611	NC 98 Turn Lane	NC 98 Bypass	Allen St.	2	3	Turn Lane	0.71	$5,172,498.92	Reg	Yes	N/A
A612	White St Turn Lane	NC 98	Main St	2	3	Turn Lane	3.85	$25,186,010.85	Div	No	N/A
A614	Pinecrest Dr Turn Lane	Fairbanks Dr	Tanglewild Dr	2	3	Turn Lane	1.2	$8,742,251.70	Div	No	N/A
A617b	US 401 Bypass	NC 55	NC 210	0	6	New Location	4.25	$113,834,820.00	Reg	Yes	N/A
A617c	US 401 Bypass	NC 210	US 401(South)	0	6	New Location	5.32	$101,579,398.80	Reg	Yes	N/A
A618a	Gardner Rd	NC 210	Matthew Mill Pond Rd	0	3	New Location	0.48	$3,779,455.68	Div	No	N/A
A618b	Gardner Rd	Matthew Mill Pond Rd	Old Buies Creek Rd	2	3	Turn Lane	0.81	$4,795,362.00	Div	No	N/A
A618c	Gardner Rd	Old Buies Creek Rd	Ennis Rd	0	3	New Location	0.59	$4,645,580.94	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A618d	Gardner Rd	Ennis Rd	NC 55	2	3	Turn Lane	0.6	$3,552,120.00	Div	No	N/A
A618e	Gardner Rd	NC 55	Old Stage Rd	2	3	Turn Lane	1.27	$9,999,809.82	Div	No	N/A
A623d1	Hilltop Needmore Extension	Bass Lake Road	Hilltop Needmore Road	2	4	Widening	0.75	$6,263,302.50	Div	No	N/A
A623d4	Hilltop Needmore Extension	Hilltop Needmore Road	Wade Nash Rd	0	4	New Location	0.5	$7,040,932.50	Div	No	N/A
A624c	Honeycutt Connector	Piney Grove Wilbon	Honeycutt Realignment	0	4	Widening	0.95	$7,123,974.00	Div	No	N/A
A627	Old Buies Creek Rd Widening	NC 55	Matthew Mill Pond Rd	2	4	Widening	3.12	$27,090,835.20	Div	No	N/A
A628	Piney Grove Rawls Rd Widening	Piney Grove Wilbon	US 401	2	4	Widening	1.16	$10,072,233.60	Div	No	N/A
A631	Chalybeate Springs Widening	Future US 401 Bypass	Future Western Angier Bypass	2	4	Widening	3.51	$33,663,441.24	Div	No	N/A
A632a	Angier Western Bypass	NC 55 (S of Angier)	Rawls Ch Rd	0	2	New Location	1.77	$9,710,312.04	Div	No	N/A
A632b	Angier Western Bypass	Rawls Ch Rd	Kennebec Ch Realign	0	2	New Location	0.98	$5,376,330.96	Div	No	N/A
A632c	Angier Western Bypass	NC 55 (S of Angier)	NC 210 (E of Angier)	0	2	New Location	1.14	$6,254,099.28	Div	No	N/A
A633	Angier Rd Widening	Purfoy Rd	Rogers Rd	2	4	Widening	0.56	$5,119,645.44	Div	No	N/A
A649	Jones Franklin Rd Extension	Hillsborough St	NC 54	0	2	New Location	0.2	$26,000,000.00	St	No	N/A
A665	Perry Curtis Rd/Wake County Line Rd Access Management	S. Arendell Ave	NC-39	2	3	Turn Lane	2.6	$10,456,418.70	Div	No	N/A
A667	Todd Lane Extension	Marshburn Road	Wendell Blvd / US-64 BUS	0	3	New Location	1.27	$9,098,710.53	Div	No	N/A
A668	Liles Dean Ext	Liles Dean Road	Knightdale-Eagle Rock Road	0	2	New Location	1.07	$6,537,129.69	Div	No	N/A
A670	Western Wendell Ext	Poole Road	Lake Glad Road	0	4	New Location	1.4	$13,261,248.00	Div	No	N/A
A673	Watkins Road Widening	NC-54	Perimeter Park Drive	2	4	Widening	0.65	$5,942,445.60	Div	No	N/A
A675a	Morrisville East Connector	Trans Air Dr (N/S segment) / Airport Blvd (E/W segment)	International Dr (N/S segment) / Nova Dr (E/W segment)	0	2	New Location	1.48	$8,781,809.40	Div	No	N/A
A676	East Wake Drive Ext	Existing portion of East Wake Drive	Forestville Road	0	2	New Location	0.2	$1,186,731.00	Div	No	N/A
A677	Marcom Dr Ext	Watkins Road	Sorrell Grove Church Road	0	2	New Location	1.13	$6,903,697.71	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
A67a	Ferrell Rd	NC 96	Williams White Rd	0	3	New Location	2.82	$18,141,860.88	Div	No	N/A
A67b	Ferrell-Dukes Lake Connector	Williams White Rd	NC 39	0	3	New Location	2.45	$15,761,545.80	Div	No	N/A
A680a	Six Forks Road	I-540	Durant Road	2	4	Widening	0.9	$8,228,001.60	Div	No	N/A
A688	Powell Drive Realignment	Powell Dr	Youth Center Dr	2	2	Grade Separation	0.35	$44,000,000.00	St	No	N/A
A690	NC 231 (Southern Wendell) Bypass (pc) / Stott's Mill Road Widening	Eagle Rock Road	Wendell Road	0	4	Widening	2.5	$20,523,360.00	Div	Yes	N/A
A691	Western Wendell Ext	Lake Glad Road	Stotts Mill Road	0	4	New Location	0.8	$7,577,856.00	Div	No	N/A
A693	NC 231 (N. Selma Road)	Old Wilson Road	Stotts Mill Road	2	3	Widening	2.4	$9,652,078.80	Div	No	N/A
A698	Gorman St Widening	Kaplan Drive	Western Blvd	2	3	Widening	0.95	$3,820,614.53	Div	No	N/A
A72	Holly Springs Rd	Tryon Rd	SE Cary Parkway	2	4	Widening	0.61	$5,576,756.64	Div	No	N/A
A73a	Jones Franklin Rd	Tryon Rd	Dillard Dr	2	4	Widening	0.67	$6,125,290.08	Div	No	N/A
A74c	Piney Plains Rd	Dillard Dr	Walnut St	2	4	Widening	0.43	$3,931,156.32	Div	No	N/A
A76	Optimist Farm Rd	Lake Wheeler Rd	Sunset Lake Rd	2	4	Widening	4.49	$41,048,585.76	Div	No	N/A
A77a	West Lake Rd	Larboard Rd	Bells Lake Rd	0	2	New Location	1.25	$7,417,068.75	Div	No	N/A
A80b	New Hope Rd	US 64 Bypass	New Bern Ave	2	4	Widening	1.19	$19,210,479.00	Div	No	N/A
A81a	Western Blvd Ext	Existing Western Blvd	Cary Town Blvd	0	2	New Location	1.5	$8,900,482.50	Div	No	N/A
A9	Strickland Rd	Leesville Rd	Creedmoor Rd	2	4	Widening	2.73	$30,958,272.00	Div	No	N/A
A98c	Technology Drive Interchange	Technology Drive	NC-55 Bypass			Interchange	0	$13,946,625.00	Reg	No	N/A
Frnk20a	Hicks Road Widening	Future Frankilinton South Bypass	Bert Winston Rd	2	4	Widening	1.1	$9,493,002.75	Div	No	N/A
Frnk20b	Hicks Road Widening	Bert Winston Rd	Cedar Creek Rd	2	4	Widening	2.4	$20,414,478.00	Div	No	N/A
Frnk21	Sid Mitchell Rd Ext	Holden Rd	US 1/Wall Rd	0	2	New Location	1.1	$16,708,056.75	Div	No	N/A
Frnk4a	NC 56	W. of West Sandling Rd	US 1	2	4	Widening	3.63	$27,221,079.60	Reg	Yes	N/A
Frnk4b	NC 56	US 1	Peach Orchard Rd	2	4	Widening	6.76	$50,692,699.20	Reg	Yes	N/A
Frnk9	Franklinton S Bypass	NC 56 (west)	NC 56 (east)	2	4	New Location	4.13	$36,949,941.60	Reg	Yes	N/A
Grnv1	I-85	Durham co. line	Vance Co. Line	4	6	Widening	24	$339,614,222.11	St	Yes	N/A
Grnv110	Brogden Rd Turn Lane	NC 56	Belltown Rd	2	3	Turn Lane	5.59	$37,964,732.19	Div	No	N/A
Grnv113	Joe Peed Rd Turn Lane	US 15	WB Clark Rd	2	3	Turn Lane	1.34	$8,766,040.14	Div	No	N/A
Grnv18	NC 50	Old Weaver Trail	Dove Rd	2	4	Widening	2.67	$20,022,116.40	Reg	Yes	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
Grnv2	US 15	I-85	Gate #2 Rd	2	4	Widening	2.42	$24,706,569.53	Reg	Yes	N/A
Grnv20	NC 56	I-85	US-15	2	4	Widening	2.56	$19,197,235.20	Reg	Yes	N/A
Grnv21	NC 56	NC 50	Hayes Rd	2	4	Widening	2.6	$23,769,782.40	Reg	Yes	N/A
Grnv22b	NC 56	Hester Rd	W of Wes Sandling Rd	2	4	Widening	4.18	$31,345,485.60	Reg	Yes	N/A
Grnv32	Brassfield Rd	Creedmoor Loop	Hayes Rd	2	4	Widening	1.8	$13,498,056.00	Div	No	N/A
Grnv33	Brassfield Rd	Hayes Rd	NC 96	2	4	Widening	4.07	$30,520,604.40	Div	No	N/A
Grnv47	Creedmoor Loop A	NC 56	US 15	0	4	New Location	1.59	$15,060,988.80	Div	No	N/A
Grnv48	Creedmoor Loop B	US-15	Relocated US 15	2	4	Widening	0.66	$4,949,287.20	Reg	No	N/A
Grnv49	Creedmoor Loop C	Relocated US 15	Brassfield Rd	0	4	New Location	2.23	$21,123,273.60	Div	No	N/A
Grnv65	Hester Rd	NC-56	Sanders Rd	2	4	Widening	4.18	$31,345,485.60	Div	No	N/A
Grnv66	Hester Rd	Sanders Rd	New Ext Hester Rd	2	4	Widening	2.8	$20,996,976.00	Div	No	N/A
Grnv81	Northside Rd Ext	Northside Rd	Old Weaver Rd	0	4	New Location	0.92	$8,714,534.40	Div	No	N/A
Grnv81a	Old Weaver Trail	From NC 50 (Wake Co)	Northside Rd Ext	2	4	Widening	1.65	$12,373,218.00	Div	No	N/A
Grnv82	Old Route 75 (SR-1004)	Durham Co.	Julian Daniel Rd	2	4	Widening	5.24	$39,294,340.80	Div	No	N/A
Grnv84c	Sanders Rd Ext (South)	US 15	Hester Rd	0	2	New Location	1.28	$7,426,298.88	Div	No	N/A
Grnv93	Cash Rd / Gate 2 Rd	Old Weaver Trail	West B St	2	4	Widening	4.93	$36,969,675.60	Div	No	N/A
Hrnt3a	NC 210	NC 55	Old Stage Rd	2	4	Widening	3.01	$22,571,749.20	Reg	Yes	N/A
Hrnt3b	NC 210	Old Stage Rd	NC 50	2	4	Widening	6.46	$48,740,456.33	Reg	Yes	N/A
Hrnt3c	NC 210	NC 50	Lassiter Pond Rd	2	4	Widening	7.26	$54,442,159.20	Reg	Yes	N/A
Hrnt4b	NC-55	Church St	Old Stage Rd	2	4	Widening	4.39	$32,920,258.80	Reg	Yes	N/A
Hrnt5	US 401	Fuquay-Varina	Lillington UPD	2	4	Widening	7.5	$56,241,900.00	Reg	Yes	R2609
Hrnt7	Harnett Central Rd Widening	US 401	Montague Rd	2	4	Median	4.17	$36,207,943.20	Div	No	N/A
Jhns10	Cleveland Rd Widening	NC 50	Barber Mill Rd	2	4	Widening	7.253	$66,639,783.02	Div	No	N/A
Jhns13b	NC 42 (Ranch Road & Partial New Location)	US 70 BUS / NC 42	US 70 Bypass	2	4	Widening	1.96	$16,368,097.20	Reg	No	N/A
Jhns13c	NC 42 (East) / US 70 BUS Interchange	-	-	-	-	Interchange	-	$13,946,625.00	Reg	No	N/A
Jhns3	South Connector	Little Creek Church Rd	NC 42	0	2	New Location	2	$10,972,104.00	Div	No	R-3618
Jhns4a2	North Connector	NC 42 East	Covered Bridge Rd	2	4	Widening	2.33	$17,472,483.60	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
Jhns4b	Covered Bridge Rd Widening	North Connector	Shotwell Rd	2	4	Widening	2.13	$15,972,699.60	Div	No	N/A
Jhns5	Covered Bridge Rd Widening	N. O'Neil St	Eagle Rock Rd	2	4	Widening	4.59	$34,420,042.80	Div	No	N/A
Jhns6	Pritchard Rd/Smithfield Rd Widening	Covered Bridge Rd	Wake County line	2	4	Widening	2.4	$19,702,425.60	Div	No	N/A
Jhns7	Guy Rd	US 70 BUS	NC 42	2	4	Widening	4.39	$32,920,258.80	Div	No	R-3618
Jhns8	Cornwallis Rd Widening	NC 42	Old Drugstore Rd	2	4	Widening	5.46	$41,538,969.45	Div	No	N/A
Jhns9	Old Drug Store Rd Wdng	NC 42	NC 50	2	4	Widening	2.57	$19,272,224.40	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
2025 MTP											
316	Brier Creek Pkwy Extension	T.W. Alexander Dr	Andrew's Chapel Rd	-	4	New Location	0.4	$3,990,000	Div	No	N/A
9	Carver St Ext	Armfield St	Old Oxford Rd	-	4	New Location	1.0	-	Div	No	N/A
15	East End Connector (EEC)	NC 147	US 70	-	4	New Location	3.6	$35,175,000	St	Yes	U-0071
200	Eubanks Rd	MLK Blvd (NC 86)	Millhouse Rd	2	4	Widening	0.8	$7,487,000	Div	No	N/A
23	Fayetteville Rd	Barbee Rd	Cornwallis Rd	2	4	Widening	1.0	$3,374,000	Div	No	N/A
23.1	Fayetteville Rd	Woodcroft Pkwy	Barbee Rd	2	4	Widening	1.3	$4,661,000	Div	No	U-6021
111	Fordham Blvd (US 15-501)	I-40	Franklin St	4	4	Modernization	1.6	$2,052,000	St	Yes	U-5304B
379	Freeland Memorial Extension	S Churton St	New Collector Rd	-	2	New Location	0.5	$3,203,000	Div	No	N/A
45.3	I-40 (westbound auxiliary lane)	NC 147	NC 55	6	7	Widening	1.2	$3,850,000	St	No	I-5707
638	I-40/NC 86	Interchange	--	-	-	Upgrade	N/A	$16,500,000	St	No	I-3306AC
223	Legion Rd Ext	Legion Rd	Fordham Blvd	-	2	New Location	0.1	$1,500,000	Div	No	N/A
407	Lynn Rd/Pleasant Dr Connector	Lynn Rd	Pleasant Dr	-	2	New Location	0.6	$3,651,000	Div	No	N/A
64.12	NC 147 (Operational Improvements)	East End Connector	Swift Av	4	4	Modernization	1.7	$58,400,000	St	No	U-5937
64.13	NC 147 (possible Managed Lanes)	East End Conn	I-40	4	8	Widening	4.9	$179,248,000	St	Yes	U-5934
428	NC 54	Old Fayetteville Rd	MPO Boundary	2	2	Modernization	2.9	$14,457,000	Reg	No	R-5821A
75.2	NC 55 (Alston Ave)	Main St	NC 98	2	2	Modernization	0.5	-	Reg	No	U-3308
75.1	NC 55 (Alston Ave)	NC 147	Main St	2	4	Widening	0.4	-	Reg	No	U-3308
437	New Collector Rd	Orange Grove Rd Ext	Becketts Ridge Rd	-	2	New Location	0.8	$7,232,000	Div	No	N/A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
89.3	Orange Grove Connector	Orange Grove Rd	US 70	-	2	New Location	0.4	$5,299,000	Div	No	U-5848
220	Purefoy Rd Ext	Sandberg Ln	Weaver Dairy Rd	-	2	New Location	0.6	$3,777,000	Div	No	N/A
221	S Elliot Rd Ext	Fordham Blvd	Ephesus Church Rd	-	2	New Location	0.3	$4,230,000	Div	No	N/A
113.1	US 15-501/Garrett Rd	Interchange	--	-	-	New	N/A	$71,200,000	St	Yes	U-5717
123.11	Woodcroft Pkwy Ext	Garrett Rd	Hope Valley Rd	-	2	New Location	0.2	$2,219,000	Div	No	U-5823
2035 MTP											
346	Danziger Dr Extension	Mt Moriah Rd	E Lakewood Dr	-	2	New Location	0.4	$5,127,000	Div	No	N/A
367	Erwin Rd	Cameron Blvd	W Main St	4	4	Modernization	1.8	$12,025,000	Div	No	N/A
373	Falconbridge Rd Connector	Falconbridge Rd	Farrington Rd	-	2	New Location	0.2	$1,227,000	Div	No	N/A
201	Falconbridge Rd Extension	Farrington Rd	NC 54	-	4	New Location	0.9	$16,685,000	Div	No	N/A
240	Fordham Blvd (US 15-501)	NC 54	Franklin Street	4	4	Modernization	2.1	$45,498,000	St	Yes	U-5304A
73	Fordham Blvd (US 15-501)	NC 54	US 15-501	4	4	Modernization	2.2	$49,832,000	St	Yes	U-5304A
204	Fordham Blvd/Raleigh Rd	Interchange	--	-	-	Upgrade	N/A	$14,800,000	St	Yes	U-5774A
626	Fordham Blvd/S Columbia St	Interchange	--	-	-	Upgrade	N/A	$35,000,000	St	Yes	U-5304E
24.11	Garrett Rd	NC 751	Old Durham Rd	2	4	Widening	2.1	$16,064,000	Div	No	N/A
36	Homestead Rd	Old NC 86	Rogers Rd	2	2	Modernization	2.1	$10,234,000	Div	No	N/A
35	Homestead Rd	Rogers Rd	NC 86	2	2	Modernization	1.3	$6,855,000	Div	No	N/A
77.1	Hope Valley Rd (NC 751)	S Roxboro St	Woodcroft Parkway	2	4	Widening	0.3	$2,716,000	Reg	No	N/A
77.11	Hope Valley Rd (NC 751)	NC 54	Woodcroft Pkwy	4	4	Modernization	-	(see #77.1)	Reg	No	N/A
202	Hopson Rd	Davis Dr	S Miami Blvd (NC 54)	2	4	Widening	0.7	$5,200,000	Div	No	N/A
44	I-40	NC 86	I-85	4	6	Widening	7.8	$58,784,000	St	Yes	I-3306AA
43	I-40	US 15-501	NC 86	4	6	Widening	3.9	$29,316,000	St	Yes	I-3306AB
45	I-40 Managed Lanes	Wake County Line	NC 147	8	10	Widening	7.0	$446,464,000	St	Yes	I-5702B
70.4	I-40/ NC 54 ramp	Farrington Rd.	I-40	-	1	New Location	0.2	$1,600,000	St	No	U-5517
646	I-85/NC 86	Interchange	--	-	-	Upgrade	N/A	$16,488,000	St	No	I-5984
650	I-85/S Churton St	Interchange	--	-	-	Upgrade	N/A	$20,700,000	St	No	I-5967
50.11	Jack Bennet Rd/Lystra Rd	US 15-501 South	Farrington Mill/Point Rd	2	2	Modernization	4.1	$20,567,000	Div	No	N/A
51	Lake Hogan Farms Rd	Eubanks Rd	Legends Way	-	2	New Location	0.7	$4,407,000	Div	No	N/A
410	Marriott Way	Friday Center Dr	Barbree Chapel Rd	-	2	New Location	0.2	$682,000	Div	No	N/A
69.4	NC 54	Barbee	NC 55	2	4	Widening	1.3	$46,400,000	Reg	No	U-5774J

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
69.3	NC 54	Fayetteville	Barbee	2	4	Widening	1.0	$46,800,000	Reg	No	U-5774I
70.3	NC 54	Fordham Blvd (US 15-501)	Barbee Chapel Rd	6	6	Modernization	1.2	$32,106,000	Reg	Yes	U-5774B
69.21	NC 54	Highgate Dr	Fayetteville Rd	4	4	Modernization	1.5	(see #69.2)	Reg	No	U-5774H
69.1	NC 54	I-40 Interchange	NC 751	2	4	Widening	1.2	$32,000,000	Reg	No	U-5774G
69.2	NC 54	NC 751	Highgate Dr	2	4	Widening	1.5	$21,600,000	Reg	No	U-5774H
70	NC 54 (widening; superstreet)	I-40	Barbee Chapel Rd	4	6	Widening	1.6	$9,100,000	Reg	Yes	U-5774C
75.3	NC 55 (Alston Ave)	Main St	NC 98	2	4	Modernization	0.5	$1,000	Reg	No	U-3308
440	New Hope Commons Dr Extension	Eastowne Dr	New Hope Commons Dr	-	2	New Location	0.4	$4,588,000	Div	No	N/A
94	Roxboro St	Cornwallis Rd	MLK Pkwy	-	4	New Location	1.2	$12,063,000	Div	No	N/A
87	S Churton St	US 70 Business	I-40	2	4	Widening	2.4	$31,825,000	Div	No	U-5845
230	Southwest Durham Dr	NC 54	I-40	-	2	New Location	2.0	$12,402,000	Div	No	N/A
476	University Dr	MLK Parkway	Shannon Rd	5	4	Modernization	0.5	$768,000	Div	No	N/A
113	US 15-501 (expressway conversion)	US 15-501 Bypass	I-40	6	6	Expressway	2.2	$195,300,000	St	Yes	U-6067
485	US 70 (freeway conversion)	Pleasant Dr	S Miami Blvd	4	6	Freeway	1.6	$111,020,000	St	Yes	U-5720A
116	US 70 (freeway conversion)	S Miami Blvd	Northern Durham Parkway	4	6	Freeway	2.5	$173,469,000	St	Yes	U-5720C
116.1	US 70/Miami Bvld	Interchange	--	-	-	New	N/A	$46,621,000	St	Yes	U-5720B
2045 MTP											
304.1	Angier Av Ext	US 70	Leesville Rd	-	2	New Location	0.8	$4,784,000	Div	No	N/A
244	Angier/Glover Connector	Ellis Rd	Glover Rd	-	2	New Location	1.4	$8,625,000	Div	No	N/A
343	Crown Pkwy/Roche Dr	Page Rd	T.W. Alexander Dr	-	2	New Location	2.7	$11,041,000	Div	No	N/A
364	Eno Mountain Rd realignment	Mayo St	Eno Mountain Rd	-	2	New Location	0.3	$2,015,000	Div	No	N/A
24.12	Garrett Rd	Old Durham Rd	US 15-501	2	4	Widening	1.0	$7,761,000	Div	No	N/A
28.11	Glover Rd	Angier	US 70	-	2	New Location	0.6	$3,714,000	Div	No	N/A
382	Hebron Rd Extension	Hebron Rd	Roxboro Rd (501 N)	-	2	New Location	0.5	$3,612,000	Div	No	N/A
434	Holloway St (NC 98)	Miami Blvd	Nichols Farm Dr	4	4	Modernization	3.3	$17,705,000	Reg	No	N/A
394	Hopson Rd	Louis Stephens Dr	Davis Dr	2	4	Widening	1.1	$9,195,000	Div	No	N/A
45.21	I-40 Managed Lanes	NC 54	US 15-501	6	8	Widening	2.9	$85,621,000	St	Yes	I-5702A
45.22	I-40 Managed Lanes	NC 147	NC 54	6	10	Widening	6.4	$250,290,000	St	Yes	I-5702A

MTP ID	Highway Project	From	To	Existing Lanes	Proposed Lanes	Improvement Type	Length (miles)	Estimated Cost	STI	Reg. Sig.	TIP#
48.1	I-85	Sparger Rd	US 70	4	6	Widening	3.0	$39,118,000	St	Yes	I-5983
48	I-85	US 70	I-40	4	6	Widening	7.1	$197,378,000	St	Yes	I-5983
49	I-85	US 70	Red Mill Rd	4	6	Widening	8.2	$215,940,000	St	Yes	N/A
53	Leesville Rd Ext	US 70/Page Rd Ext	Leesville Rd	-	2	New Location	0.4	$2,644,000	Div	No	N/A
57	Lynn Rd Extension	US 70	Existing Lynn Rd	-	2	New Location	1.1	$6,862,000	Div	No	N/A
242	Mt Carmel Ch Rd	US 15-501	Bennett Rd	2	2	Modernization	0.4	$1,997,000	Div	No	N/A
14.1	N Duke St (501 N)	I-85	N Roxboro split	5	4	Modernization	2.5	$13,279,000	Reg	Yes	N/A
76	NC 751	Martha's Chapel Rd	O'Kelly Ch. Rd	2	4	Widening	5.4	$43,232,000	Reg	No	N/A
77.2	NC 751	NC 54	Renaissance Pkwy	2	4	Widening	1.2	$5,290,000	Reg	No	N/A
77.3	NC 751	Renaissance Pkwy	O'Kelly Chapel Rd	2	4	Widening	2.7	$21,697,000	Reg	No	N/A
80	NC 86	Old NC 10	US 70 Business	2	4	Widening	0.9	$7,259,000	Reg	No	N/A
81	NC 86 (and US 70 intersection)	US 70 Bypass	NC 57	2	4	Widening	0.3	$4,742,000	Reg	No	I-5984
84	Northern Durham Pkwy	I 85 North	Old Oxford Hwy	-	4	New Location	2.7	$23,291,000	Div	No	N/A
83.1	Northern Durham Pkwy	Sherron Rd	NC 98	-	4	New Location	4.3	$13,600,000	Div	Yes	N/A
83.11	Northern Durham Pkwy	US 70 E	Sherron Rd	-	4	New Location	2.7	$23,500,000	Div	Yes	N/A
502	Patriot Dr Extension	S Miami Blvd	Page Rd	-	2	New Location	1.9	$13,086,000	Div	No	N/A
92	Roxboro Rd (501 N)	Duke St	Goodwin Rd	4	4	Modernization	2.7	$14,574,000	Reg	Yes	N/A
96.1	Sherron Rd	S Mineral Springs Rd	Stallings Rd	2	4	Widening	3.1	$25,003,000	Div	No	N/A
106.1	Southwest Durham Dr	US 15-501 Business	Mt Moriah Rd	-	4	New Location	0.4	$3,667,000	Div	No	N/A
104	Southwest Durham Dr	Sawyer Dr	Old Chapel Hill Rd	2	4	Widening	0.7	$5,432,000	Div	No	N/A
479	US 15-501	Smith Level Rd	MPO Boundary	4	4	Modernization	4.9	$25,673,000	St	No	N/A
114	US 15-501 Bypass	MLK Parkway	I-85	4	6	Widening	4.8	$80,734,000	St	Yes	N/A
81.1	Wake Forest Hwy (NC 98)	Nichols Farm Dr	Wake County Line	2	4	Widening	6.0	$48,474,000	Reg	Yes	N/A
501	Yates Store Rd Extension	Yates Store Rd	Wake Rd	-	2	New Location	1.4	$11,519,000	Div	No	N/A

Appendix 3. Transit Project List – CAMPO

Each row in the table is a separate route or service. The attribute information for each project is presented in columns, and includes the following:

- Route Name – This name provides information on the local route identification and/or the destination points of the route.
- Mode – The type of service (e.g., bus, bus rapid transit, commuter (regional) rail)
- Headway – The time between each bus or train on the route, both during peak commute periods and "off-peak" periods during the mid-day and evening.

No.	Route_Name	Mode	Peak Headway	Off-Peak Headway
1	Apex Raleigh	Bus	30	60
2	Apx_HS_Peak	Bus	60	0
3	APX_RTP	Bus	60	0
4	Atlantic	Bus	60	60
5	Blue Ridge	Bus	15	15
6	Capital BRT	Bus Rapid Transit	10	15
7	Clark_DixieTrail	Bus	30	30
8	Clayton_to_Garner_Extension_BRT	Bus Rapid Transit	10	15
9	Creedmoor	Bus	30	60
10	CTRAN Apex to Angier	Bus	30	60
11	CTRAN Cary Parkway	Bus	30	60
12	CTRAN Holly Trolly	Bus	60	60
13	Durham 540 Express	Bus	60	0
14	Edwards Mill	Bus	30	30
15	Falls of Neuse	Bus	30	30
16	Fayetteville	Bus	60	0
17	FON_Durant	Bus	60	60
18	Fuquay_WT_Ex	Bus	60	0
19	Garner Loop	Bus	60	60
20	Garner Rd	Bus	30	30
21	Glascock	Bus	15	15
22	Glenwood	Bus	15	15
23	Glenwood Outer	Bus	60	60
24	Glenwood_Peak_Overlay	Bus	60	0
25	Harrison	Bus	30	30
26	High House	Bus	30	30
27	Hills_Buck Jones	Bus	30	30
28	Hillsborough	Bus	15	15
29	I-40 Ex Airport Pattern	Bus	30	30
30	Kit Creek Loop	Bus	30	60
31	Lake Wheeler	Bus	30	30
32	Lynn	Bus	60	60
33	Maynard Loop	Bus	60	60
34	Millbrook	Bus	60	60
35	MLK	Bus	15	15
36	Morrisville / Clayton BRT	Bus Rapid Transit	10	15
37	NCSU 1:AventF&Gorman-DHLibrar	Bus	12	12
38	NCSU 11:VillageLink	Bus	15	30
39	NCSU 2 Reverse Wolflink Shuttle	Bus	15	15
40	NCSU 3:Engineering	Bus	15	15
41	NCSU 4:Westgrove-DHLibrary	Bus	30	30
42	NCSU 5:VarsityPL-DHLibrary	Bus	15	15
43	NCSU 6:CarterFinley-ScottHall	Bus	15	15
44	NCSU 7:WolfVillage-BrooksHall	Bus	10	10
45	NCSU 8:SoutheastLoop	Bus	12	18
46	NCSU 8a:Mid-Day Textiles	Bus	0	26
47	NCSU 9:GreekVillage	Bus	12	12
48	New Bern Knightdale	Bus	60	60
49	New Hope	Bus	60	60
50	Oberlin	Bus	15	15
51	Poole Rd	Bus	60	60
52	Poole_SL	Bus	60	0
53	Rail CR CP	Commuter Rail Transit	30	180
54	Raleigh Mid-Town BRT	Bus Rapid Transit	10	15
55	Raleigh_Blvd	Bus	30	30
56	R-LINE	Bus	15	15

57	Rock Quarry	Bus	60	60
58	Rolesville Peak Express	Bus	60	0
59	SAS-Regency	Bus Rapid Transit	10	15
60	Six Forks	Bus	15	15
61	Six Forks Outer	Bus	30	30
62	South Saunders	Bus	60	60
63	St. Albans	Bus	15	15
64	State	Bus	15	15
65	Triangle Commons Loop	Bus	30	60
66	Trinity	Bus	30	30
67	Tryon	Bus	30	30
68	TT 102 OB:Moore Sq-Garner	Bus	60	0
69	TT Circ Research Triangle EB	Bus	30	60
70	TT Green EB	Bus	30	0
71	TT Purple NB	Bus	15	0
72	Wake Med to RTP	Bus Rapid Transit	10	15
73	Wake Tech Feeder	Bus	30	30
74	Wendell Zebulon Exp	Bus	60	0
75	WF to Raleigh CR	Commuter Rail Transit	30	180
76	WF via FON	Bus	60	60
77	WF-EXP	Bus	60	0

*Table will be updated upon completion of the *Wake Transit Bus Implementation Plan*

Appendix 4. Bicycle and Pedestrian Projects

Background
The 2045 MTP does not specifically list the bicycle and pedestrian projects. The local jurisdictions and counties have identified, and in many cases prioritized these projects and have coordinated their interaction in the jurisdiction boundary areas through the DCHC MPO. As a result, the 2045 MTP defers to those local governments.

Exempt Projects
All the bicycle and pedestrian projects are deemed exempt from the air quality conformity determination according to Title 40, Code of Federal Regulations (CFR), PART 93.126. The most important implication of this exemption is that the projects may proceed toward implementation in the absence of a conforming transportation plan or Transportation Improvement Program (TIP).

Durham-Chapel Hill-Carrboro MPO Regional and Statewide Bicycle Routes
A major objective of the 2045 Long-Range Transportation Plan is to identify regional bicycle routes in the Durham-Chapel Hill-Carrboro MPO region. Regional bicycle routes have several characteristics, as follows:

- Provide links between major destinations and between urban centers.
- Facilitate primarily utilitarian bicycle trips, though the routes can also serve recreational cycling.
- Serve as a backbone to a finer grained system of local bicycle routes in each jurisdiction.

The regional bicycle route map identifies a variety of corridors in need of improved bicycle facilities. The map primarily identifies on-road routes, but off-road routes are also identified. The regional routes will be evaluated from time-to-time, including future updates of the long-range transportation plan.

DCHC MPO Regional Routes
In planning the regional bicycle routes, twelve specific zones of connections were targeted. The following listing shows the identified regional routes within each zone of connection:

<u>Connections between Carrboro and Chapel Hill</u>

- Homestead Road
- Homestead Road / Weaver Dairy Road
- Morgan Creek Trail (off-road) / Columbia Street
- Bolin Creek Trail (off-road)
- The Campus to Campus Connector (on and off-road connecting UNC-CH main campus to Carolina North)

<u>Connections between Carrboro-Chapel Hill and Hillsborough</u>

- Columbia Street / NC 86

<u>Connections between Carrboro-Chapel Hill and Chatham County</u>

- Smith Level Road / US 15-501
- US 15-501
- NCDOT Mountains-to-Sea Bicycle Route (see description below)

Connections between Hillsborough and Chatham County

- Orange Grove Road / Dodson's Crossroads Road

Connections between Durham and Chatham County

- Roxboro Road / Hope Valley Road / NC 751
- American Tobacco Trail (off-road)

Connections between Durham and Hillsborough

- Morreene Road / Neal Road / Bennett Memorial Road / Old NC 10 / NC 86
- Cornwallis Road / Erwin Road / NC 751 / Old NC 10 / NC 86

Connections between Durham and Carrboro-Chapel Hill

- Cornwallis Road / Erwin Road
- Pickett Road / Erwin Road
- University Drive / Old Durham-Chapel Hill Road
- Old Durham-Chapel Hill Road / Farrington Road / Ephesus Church Road

Connections between Carrboro-Chapel Hill and Research Triangle Park

- NC 54
- NC 54 / Barbee Chapel Road / Farrington Road / Stage Coach Road / NC 751 / Massey Chapel Road / Barbee Road / NC 54
- NC 54 / Barbee Chapel Road / Farrington Road / Stage Coach Road / NC 751 / Fayetteville Road / Scott King Road / Grandale Road / Sedwick Road
- NC 54 / Barbee Chapel Road / Farrington Road / Stage Coach Road / NC 751 /O'Kelly Chapel Road
- NC 54 / Hope Valley Road / Woodcroft Parkway / Carpenter Fletcher Road

Connections between Durham and Research Triangle Park

- Martin Luther King Jr. Parkway / Cornwallis Road
- American Tobacco Trail / Cornwallis Road / Miami Boulevard / Davis Drive
- Cornwallis Road / Alston Avenue
- Northeast Creek Parkway / Briggs Avenue

Connections between Treyburn-North Durham and Durham

- Northern Durham Parkway / Miami Boulevard
- North-South Greenway (off-road) / Milton Road / Tom Wilkinson Road / US 501
- Midland Terrace / Lynn Road / Miami Boulevard

Connections between Treyburn-North Durham and Hillsborough

- Northern Durham Parkway / Mason Road / St. Mary's Road

Connections between Research Triangle Park and Briar Creek area (Wake County)

- Chin Page Road

- T.W. Alexander Drive

DCHC MPO Statewide Routes
In addition to the regional bicycle routes, two statewide bicycle routes are identified in the Durham-Chapel Hill-Carrboro MPO region:

- NCDOT Mountains-to-Sea Bicycle Route in Orange and Chatham counties (uses Old Greensboro Highway, Jones Ferry Road, Greensboro Street, Smith Level Road, Culbreth Road, Mount Carmel Church Road, and Farrington Road)
- East Coast Greenway in Durham and Chatham counties (uses the American Tobacco Trail, the Downtown Trail, and a portion of the North-South Greenway Trail).

Appendix 6. Complete Streets

The Capital Area MPO and Durham-Chapel Hill-Carrboro MPO support street cross-section designs and safety counter measures with the objective to create roadways that are multi-modal, sensitive to the local context (e.g., land use, non-automotive trips), and safe. This support is evident not only in the funding that the MPOs direct to multimodal projects but also in the multimodal design guidelines and safety countermeasures referenced in this section.

Street Cross Sections and Guidelines

The 2045 MTP includes the following guidelines by reference:

1. **Complete Streets** - The street cross sections and guidelines in Chapter 4 of the North Carolina Department of Transportation's Complete Streets Planning and Design Guidelines. The illustrations show the intended spatial relationships of the various street components, and serve as a diagram of one or more possible street configurations. The guidelines provide ranges that allow the design team the flexibility to respond to particular conditions.

   The cross-sections should not be used in isolation. Consideration of the context and other elements must be brought into the decision making process. The final cross-section and design of a road depends on many operational, planimetric, contour and land use factors, and thus design decisions must be made on a case-by-case basis.

2. **Manual on Uniform Traffic Control Devices** (MUTCD) - All pavement markings and placement of pavement markings should follow the guidelines specified in the current edition.

3. **NACTO Design references** – The National Association of City Transportation Officials (NACTO) has prepared the following guidelines specifically for urban settings:

   a. NACTO Urban Bikeway Design Guide
   b. NACTO Urban Street Design Guide
   c. NACTO Transit Street Design Guide
   d. NACTO Urban Street Storm water Guide

Safety Countermeasures

Improving safety is a top priority for both the Capital Area MPO and Durham-Chapel Hill-Carrboro MPO, which are committed to reducing transportation fatalities and serious injuries on and along our region's roadways. In September 2017, FHWA issued a "Guidance Memorandum on Promoting the Implementation of Proven Safety Countermeasures." This guidance takes into consideration the latest safety research to advance a group of countermeasures that have shown great effectiveness in improving safety for motorists, pedestrians and bicyclists.

Safety practitioners are encouraged to consider this set of countermeasures that are research-proven, but not widely applied on a national basis. As both the Capital Area MPO and Durham-Chapel Hill-

Carrboro MPO develop plans to address mobility and safety challenges, they are to consider the benefits and use of these proven roadway safety tools and techniques.

1. **Safety Edge –** The Safety Edge asphalt paving technique minimizes vertical drop-off safety hazards and has a minimal impact on project cost. NCDOT has implemented pilot projects to evaluate the benefits of a safety edge. CAMPO and DCHC MPO will work with NCDOT to use the technique where appropriate.

2. **Roundabouts –**A roundabout is a circular intersection where entering traffic yields to vehicles on the circulatory roadway. Roundabouts substantially improve safety and operations. There are local governments in both MPOs that have ordinance provisions for roundabouts; and both MPOs will encourage their use as needed for transportation system measures.

3. **Corridor Access Management –** Access management is a set of techniques that State and local governments use to control access to highways, major arterials, and other roadways. The benefits of access management include improved movement of traffic, reduced crashes, and fewer vehicle conflicts. Successful access management seeks to simultaneously enhance safety, preserve capacity, and provide for pedestrian and bicycle needs.

4. **Backplates with Retroreflective Borders –** Backplates are added to a traffic signal indication in order to improve the visibility of the illuminated face of the signal and thereby reduce unintentional red-light running crashes.

5. **Longitudinal Rumble Strips and Stripes on 2-Lane Roads –** Longitudinal rumble strips are milled or raised elements on the pavement intended to alert inattentive drivers through vibration and sound that their vehicles have left the travel lane. As discussed in Chapter 9 of the Chapter 4 of the North Carolina Department of Transportation's Complete Streets Planning and Design Guidelines, when rumble stripes are used, they should be designed to lessen the impacts on other users, specifically bicyclists.

6. **Enhanced Delineation and Friction for Horizontal Curves –** Implementing the recently published curve treatments included in the Manual on Uniform Traffic Control Devices (MUTCD) should improve curve safety over past practices by providing consistency. Treatments include signs, retro reflectivity, flashing lights and surface friction.

7. **Medians and Pedestrian Crossing Islands in Urban and Suburban Areas –** Medians reduce traffic conflicts and increase safety by providing a buffer area between opposing lanes of traffic. Both the Capital Area MPO and Durham-Chapel Hill-Carrboro MPO will support the efforts to apply medians and pedestrian refuge areas where needed to support safety and reduce conflict between motor vehicles and pedestrians.

8. **Pedestrian Hybrid Beacon –** The pedestrian hybrid beacon (also known as the High intensity Activated crossWalK (or HAWK)) is a pedestrian-activated warning device located on the roadside or on mast arms over midblock pedestrian crossings.

9. **Road Diets (Roadway Reconfiguration) –** The classic roadway reconfiguration, commonly referred to as a "road diet," involves converting an undivided four lane roadway into three lanes made up of two through lanes and a center two-way left turn lane. The reduction of lanes allows the roadway to

be reallocated for other uses such as bike lanes, pedestrian crossing islands, and/or parking. Road diets have multiple safety and operational benefits for vehicles as well as pedestrians.

Several road diets have been implemented in the Durham-Chapel Hill-Carrboro MPO and Capital Area MPO areas, and the MPOs will continue to work with NCDOT and local government partners to review potential locations for road diets.

10. **Roadside Design Improvement at Curves –** These design treatments target the high-risk, outside roadside curves by giving vehicles the opportunity to recover safely and by reducing crash severity. Treatments include clear zones, slope flattening, shoulder widening, and roadside barriers.

11. **Reduce Left-Turn Conflict Intersections –** These treatments are geometric designs that alter how left-turn movements occur in order to simplify decisions and minimize the conflict points. They are often referred to as "superstreets" or "synchronized streets," and move left-turns to median U-turns.

12. **Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections –** This systemic approach to intersection safety involves deploying a group of multiple low-cost countermeasures, such as enhanced signing and pavement markings, at a large number of stop-controlled intersections within an area or jurisdiction. It is designed to increase driver awareness and recognition of the intersections and potential conflicts.

13. **Leading Pedestrian Intervals –** A leading pedestrian interval (LPI) gives pedestrians the opportunity to enter an intersection 3-7 seconds before vehicles are given a green indication. This head start results in increased pedestrian visibility, reduced conflicts with vehicles, more motorists yielding to pedestrians and additional crossing time for slower pedestrians.

14. **Local Road Safety Plan –** A local road safety plan (LRSP) provides a framework for identifying, analyzing, and prioritizing roadway safety improvements on local roads. While local roads are less traveled than State highways, they have a much higher rate of fatal and serious injury crashes.

15. **USLIMITS2 –** This is a free, web-based tool designed to help practitioners assess and establish safe, reasonable, and consistent speed limits for specific segments of roadway.

16. **Dedicated Right- and Left-Turn Lanes at Intersection –** Auxiliary turn lanes—either for left turns or right turns—provide physical separation between turning traffic that is slowing or stopped and adjacent through traffic at approaches to intersections. Pedestrian and bicyclist safety and convenience should receive considerable weight in the decision and design of adding turn lanes at an intersection.

17. **Yellow Change Intervals –** Since red-light running is a leading cause of severe crashes at signalized intersections, it is imperative that the yellow change interval be appropriately timed. Agencies should institute regular evaluation and adjustment protocols for existing traffic signal timing, and refer to the Manual on Uniform Traffic Control Devices for basic requirements and further recommendations.

18. **Walkways –** A walkway is any type of defined space or pathway for use by a person traveling by foot or using a wheelchair. These may be pedestrian walkways, shared use paths, sidewalks, or roadway

shoulders, and are critical for encouraging non-motorized travel and reducing crashes. Transportation agencies should work towards incorporating pedestrian facilities into all roadway projects unless exceptional circumstances exist

19. **Road Safety Audit –** These audits are unique. They are performed by a multidisciplinary team, which is independent of the project, and consider all road users. Agencies are encouraged to conduct an RSA at the earliest stage possible, as all roadway design options and alternatives are being explored.

20. **Median Barriers –** Median barriers are longitudinal barriers that separate opposing traffic on a divided highway. They significantly reduce the severity of cross-median crashes -- approximately 8 percent of all fatalities on divided highways are due to head-on crashes.

Appendix 8. Public Comments

Introduction

The Capital Area Metropolitan Planning Organization began a final phase of public outreach in the fall of 2017 to inform and receive feedback from members of the community. The comments received are included towards the end of this Appendix.

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) released the Preferred Option of the 2045 Metropolitan Transportation Plan (MTP) for public comment from November 1, 2017 through December 12, 2017. The public comments that the MPO received for the Preferred Option are compiled in the section below called "Comments by Email."

DCHC MPO | Additional Comments

A compilation or summary of public comments that were received at key steps of the 2045 MTP development process are available:

Goals and Objectives – The DCHC MPO conducted an online survey to assist with the creation of the Goals and Objectives and received almost 800 responses. A summary and analysis of the responses is available on the 2045 MTP – Goals Web page: www.bit.ly/DCHC-MTP-Goals

Alternatives Analysis – The DCHC MPO received comments by email and at the many public workshops that were conducted for the Alternatives Analysis stage of the 2045 MTP. A compilation of those comments is available on the 2045 MTP Alternatives Web page: www.bit.ly/DCHC-MTP-Alternatives

Preferred Option -- The DCHC MPO released the Preferred Option of the 2045 MTP for public comment from November 1, 2017 through December 12, 2017. The MPO has not yet officially published the comments received for the Preferred Option and therefore a compilation of those comments are presented in the following section.

DCHC MPO | Comments by Email for the Preferred Option

11/01/17
I have the following comments on the 2045 MTP:

* I would like to see the project to widen US 15-501 Bypass between MLK and I-85 advanced from the 2045 MTP to an earlier date, or at least have interim safety improvements added at the Cameron Blvd and Cornwallis Rd interchanges to extend the merge lanes for safety. I see regular and growing congestion on this route on my daily commute.
* I would like to see improvements to the Durham Freeway (NC 147) through downtown advanced to address current and growing congestion.
* I would like to see widening of I-85 from Sparger Rd to I-40 advanced from the 2045 MTP to an earlier date.
* I would like to see the Wake-Durham CRT (2035 version) extended to LaSalle St. or Neal Rd rather than ending at Fulton St. to better serve west Durham.

Thank you for considering my comments.

Sincerely.

Todd Patton

11/04/17
Hi, please provide rail access directly to RDU airport and RTP work areas from Carrboro, Chapel Hill, and Durham. Other sprawling cities do this, we can to!
Thanks

Matthew Barton

11/07/17
To whom it may concern.
Thank you for your willingness to hear from the public. I applaud much of your aims and goals. It seems you are working to do what is best for Durham and surrounding areas. I have only a few comments, which I hope will be received in the best possible light.

My main comment: stop prioritizing cars. For over half of a century, cars have dominated our landscape. So much of our local and state budget is spent on cars and infrastructure for cars -- hundreds of millions of dollars, if I am not mistaken. Yet car-culture never brings a good return on its investment. It contributes to pollution and hurts the environment, it allows people to sit in their cars and get sicker and fatter, it prevents people from being in public together by keeping us separated in our little tin boxes, and so many other terrible things. It is now time to turn things around, to make cities for people

not cars. The reason why idealized cities like Paris, Amsterdam, NY, San Francisco, Barcelona, etc. are ideal is because they do not prioritize cars but people. But it all started with the will to put people first, machines last.

I am writing to encourage you to prioritize walking, biking, and public transit, especially trains. The highways in NC are packed. As more and more people come here, they are just going to be stuffed more and more. And they cannot get much bigger. How much space is wasted by roads and parking lots? Car-culture is far too expensive and unsustainable. The way to make cities sustainable, diverse, and democratic cities is to prioritize sustainable, diverse, and democratic forms of transit. Again, this means walking, biking, and public transit. Want to know why I never go to Raleigh? Because there is no reliable, easy transit running from early in the morning to late at night? The drive into Raleigh feels like a death trap. I avoid it at all costs. But I would love to see the NC Symphony, attend the Art museum (by the way, there is NO public transit to the state art museum; what an embarrassment!), and visit restaurants and shops. A solution: a commuter train.

I know much of this is in the long term plans for the area. But why is this long term? You have been spending billions on roads for cars for decades. How about other people get a chance for a while? How about we stuff funding entitled drivers and give hardworking people who cannot afford or do not want to use cars? How about a fair and equal transit system in 5 years, not 45 years. The will is there. We want trains, better buses, more walking and biking paths (and that means separated cycle-tracks, not deadly sharrows or painted lanes).

If you have any questions or responses, please let me know. The Triangle can be a beautiful place, but there is much that needs to happen. Let's not wait 45 years. Let's start this tomorrow.

Sincerely,
Dr. Ryan J. Johnson

11/07/17
The Triangle Area RPO has the following comments on the draft DCHC MPO 2045 MTP, with regard to projects that touch the MPO/RPO boundary:

* In Orange County, TARPO staff supports the idea of improvements on NC 54 approaching the DCHC/TARPO boundary west of Carrboro, and we would expect these improvements to ultimately be based on the recommendations of the currently-ongoing NC 54 corridor study. The 2013 Orange County Comprehensive Transportation Plan (RPO portion) shows a need for future improvements in this corridor extending west from the MPO/RPO boundary to Orange Grove Road (outside the DCHC boundary). Our current CTP shows a recommended four-lane facility in this corridor, but there is a good possibility this could change based on the results of the corridor study analysis. Even though the recommendation in the draft MTP would not match the recommendation shown in TARPO's adopted

CTP, this recommendation does appear to be consistent with more recent thinking about the NC 54 corridor if it primarily serves as a placeholder for the future recommendations that arise from the corridor study.

* In Chatham County, TARPO staff supports the idea of improvements on NC 751 approaching the DCHC/TARPO boundary. Please note that the 2016 Chatham County Comprehensive Transportation Plan (RPO portion) recommends a future four-lane cross-section for NC 751 from the MPO/RPO boundary southward to US 64. This is in contrast to the three-lane modernization improvements recommended in the draft MTP. While TARPO staff recognizes the fiscal constraints of the MTP process and the impact this has on the ability to include desired projects in the current plan, we would request that you continue to consider a four-lane widening possibility on this road in future planning and project development decisions, in order to match up with the desired intentions on the RPO side of the boundary.

* In Chatham County, the recommended improvements on US 15-501 appear to be consistent with the improvements recommended on the RPO side of the boundary, and TARPO staff supports their inclusion in the MTP.

Please let me know if you have any questions. Thank you for this opportunity to comment.

Matt Day, AICP CTP
Principal Planner
Triangle Area Rural Planning Organization
Triangle J Council of Governments

11/27/17

Hi. I'm 42, and a Raleigh native. Do I read this map correctly that there are NO plans to widen Hopson Rd between 54/Miami to Davis Dr from 2 to 4 lanes (with center turn lane) between now and 2045?? Or will this fall on Town of Morrisville and is out of scope for CAMPO? If there are no plans to widen Hopson, I highly protest! This (I think less than 1/2 mile) stretch of road is a MAJOR bottleneck to traffic flow.

thank you,
David

Hi Andy. I get it that this road segment is in the plan, but how I read it suggests Hopson will not be widened until closer to 2045... the END of this planning date range. That's potentially 28 years away. In what year does this widening of Hopson actually take place?? How about the year on widening of 70 out to 540? That's already way way overdue.

Yes I'm very aware of the grade separation on this road and others and I am a big fan... if only we actually used rail here for passengers (outside of the 3 daily Amtrak trains between Raleigh and Charlotte). I'm thankful for the added safety.

The attempts to get light rail by the TTA since 1993 have been a curse and a sad state of affairs in this region. To watch Charlotte (working and expanding) and now Dur/Ch (plans approved?) get a light rail and our capital city still does not infuriates me. Even worse is not having that light rail Phase 1 to RDU bc the RDUAA thinks they are better than having rail... they lose their parking revenue... suggesting to me CAMPO and RDUAA haven't been aligned or even communicating.

This is why mass transit exists, to connect and interconnect. Someone or some group is conceding far too much to only do commuter rail and buses. Sorry folks, I feel CAMPO needs to step it up a notch. There have been some planning holes since the early 1990s in my opinion or the mass transit plan would be much more aligned and RDU would be on board with light rail phase 1... and we might have even have it running by now!

Nothing in your response related to why New Hill gets widened in this time frame? What traffic bottlenecks exist on that road? I've only ever seen a tiny bit of congestion at the US 1 interchange bc of it being an old bridge and stop signs...

Who participates in making these plans? Is it a contracted 3rd party with click counters on the roads or real people driving real road segments who understand transit? I don't mean that to insult, I ask out of curiosity.

Thank you,
David

DRAFT MTP 2045

Verbal Comments Received at Outreach Events - Fall 2017

EVENT: Advance Apex

10/24/2017 *Staff: Bonnie Parker, Chris Lukasina, Paul Black*

Widen Davis Drive sooner than outlined in draft MTP
Strong support for commuter rail to Apex
Support for additional bus service in and around Apex, along with better marketing of existing bus locations
Encourage students to ride the community buses
Support for Greenways
Interest in the future of 540 and whether the entire, pre-existing roadway, will ever be tolled

EVENT: NCDOT's Raleigh Area Projects Fair

16-Nov *Staff: Bonnie Parker, Alex Rickard, Kenneth Withrow*

Support for Wake Transit Plan and expanding transit options
Falls of the Neuse project concerns
Interest in future of 540 and whether it would be tolled or not
Interest in autonomous vehicles and how forecasting for the MTP works. Staff explained that is one fo the reasons to update the MTP every 4-5 years.
Protect Umstead park and local watersheds when planning improvements and during construction

EVENT: North CAC

Staff: Paul Black

General informational presentation. Many attendees interested in sharing with their homeowner or civic associations.

EVENT: Clayton Christmas Village

30-Nov *Staff: Bonnie Parker, Alex Rickard*

Lots of questions regarding transit, and whether Clayton will get commuter rail service. Desire additional transit service.
Questions about improvements to 40/42, timeline

EVENT: RTP Food Trucks

1-Dec *Staff: Bonnie Parker, Kenneth Withrow, Chris Lukasina*

Desire for additional bicycle greenways, paths, separated lanes, etc.
Like the Expressway
Support for improvements to I40
Desire for improvements to Davis Drive

Event: Wendell Wonderland

1-Dec *Staff: Bonnie Parker, Chris Lukasina*

Desire improvements to Wendell Falls Parkway at Poole Road and 64/87
Desire coordination of transportation plans with emergency preparedness plans and future siting of emergency facilities like Fire/EMS stations.

EVENT: Angier Christmas Parade

2-Dec *Staff: Bonnie Parker, Chris Lukasina*

Support for transit to get everywhere, reduce reliance on cars; support for Uber/on-demand transit service
Questions about autonomous vehicles and impace on forecasts
Desire for Fuquay-Varina transportation improvements, especially 401
Interest in the future of 540 and whether the entire, pre-existing roadway, will ever be tolled

EVENT: NCDOT Public Meeting - Morrisville

7-Dec *Staff: Bonnie Parker, Chris Lukasina, Paul Black*

3-5 People actively shared with CAMPO their opposition to the Crabtree Crossing Extension, including members of the Morrisville Council. One person expressed support.

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Verbal Comments Received at Outreach Events - Fall 2017

EVENT: Wake Forest Parade - Cancelled table, Weather

9-Dec *Staff: Bonnie Parker, CAMPO Teammate*

EVENT: Tree of Hope Lighting (Arbolito)

9-Dec *Staff: Bonnie Parker, Paul Black*

Most conversations were about transit service or bicycle and pedestrian trails. Desire for increased shuttle and uber like transit service to facilitate more, short trips to activities beyond work commute during peak hours.

Event: Holiday Express

10-Dec *Staff: Bonnie Parker, Gretchen Vetter*

Support for transit service across the region, interested in timing for delivery of new service and rail service.

Also interested in tolling of 540 and whether it could be extended to pre-existing roadway that is not currently tolled.

Draft 2045 MTP Public Comments - Fall 2017

	First Name	Last Name	Home Location	Work Location	Comments	Date	Event	Staff Response	Email
1	Jamie	Gerhart		Wake Forest	Interested in learning more about the future of US 1, timeline, and would like to know how to participate. Specific locations are Thornton Road, Raleigh, and 564 US-1 in Youngsville.	25-Aug	Email	CAMPO staff explained that open houses should occur in early 2018, and how to sign up for the mailing list for the US 1 Council of Planning. Also shared contact for project team with NCDOT	jgerhart@sheetz.com
2	Tom	Colwell	Apex		Toll all of 540, including existing north and northeast of Raleigh; Widen Davis Drive from Cary line to 64 (top priority), Widen 55 at the railroad bridge; Fix error in lane shift on 55 in front of Beaver Creek	24-Oct	Advance Apex	Legislative, legal barriers to tolling; study re: strategic tolling	tcolwe@gmail.com
3	Audra	Killingsworth	Apex		Apex needs to expand roads, increase buses, and expand into light rail.	24-Oct	Advance Apex	Spoke to in-person	audra4apex@gmail.com
4	Robert	Whitehead	Preston Neighborhood, Cary		Opposed to Crabtree Crossing Parkway extension in Morrisville being included in MTP	14-Nov	Email	This element has been removed from Draft 2045 MTP	rwhitehead@greenarrowlabs.com
5	Nanette	Strother	Morrisville		Opposed to Crabtree Crossing Parkway extension in Morrisville being included in MTP	15-Nov	Email	This element has been removed from Draft 2045 MTP	n.strother@icloud.com
6	Christine	Hollinger	Raleigh		The end to end process is complex and unclear from project inception to implementation. There seem to be multiple opportunities to decide stop or move forward but where, when and how. Also, does CAMPO really care about citizen input once funding is allocated? There is a grotesque disconnect in preserving Raleigh and environment with out of control development that causes traffic issues, road widenings, and loss of property and impact to quality of life. Opposed to widening of Falls of Neuse Rd.	16-Nov and 12-Dec	NCDOT Raleigh Projects Fair and Email	See #32 below.	christine_hollinger@yahoo.com
7	Jeannien	Engelbrecht	Wake Forest		Definitely support public transportation and highly favor clean energy means to supply it.	16-Nov	NCDOT Raleigh Projects Fair	Reference to Wake Transit Plan and Transit Element of draft MTP	jeannien.engelbrecht@gmail.com
8	Lisa	Austin	Raleigh		Willing to pay more for roads and transportation infrastructure. Would support increase in property, income, sales, motor fuel tax, fees, tolls or user fees, and more bonds.	16-Nov	NCDOT Raleigh Projects Fair	Spoke to in-person	generalmail.lisa@gmail.com
9	Todd	Brooks	27604	27607	To pay for more local roads and other transportation improvements, he would support an increase in the sales tax, tolls or user fees, and more bonds.	16-Nov	NCDOT Raleigh Projects Fair	Spoke to in-person	tbrooks@dewberry.com
10	Joe	Burmester	Renter in 27612	27610	To pay for more local roads and other transportation improvements, he would support an increase in the motor fuel tax and more bonds.	16-Nov	NCDOT Raleigh Projects Fair	Spoke to in-person	joe.burmester@mindspring.com

Draft 2045 MTP Public Comments - Fall 2017

	First Name	Last Name	Home Location	Work Location	Comments	Date	Event	Staff Response	Email
11	TaQuon	Williams	Renter and student in Raleigh	27577	To pay for more local roads and other transportation improvements, he would support tolls or user fees.	16-Nov	NCDOT Raleigh Projects Fair	Spoke to in-person	twill@theworthyprogram.org
12	Anonymous		27608	27603	To pay for more local roads and other transportation improvements, commenter would support increase in sales and motor fuel tax, as well as an increase in fees, tolls or user fees, and more bonds.	16-Nov	NCDOT Raleigh Projects Fair	Spoke to in-person	
13	Tom	Mitchell	27610	27617	To pay for more local roads and other transportation improvements, he would support more bonds.	16-Nov	NCDOT Raleigh Projects Fair	Spoke to in-person	
14	Anonymous		Raleigh		To pay for more local roads and other transportation improvements, commenter would support increase in sales and motor fuel tax, and more bonds.	16-Nov	NCDOT Raleigh Projects Fair	Spoke to in-person	
15	Paul	Kuhn	Holly Springs		Re: Bass Lake Road. Question regarding MTP designating Bass Lake for four lane road in future. Thinks Hilltop Neimore extension to NC 55 should be a higher priority.	20-Nov	Phone call	Holly Springs plans and Draftdo not conflict; Bass Lake is not identified as 4-lane until 3rd decade (post 2036).	pkuhn1975@gmail.com
16	David	McDowell	Raleigh		Desires widening of Hopson Road between 54/Miami to David Dr. Also supports widening of 70 from Lumley/Westgate to Duraleigh/Millbrook. New Hill Hollemon Rd. widening should not be a priority	27-Nov	Email	CAMPO staff replied that yes, in the DCHC portion of the MTP it does show Hopson Road widening. Also, 70 is being widened in the first half of the MTP timespan. Several analyses warrant project on New Hill Hollemon but this is something that will also be analyzed further through SWAS.	turnpike420@gmail.com
17	Benjamin	Marsh	Apex	Cary Alliance Church, Pastor	Requesting widening of Ten-Ten, Holly Springs and Kildaire FarmRoads, just north of the new 540 interchange, in the MTP.	29-Nov	Email	CAMPO is aware of the congestion and safety issues along these corridors. Over the past three NCDOT prioritization cycle, CAMPO has submitted several projects to improve these corridors. CAMPO has submitted three separate projects to widen Ten Ten Road from US 1 to Holly Springs Road with additional intersection improvements at West Lake Road. CAMPO has submitted a project to widen Kildaire Farm Road from Ten Ten Road to Holly Springs Road to four lanes. CAMPO has also submitted a project along Holly Springs Road to improve intersections at Ten Ten Road, Penny Road, and Cary Parkway. If these projects are scored high enough in NCDOT's prioritization system they would likely be constructed prior to 2030. CAMPO will continue to look for ways to fund these improvements beyond the NCDOT prioritization system.	marsh.benjamin@gmail.com
18	Flora	Pinkham	Garner		Intersection of 70 and 401 in Garner is unsafe, needs to be addressed, as well as the widening of 401 north of 70 into Raleigh.	29-Nov	Email	Hot Spots Study between Jan-June 2018	Pinkham@gmail.com

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	First Name	Last Name	Home Location	Work Location	Comments	Date	Event	Staff Response	Email
19	Rick	Hadsall			Not enough rail in 2045 draft plan, need light rail and airport connections.	30-Nov	Facebook		
20	Jordan	Miller	unknown, in Triangle region		Desires metrorail system similar to DC or NYC for the region.	30-Nov	Email	Wake Transit Plan & Transit Element of 2045 MTP	jordanm7@vt.eud
21	Nicholas	Borisow	Cary		Development in Cary and to the west is too much like sprawl, without sustainable planning for necessary infrastructure or amenities. Widenings will decrease safety and home values, especially on Carpenter Fire Road.	1-Dec	Email	Understand the concern, this is what we are all working to balance with the MTP. The process is often reactive in order to justify expense of projects.	ngborisow@gmail.com
22	unknown		Raleigh	RTP	Takes the 100 bus from Raleigh and bikes to The Frontier in RTP. He is pleased with the transit plan but wants more dedicated bike options and better road crossings (curb cuts)	1-Dec	RTP Food Trucks Rodeo	Will also share his comments with RTP and DCHC.	
23	unknown		Clayton		Supports improvements on 42 between Clayton and Fuquay-Varina.	1-Dec	RTP Food Trucks Rodeo	Spoke to in-person	
24	unknown				RCRX Crossings support; West Street GS/Ext - timeline?; CRT & BRT - supports; Capital Blvd. inside the Beltline needs to be improved.	1-Dec	RTP Food Trucks Rodeo	Spoke to in-person	
25	unknown			RTP	Attention needs to be focused on peak travel. Hwy 55 south of Durham is getting worse, congestion bleeds into side streets. Supports improvements to 147. Supports improvements to 40, especially because it is bleeding into 54.	1-Dec	RTP Food Trucks Rodeo	Spoke to in-person	
26	April	Rush	Cary		Desires improvements to Ten Ten Road at Holly Springs Road, as well as Kildaire Farm Road. Ten Ten is really bad at rush hour.	1-Dec	Email	See #17 above	rushapril@gmail.com
27	John	Tousley	Cary		Expand Ten-Ten Road between Kildaire Farm and Holly Springs Roads. Widen Kildaire Farm Road and Holly Springs Road leading down to 540.	1-Dec	Email	See #17 above	johntousley@gmail.com
28	Jan	Yarborough			Request widening of roadway and intersection improvements in front of Cary Alliance Church (Ten-Ten Road between Kildaire Farm and Holly Springs Roads).	1-Dec	Email	See #17 above	jan.yarborough@avconusa.com
29	John	Sloan	Raleigh	RTP	Bicycle improvements needed around RTP and roads and pathways leading to it.	2-Dec	Email	Will also share his comments with RTP and DCHC.	morningzephyr@yahoo.com
30	Elizabeth	Asbill	Cary		Expand Ten-Ten Road between Kildaire Farm and Holly Springs Roads. Widen Kildaire Farm Road and Holly Springs Road leading down to 540.	2-Dec	Email	See #17 above	ehasbill@gmail.com
31	Benny	Doyle			Need more roadway maintenance	3-Dec	Facebook		

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	First Name	Last Name	Home Location	Work Location	Comments	Date	Event	Staff Response	Email
32	Leslie	Ratliff	Muirfield, Raleigh		Opposed to the widening of Falls of Neuse Road at Litchford. If proceeds, take the land for the widening from the east side of Falls Road.	3-Dec	Email	The project to widen Falls of the Neuse is included in the Draft 2045 MTP for a few reasons. It was previously approved by the Raleigh City Council as one of their priority projects for funding. It meets merit standards in the transportation models for assisting with regional, and corridor-specific congestion. It has also been included and approved by the CAMPO Board for inclusion in the past two MTPs (2035 and 2040), and the current and previous Transportation Improvement Programs (TIP). Public comments received in recent months have identified a few design elements that have been shared with the design team for consideration. The Executive Board asked for a project update once U-5826 had reached the preferred alternative stage. We have recently been informed by NCDOT that they have reached the preferred alternative stage for the project. We have requested NCDOT provide a formal project update at our January Executive Board meeting (1/17/2018). A date for consideration of any specific action by the Executive Board has not yet been set as it was largely dependent on the project schedule to reach the Preferred Alternative stage.	carrfamily55@gmail.com
33	unknown		Wake Forest	Morrisville	Supports widening of US 1 north of 540 - U5307	7-Dec	NCDOT Louis Stephens Rd mtg	This project is in the first decade of MTP and has committed funding.	
34	Will	Letchworth			Consider a roundabout at Eagle Rock & Poole Roads. Preferred over Richardson Road extension.	8-Dec	Email		letchworth@yahoo.com
35	unknown		Raleigh		Supports completion of mountain bike trails at the Airport. Would like to know when the Raleigh to RTP transit connection will occur.	9-Dec	Arbolito Event - Cary	CAMPO staff shared an update on the mountain bike trails - that certain segments are still being planned but that the project generally is moving forward. Raleigh to RTP - In the 2045 draft plan, there will be commuter rail, bus rapid transit, and increased bus service between Raleigh and RTP.	male, 40s-50s
36	unknown		Cary		Support for growing transit and would like to see more transit going to the airport from Cary and Raleigh. Would prefer to see the region invest in "busetas", smaller shuttle type buses rather than large buses, in order to run more routes, more frequently, to get down into communities. Also would like to see buses running to community events at public places like Pullen Park Holiday Express and Arbolito at Herbert Young CC.	9-Dec	Arbolito Event - Cary	CAMPO staff relayed that multiple analyses have been conducted to run BRT or rail service to RDU but that it isn't viable at this time. Additional bus service, including the 100, is included in the MTP, just not BRT or rail.	female, 50s

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	First Name	Last Name	Home Location	Work Location	Comments	Date	Event	Staff Response	Email
37	unknown		Johnston County	Raleigh	Looking forward to commuter rail - wants it as soon as possible between Johnston County and Raleigh.	10-Dec	Holiday Express - Pullen Park, Raleigh	CAMPO staff shared the roadways and transit draft maps for 2045 and discussed them with him.	male, 40s and female, 40s
38	unknown		Morrisville	Chapel Hill	Traffic congestion is starting to impact economic development and the willingness of individuals to work in certain parts of the region. He lives in Morrisville, but finds traffic to be so bad that he would not take a job on the other side of Morrisville (close to RTP) due to how long it would take to get to work. Would like to see improvements and widening along Chapel Hill Road and Morrisville Parkway and McKrimmon. On McKrimmon, the designated widening in the MTP should extend further or the bottleneck when it goes back down to fewer lanes will simply make traffic worse.	10-Dec	Holiday Express - Pullen Park, Raleigh	CAMPO staff shared the roadways draft map for 2045 and discussed them with him.	male, 30s-40s
39	Lisa	Riegel	Morrisville		Need to update draft MTP to show the 147 extension off 540 going to Davis Drive instead of to Town Hall Drive.	11-Dec	Email	CAMPO staff responded that, the MPO is trying (along with NCDOT) to broker something that works for Morrisville, RTP, and the regional commuters. Unlike Crabtree Crossing (a local level project with agreement from both Cary and Morriville not to include), this one is regional and there are other players besides Morrisville that would have to agree to any changes (and why it's still shown the same way on our maps).	diazriegel@gmail.com
40	David	Cox	Raleigh		Opposed to project A13d, widening of Falls of Neuse from Durant to New Falls of Neuse Blvd. from 4 to 6 lanes. In second email, has questions about how modelling for the 2045 MTP was done. Interested in obtaining copies of the technical details that have gone into the modelling that was performed. In third email: Emailed Nancy McFarlane and spoke with Sig Hutchinson asking them to not vote for this project to give the community time to explore alternative transportation options for the area.	12-Dec for first two emails and 13-Dec for third	Email x3	See #32 above. Also, CAMPO staff have offered to discuss modelling methodology, technical details, and share a copy of the model.	dcox1776@gmail.com
41	David	Bland	Raleigh		Opposed to widening of Falls of Neuse Road. Suggest widening NC 98 to Durham instead.	12-Dec	Email	See #32 above.	
42	Chuck	Till	Creedmor		Opposed to widening of Creedmoor Road between Strickland and Glenwood.	12-Dec	Email	This corridor is forecast to be over capacity during the MTP timespan out to 2045 based on growth in population and employment in the area. Specific property impacts or impacts to the existing median would be handled as any project moves through the development process.	
43	Catharine	Christopherson	NC citizen - likely Raleigh		Opposed to Falls of Neuse widening.	12-Dec	Email	See #32 above.	ccatsoon@yahoo.com

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	First Name	Last Name	Home Location	Work Location	Comments	Date	Event	Staff Response	Email
44	Barbara	Salvia			Opposed to Falls of Neuse widening. Just repaving is needed.	12-Dec	Email	See #32 above.	salviabarbara1@gmail.com
45	Lillian	Overton	Raleigh		Received a postcard from NCDOT dated 12/07/2017 for project U-5826, widening Fall of Neuse between Durant Road and I-540. When will this project be placed on the calendar for vote by NC CAMPO? Hopes it will be defeated, as it is unnecessary. Will there be time allotted for comment? Second email: Photos of roadway conditions on Falls of Neuse between 11/03/17 and 12/11/17 between 9am-4pm, and 6:30pm-7am during weekdays and weekends. Traffic is flowing nicely. Only congested between 7-9am and 4-6:30pm M-F. The number of lanes on FON can handle additional traffic as well, no need to destroy trees, business parking or add to congestion by adding lanes.	12-Dec for both emails	Emails - two emails	The CAMPO Executive Board has asked for an update on the project from NCDOT once a preferred alternative has been identified, likely in the spring of 2018.	overton.lillian@gmail.com
46	Randy	Overton	Raleigh		Opposed to widening of Falls of Neuse. 540 West is the bottleneck causing problems two hours in the morning. Do something about 540 west instead of making FON a 2 hour parking lot. Accidents that come from this plan - the Board should be held liable. Muirfield neighborhood, if any property values drop the City and Board should be held accountable.	12-Dec	Email	See #32 above.	overton.ro@gmail.com
47	Chad	Overton	Raleigh		Supports widening Falls of Neuse up to Durant, just not north of Durant. Bottleneck is at 540, once you cross Durant traffic flows. Priority should be the Raven Ridge Intersection. Widen 540 between Capital and Creedmore instead. Six Forks, Creedmore, Capital should be widened to 4 lanes before FON is widened to 6. Widen NC98 instead. Beautiful natural area - this would significantly impact it. Safety - shouldn't be a major road through a dense area of neighborhoods.	12-Dec	Email	See #32 above.	chad.weeks@gmail.com
48	Michelle	Patton	Raleigh		Opposes widening the entire Falls of Neuse Road. Other commercial streets like Capital are appropriate for widening, not FON.	12-Dec	Email	See #32 above.	michelle.patton@sanofi.com
49	Laura	Perry	Raleigh	Wake Forest	Opposed to widening of Falls of Neuse corridor. Attachments from when the road was widened from 2 to 4 lanes. Expand Capital, which is commercial instead of Falls of Neuse, which is residential and a watershed area.	12-Dec	Email	See #32 above.	lauraperry360@gmail.com

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	First Name	Last Name	Home Location	Work Location	Comments	Date	Event	Staff Response	Email
50	Everett	Adams	Fuquay-Varina?		Re: Hwy 40` Bypass/Fuquay Parkway plans (#A619a): For people traveling from RTP taking future 540 (Freeway) to Highway 401 Bypass/Fuquay Parkway (Freeway) the only connection planned is to exit onto Highway 401 (Boulevard). That specific route would be a freeway, to Boulevard, to freeway plan. Wouldn't it make more sense to have the 401 Bypass/Fuquay Parkway planned as an exit off future 540 so there would be a freeway to freeway connection instead of traffic exiting, off 540, and increasing congestion onto Highway 401 (a Boulevard) in order to get to Highway 401 Bypass/Fuquay Parkway?	12-Dec	Email		
51	Jean	Hedges	Raleigh	Raleigh	Opposed to the widening of Falls of Neuse Rd. Focus resources to overpasses off Capital. FON is an overflow valve for Capital Blvd. traffic to 540.	12-Dec	Email	See #32 above.	jhedges@southerntrust.com
52	Jean	Spooner		Raleigh	The Umstead Coalition recommends funding for WK1 - Triangle I-40 Bikeway, which is included in the Bicycle/Pedestrian Map for the 2045 MTP. Missing link would enable connections from Raleigh, Cary, Morrisville to RTP as well as major greenways and regional/national bike routes	12-Dec	Email	Confirmed, in Draft 2045 MTP for approval.	umsteadcoalition@gmail.com
53	Joanne	Sullivan	Raleigh		The 2045 MTP should stay on track for the future of North Raleigh regarding Six Forks Road and Falls of the Neuse Road.	12-Dec	Email	For Falls of Neuse, see #32 above.	jdsullivan2014@gmail.com
54	Travis	Bailey	Raleigh		Public transportation is one of the leading reasons we're told large opportunities like Amazon's HQ2 won't come to the triangle area, traffic during rush hour. The 2045 MTP update represents the best approach, applauds the update to insure roadways, public transportation, and alternate transportation needs are met. Supports rail for commuters, environment, and new jobs.	12-Dec	Email		tjbailey10@gmail.com
55	John	Toller	Raleigh		Concern about the plan to widen Falls of Neuse Rd. Plan and action is unnecessary, wasteful, and will put higher priority items at risk. Already have major commercial roads nearby (Capital Blvd and Route 98). Another is a waste of resources. Alternative travel options to the Raleigh core, such as light rail using the current electricity rights of way are much better options for the future.	12-Dec	Email	See #32 above.	jmtoller@yahoo.com
56	Laura	Rhodes	Raleigh		Looking forward to improvements to Durant Road in Raleigh.	12-Dec	Email		
57	Christina	Jones			Raleigh desperately needs rail, bus, and bike lanes! Even if we don’t get Amazon, we need to prepare for growth!	12-Dec	Email		Coll_christina@yahoo.com

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	First Name	Last Name	Home Location	Work Location	Comments	Date	Event	Staff Response	Email
58	David	Willers	Raleigh		Just found out there is a comment period. Requests that comment period be extended to the end of January and opposes the widening of Falls of Neuse to six lanes between I540 and Wake Forest, and widen Hwy 98. Widening Hwy 98 would ease congestion on I-540, and provide another entrance into Research Triangle area therefore also easing congestion on I40.	13-Dec	Email	See #32 above.	david.willers@raymondllc.com
59	Melissa	Bailey	Raleigh		Supports the 2045 MTP Update. If we continue to grow, we will need infrastructure to support development and population. Supports bringing rail transportation t the Triangle.	13-Dec	Email		wms.mel@gmail.com
60	Rachael	Lundin	Raleigh		Support for Falls of Neuse project to add more lanes. Drives it daily and traffic is terrible for most of the day. Widening would reduce travel time and improve safety. Helpful for the communities that live north of this area and drive Falls of Neuse Road.	13-Dec	Email	See #32 above.	rachaellundin@gmail.com
61	Jeannette	Brown	Raleigh		Yes, please widen Falls of Neuse. Lives in neighborhood off of Falls of Neuse between Durant and Bedfor and this should have been done years ago when widened to 4 lanes.	13-Dec	Email	See #32 above.	jennybbrown@gmail.com
62	Rynal	Stephenson			Expressing full support for U-5826 to widen Falls of Neuse Rd. Travels FON corridor everyday. The section between I-540 and Durant Road is very congested. Additional lanes will provide capacity to reduce congestion.	13-Dec	Email	See #32 above.	rynal.stephenson@gmail.com
63	Battle	Whitley	Raleigh		Expressing support for Falls of Neuse widening (U-5826). Experienced first-hand the need for relief of growing traffic congestion along FON. The sooner this is done, the sooner we can improve our travel between Raleigh and Wakefield.	13-Dec	Email	See #32 above.	b4ncs92@gmail.com
64	Kristy	Stephenson	Raleigh		Support for Falls of Neuse widening project. Drives road multiple times per day and traffic is frequently bumper to bumper. Lives in Wakefield north of 540 off Falls and commute always takes longer than anticipated. Project is necessary considering growth.	13-Dec	Email	See #32 above.	weathergirl810@gmail.com
65	Suzanne	Botts			Supports the 2045 MTP Update. If we continue to grow, we will need infrastructure to support development and population. Supports bringing rail transportation t the Triangle.	13-Dec	Email		sbotts1@yahoo.com
66	Zaid	Alemam			Completely supports the MTP. We continue to grow every year, and traffic will only get worse if we don't start planning for the future now.	13-Dec	Email		zalemam@gmail.com
67	Julia	Hardcastle			Submitting updated petition opposing the Falls of Neuse widening. Anything past signature #273 is new - post the October 2017 CAMPO Executive Board Meeting.	13-Dec	Email	See #32 above.	jehlsb@gmail.com

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	First Name	Last Name	Home Location	Work Location	Comments	Date	Event	Staff Response	Email
68	Stephanie	Lormand			Concerns for Title VI & Environmental Justice with 2045 MTP development process. Executive Board Membership does not include residents that actively rely on public transportation. Under Goals and Objectives, Objective 4 - Public meetings scheduled for 4pm in downtown Raleigh cannot hope to capture the public's persecpcetive on public transportation. Without multiple, community-based meetings, there is little authenticity in this outreach. Objective 6 - Ensure Environmental Justice in Planning Activities - Why define target areas through the use of Census Block Group data from the 2010 Census? Downtown Raleigh in 2017 looks nothing like it did during the 2010 census. P.S. Why extend Six Forks Rd to Capital Blvd when the BRT line from North Hills and/or the existing greenway includes the folks that can pay $1200 for a 1 bedroom apartment?	13-Dec	Email	In theory, voters of all user types, including transit riders, select their local elected officials, who are then appointed to our board. The MPO does not get to choose which officials each local government or agency appoints. In an ideal world, officials on our board are representing all their constituents, including their transit riders and in some cases like Raleigh, Cary, and GoTriangle the transit agencies themselves. When North Carolina implemented MPOs around the state in the late 1980 and early 1990s, having a board seat for transit agencies like GoTriangle was intended to represent transit interests. The CAMPO staff had additional outreach events, generally as part of some other event that would allow us to set up a small table or booth which were held at 10 locations across the region in November and December of 2017, following release of the Preferred Scenarios. In addition, recent Wake Transit outreach, which feeds into the MTP development, over the past 18 months and the past 4 months in particular has included online and in-person surveys of riders for short-term and long-term goals, as well as multiple meetings across Wake County in the evenings and during the daytime, use of social media, presentations to neighborhood and civic groups, etc. Regarding the use of census data, This had to do with our old public involvement plan requiring the use of Census Block data, which is not updated in the American Community Survey(ACS) and only available for the latest full census (thus 2010). While not perfect, we did update the plan to use only block group data, and the analysis we used to define target areas used the 2009-2013 ACS data. The data tend to lag by about a year, and that was the most recent data set available when we updated our Title VI Outreach Plan that feeds this plan. The 2016 data that includes the entire	SJLormand@gmail.com
69	Barbara	Bays			Making Capital Blvd./Rt 1 into a freeway is a very good idea. The truck traffic, with stoplights, is frustratingly slow.	13-Dec	Email		bmbays@icloud.com
70	Howard	Shapiro			Opposes widening of Falls of Neuse Rd. Only if a light-rail or other public transit option is installed would he agree to widening. By 2045, foresees a reduction in cars.	13-Dec	Email	See #32 above.	hshapiro1@nc.rr.com
71	Renee	Arion			Opposes widening of Falls of Neuse Rd.	13-Dec	Email	See #32 above.	rarion2@gmail.com
72	Dwight	Otwell			opposes widening highways - no strong evidence that widenings reduce congestion and encourage patterns of growth that are detrimental to financial and environmental sustainability. Would like to see more pedestrian priority projects in the list.	13-Dec	Email		dwight.otwell@gmail.com

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	First Name	Last Name	Home Location	Work Location	Comments	Date	Event	Staff Response	Email
73	William	Wheeler	Willow Spring		The 401 bypass labeled A617b from Fuquay to Lillington has Lillington has a significant portion that runs through the water supply watershed. This project is very close to Neil's Creek which runs into the Cape Fear River near the water supply intake. This water supply is a very important natural resource to our area. This watershed provides drinking water to all of Harnett County, Holly Springs, Fuquay-Varina and Fort Bragg. I am very concerned that direct, secondary and cumulative impacts from this major freeway could impair the water supply watershed. Please consider shifting this alignment east to avoid impacts to the drinking water supply watershed.	13-Dec	Email		wheeler9272@gmail.com

Appendix 9. Acronyms

AV:	Autonomous Vehicle
BG MPO:	Burlington-Graham Metropolitan Planning Organization
CAAA:	Clean Air Act Amendments of 1990 (United States)
CAMPO:	Capital Area Metropolitan Planning Organization
CFR:	Code of Federal Regulations
CHT:	Chapel Hill Transit
CMAQ:	Congestion Mitigation/Air Quality
CO:	Carbon Monoxide
CTP:	Comprehensive Transportation Plan
DAQ:	Division of Air Quality (North Carolina)
DCHC MPO:	Durham-Chapel Hill –Carrboro Metropolitan Planning Organization
DEQ:	Department of Environmental Quality (North Carolina)
DMV:	Division of Motor Vehicles
DOT:	Department of Transportation (North Carolina)
EPA:	Environmental Protection Agency (United States)
FAST Act:	Fixing America's Surface Transportation Act (most recent federal transportation law)
FHWA:	Federal Highway Administration
FRA:	Federal Railroad Administration
FTA:	Federal Transit Administration
HBO:	Home Based Other (trip purpose)
HBS:	Home Based Shopping (trip purpose)
HBW:	Home Based Work (trip purpose)
HOT:	High Occupancy Toll
HOV:	High Occupancy Vehicle
HPMS:	Highway Performance Management System
HTF:	Highway Trust Fund
I/M:	Inspection/Maintenance
ITRE:	Institute for Transportation Research and Education
ITS:	Intelligent Transportation Systems
KT RPO:	Kerr-Tar Rural Transportation Planning Organization
MAP-21:	Moving Ahead for Progress in the 21st Century (federal law prior to the FAST Act)
MPO:	Metropolitan Planning Organization
MTIP:	Metropolitan Transportation Improvement Program
MTP:	Metropolitan Transportation Plan
NAAQS:	National Ambient Air Quality Standards
NCDOT:	North Carolina Department of Transportation
NHB:	Non Home Based (trip purpose)
NO_x:	Nitrogen Oxides
RPO:	Rural Transportation Planning Organization
RTAC:	Rural Transportation Advisory Committee
RTCC:	Rural Technical Coordinating Committee
RVP:	Reid Vapor Pressure
SIP:	State Implementation Plan (for air quality)
SPOT:	Strategic Prioritization Office - Transportation

STAC:	Special Transit Advisory Commission
STBGP:	Surface Transportation Block Grant Program (federal funding category)
STI:	Strategic Transportation Investments (NC transportation legislation)
STP-DA	Surface Transportation Program-Direct Allocation (recently transformed to STBGP)
TAC:	Transportation Advisory Committee
TAP:	Transportation Alternatives Program (federal funding program)
TAZ:	Traffic Analysis Zone
TARPO:	Triangle Area Rural Transportation Planning Organization
TCC:	Technical Coordination Committee
TCM:	Transportation Control Measure
TIFIA:	Transportation Infrastructure Finance and Innovation Act
TDM:	Transportation Demand Management
TRM:	Triangle Regional Model
TIP:	Transportation Improvement Program
TRM:	Triangle Regional Model
UCPRPO:	Upper Coastal Plain Rural Transportation Planning Organization
UPWP:	Urban Planning Work Program
USEPA:	United States Environmental Protection Agency
V/C:	Volume to Capacity Ratio (measure of congestion on a road segment)
VKT:	Vehicle Kilometers of Travel
VMT:	Vehicle Miles of Travel
VOC:	Volatile Organic Compounds

Appendix 11. Year of Expenditure (YOE) Financial Plan

Federal regulations require Metropolitan Transportation Plans to provide financial data in the year of expenditure (YOE). The tables in this appendix provide the same information as the tables in the Financial Plan (Section 8) except that current dollar values have been translated into year of expenditure values. This has been done by assuming a 3.5% annual inflation rate and calculating dollar values based on the mid-point year of each funding decade (2021 for the 2018-2025 decade; 2030 for the 2026-2035 decade; and 2040 for the 2036-2045 decade).

Durham-Chapel Hill-Carrboro MPO

Cost Category (millions $)	DCHC Total	TIP/'18 to '25	'26 to '35	'36 to '45
Roadways & Alternative Transportation				
Roadways (STI Statewide)	$ 4,756	$ 570	$ 1,697	$ 2,489
Roadways (STI Regional)	$ 739	$ 28	$ 308	$ 402
Roadways (STI Division)	$ 843	$ 63	$ 271	$ 509
Maintenance & Operations (Highway Fund)	$ 6,266	$ 1,037	$ 2,011	$ 3,218
Bicycle & Pedestrian (STI Division)	$ 512	$ 74	$ 210	$ 228
Transportation Demand Management (STI Division)	$ 77	$ 11	$ 33	$ 34
Intelligent Transportation Systems (STI Statewide)	$ 130	$ 17	$ 56	$ 57
Transportation System Management (All Categories)	$ 230	$ 32	$ 97	$ 102
Roadways & Alternative Transportation Cost Total	**$ 13,553**	**$ 1,832**	**$ 4,682**	**$ 7,039**

Revenue Category (millions $)	DCHC Total	TIP/'18 to '25	'26 to '35	'36 to '45
Roadways & Alternative Transportation				
STI Statewide Funds	$ 4,337	$ 643	$ 1,454	$ 2,240
STI Regional Funds	$ 1,298	$ 44	$ 448	$ 806
STI Division Funds	$ 1,099	$ 145	$ 369	$ 585
STI Transition Project Funds	$ 42	$ 42	$ -	$ -
Highway Fund (Maintenance & Operations)	$ 6,266	$ 1,037	$ 2,011	$ 3,218
Toll Revenue Bonds	$ 317	$ 0.1	$ 317	$ -
Local Funding - Bicycle & Pedestrian	$ 120	$ 42	$ 32	$ 46
Local Funding - Roadways	$ 127	$ 30	$ 40	$ 57
Private Funds	$ 135	$ 32	$ 49	$ 55
CMAQ Funding	$ 82	$ 20	$ 29	$ 33
Roadways & Alternative Transportation Revenue Total	**$ 13,823**	**$ 2,035**	**$ 4,748**	**$ 7,040**
Difference	**$ 270**	**$ 204**	**$ 66**	**$ 1**

Cost Category (millions $)	DCHC Total	TIP/'18 to '25	'26 to '35	'36 to '45
Transit				
Continued Funding for Existing Services	$ 2,340	$ 458	$ 781	$ 1,101
Funding for New/Expanded Services in County Plans	$ 4,794	$ 1,611	$ 2,109	$ 1,075
CRT Extension from West Durham to Hillsborough	$ 365	$ -	$ -	$ 365
LRT Extension from Chapel Hill to Carrboro	$ 274	$ -	$ -	$ 274
Transit Cost Total	**$ 7,773**	**$ 2,069**	**$ 2,890**	**$ 2,815**

Revenue Category (millions $)	DCHC Total	TIP/'18 to '25	'26 to '35	'36 to '45
Transit				
State/Federal - to support existing service	$ 450	$ 88	$ 150	$ 212
Local - to support existing service	$ 1,182	$ 231	$ 394	$ 556
Fares - existing service	$ 237	$ 46	$ 79	$ 111
Other Sources - to support existing service	$ 471	$ 92	$ 157	$ 222
Local - new/expanded service (from county plans)	$ 2,050	$ 380	$ 667	$ 1,003
Federal New Starts/Small Starts	$ 1,815	$ 571	$ 776	$ 468
Joint Development	$ 71	$ 0	$ 70	$ -
Borrowing/Debt	$ 997	$ 546	$ 440	$ 10
Additional local for CRT/LRT extensions	$ 73	$ -	$ -	$ 73
STI Regional Funds	$ 428	$ 113	$ 155	$ 160
Transit Revenue Total	**$ 7,773**	**$ 2,069**	**$ 2,890**	**$ 2,815**
Difference	**$ 0**	**$ -**	**$ 0**	**$ -**

Capital Area MPO

Cost Category (millions $)	CAMPO Total	TIP/'18 to '25	'26 to '35	'36 to '45
Roadways & Alternative Transportation				
Roadways (Statewide)	$ 8,894	$ 2,830	$ 4,742	$ 1,322
Roadways (Regional)	$ 5,452	$ 955	$ 1,821	$ 2,676
Roadways (Division)	$ 10,267	$ 441	$ 3,286	$ 6,540
Maintenance & Operations (Highway Fund)	$ 16,681	$ 2,675	$ 5,316	$ 8,690
Bicycle & Pedestrian	$ 1,692	$ 206	$ 562	$ 923
System Optimization (TDM/TSM/CSM/ITS) All Categori	$ 615	$ 75	$ 204	$ 336
Roadways & Alternative Transportation Cost Total	**$ 43,601**	**$ 7,181**	**$ 15,932**	**$ 20,488**
Revenue Category (millions $)	**CAMPO Total**	**TIP/'18 to '25**	**'26 to '35**	**'36 to '45**
Roadways & Alternative Transportation				
STI Statewide Funds	$ 14,445	$ 2,077	$ 4,752	$ 7,616
STI Regional Funds	$ 5,453	$ 954	$ 1,822	$ 2,677
STI Division Funds	$ 9,250	$ 440	$ 2,827	$ 5,983
STI Transition Project Funds	$ 42	$ 42	$ -	$ -
Highway Fund (Maintenance & Operations)	$ 16,680	$ 2,675	$ 5,315	$ 8,690
Toll Revenue Bonds	$ 1,637	$ 687	$ 950	$ -
Local/Development Funding	$ 1,911	$ 612	$ 715	$ 584
CMAQ Funding	$ 219	$ 53	$ 77	$ 89
Roadways & Alternative Transportation Revenue Total	**$ 49,636**	**$ 7,540**	**$ 16,457**	**$ 25,640**
Difference	**$ 6,035**	**$ 359**	**$ 525**	**$ 5,151**

Cost Category (millions $)	CAMPO Total	TIP/'18 to '25	'26 to '35	'36 to '45
Transit				
Continued Funding for Existing Services	$ 2,637	$ 516	$ 880	$ 1,241
Funding for New/Expanded Services	$ 8,948	$ 1,976	$ 1,912	$ 5,060
Transit Cost Total	**$ 11,585**	**$ 2,493**	**$ 2,791**	**$ 6,301**
Revenue Category (millions $)	**CAMPO Total**	**TIP/'18 to '25**	**'26 to '35**	**'36 to '45**
Transit				
State/Federal - to support existing service	$ 455	$ 89	$ 152	$ 214
Local - to support existing service	$ 1,481	$ 290	$ 494	$ 697
Fares - existing service	$ 403	$ 79	$ 135	$ 190
Other Sources - to support existing service	$ 298	$ 58	$ 99	$ 140
Local - new/expanded service	$ 4,286	$ 811	$ 1,416	$ 2,059
Federal New Starts/Small Starts	$ 2,494	$ 605	$ 58	$ 1,831
Fares, State/Federal Operating Grants for new service	$ 789	$ 48	$ 316	$ 425
Borrowing/Debt	$ 1,380	$ 513	$ 122	$ 746
Transit Revenue Total	**$ 11,586**	**$ 2,493**	**$ 2,792**	**$ 6,302**
Difference	**$ 1**	**$ -**	**$ 0**	**$ 1**

DCHC
Metropolitan Planning Organization
Planning Tomorrow's Tranportation

Durham – Chapel Hill – Carrboro
Metropolitan Planning Organization
Member Organizations: Town of Carrboro, Town of Chapel Hill, Chatham County, City of Durham, Durham County, Town of Hillsborough, NC Department of Transportation, Orange County, Triangle Transit

February 14, 2018

Mr. Joe Huegy, Program Manager
Triangle Regional Model Service Bureau
ITRE/North Carolina State University
Centennial Campus Box 8601
Raleigh, NC 27695-8601

Re: Letter Adopting the Triangle Regional Model (TRM v6)

Dear Mr. Huegy,

The Triangle Regional Model Executive Committee at is XXX x, 2018 meeting recommended adoption of the Triangle Regional Model version 6 (TRM v6). The TRM protocol states,

> The official Triangle Regional Model shall be adopted by the signatories to this agreement as needed for new versions of the model but not more than every six months. The signatories through their individual approval processes officially adopt the model by letter to the Triangle Regional Model Service Bureau.

At its meeting on February 14, 2018, the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) endorsed the TRM v6 as the current official model for urban travel demand forecasting to be used as appropriate as the basis for transportation studies and other technical analysis. This letter and the accompanying resolution are provided to serve as documentation of the DCHC MPO approval.

On behalf of the DCHC MPO, we thank you and all the staff who work in the Triangle Regional Model Service Bureau. Should you have questions or comments, please contact Felix Nwoko, felix.nwoko@durhamnc.gov, 919-560-4366 extension 36424.

Sincerely,

Damon Seils
Chair, DCHC MPO Board

Enclosure

DURHAM-CHAPEL HILL-CARRBORO METROPOLITAN PLANNING ORGANIZATION
(DCHC MPO)

RESOLUTION ADOPTING THE TRIANGLE REGIONAL MODEL VERSION 6 (TRM v6)
AS THE OFFICIAL REGIONAL MODEL

WHEREAS, the Triangle Regional Model Executive Committee at its XXX x, 2018 meeting voted to recommend adopting the Triangle Regional Model version 6 (TRM v6); and

WHEREAS, the Triangle Regional Model Protocol requires the official TRM to be adopted by the signatories to the agreement as needed for new versions of the model but not more than every six months; and,

WHEREAS, the signatories through their individual approval processes adopt the model by letter to the Triangle Regional Model Service Bureau; and,

WHEREAS, the DCHC MPO Board at its meeting on February 14, 2018 endorsed the TRM v6 as the current official model for urban travel demand forecasting to be used as appropriate as the basis for transportation studies and related analysis; and,

WHEREAS, the TRM v6 can be used as a principal highway, public transportation and non-motorized travel forecasting tool in the region for feasibility studies, alternatives analysis, project prioritization, long-range plans, discretionary and competitive grant programs (including federal New Starts and Small Starts) and all manner of transportation analysis.

BE IT THEREFORE RESOLVED, by the Board of the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) that the Program Manager for the Triangle Regional Model Service Bureau proceed to use the TRM v6 as a tool to provide the appropriate transportation analysis necessary for improving the region's transportation infrastructure and land use planning.

Damon Seils, Chair DCHC MPO Board	Ellen Beckmann, Chair Technical Committee

DURHAM-CHAPEL HILL-CARRBORO METROPOLITAN PLANNING ORGANIZATION (DCHC MPO)

RESOLUTION ADOPTING THE DCHC MPO 2045 METROPOLITAN TRANSPORTATION PLAN (2045 MTP)

A motion was made by MPO Board member _____ and seconded by MPO Board member _____ for the adoption of the following resolution; and upon being put to a vote, was duly adopted.

WHEREAS, the Fixing America's Surface Transportation Act (FAST Act) requires all Metropolitan Planning Organizations to develop and maintain a Metropolitan Transportation Plan; and

WHEREAS, the Metropolitan Transportation Plan must address all modes of transportation in an urban area, have a horizon year of at least 20 years, and be fiscally constrained; and

WHEREAS, the DCHC MPO Board is the duly recognized transportation decision-making body for the 3-C transportation planning process (i.e., continuous, cooperative and comprehensive) of the DCHC MPO; and

WHEREAS, the local land use plans and socioeconomic forecasts depicted in the Connect 2045 process were consulted and incorporated into the 2045 MTP, and thereby become the adopted socioeconomic forecasts of the DCHC MPO; and

WHEREAS, the Triangle Regional Model, version 6, was consulted and incorporated into the 2045 MTP; and thereby becomes the adopted travel demand model of the DCHC MPO; and

WHEREAS, the DCHC MPO Board has found the transportation planning process to be in full compliance with Title VI of the Civil Rights Act of 1964 and the Title VI Assurance executed by each State under 23 U.S.C. 324 and 29 U.S.C. 794; and

WHEREAS, the DCHC MPO Board has considered how the Metropolitan Transportation Plan will affect the involvement of Disadvantaged Business Enterprises in the FHWA and the FTA funded planning projects (Sec. 105(f), Pub. L. 97-424, 96 State 2100, 49 CFR part 23); and

WHEREAS, the DCHC MPO Board has considered how the Transportation Planning Process will affect the elderly and the disabled per the provision of the Americans With Disabilities Act of 1990 (Pub.L. 101-336, 104 Stat. 327, as amended) and the U.S. DOT implementing regulations.

BE IT THEREFORE RESOLVED, by the Board of the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) that the 2045 Metropolitan Transportation Plan, dated February 14, 2018, be adopted for the DCHC MPO on this the 14th day of February 2018.

(continued)

(Continued – Resolution Adopting DCHC 2045 MTP)

_____

Damon Seils, DCHC MPO Board Chair

Durham County, North Carolina

I certify that Damon Seils personally appeared before me this day acknowledging to me that he signed the forgoing document.

Date: February 14, 2018

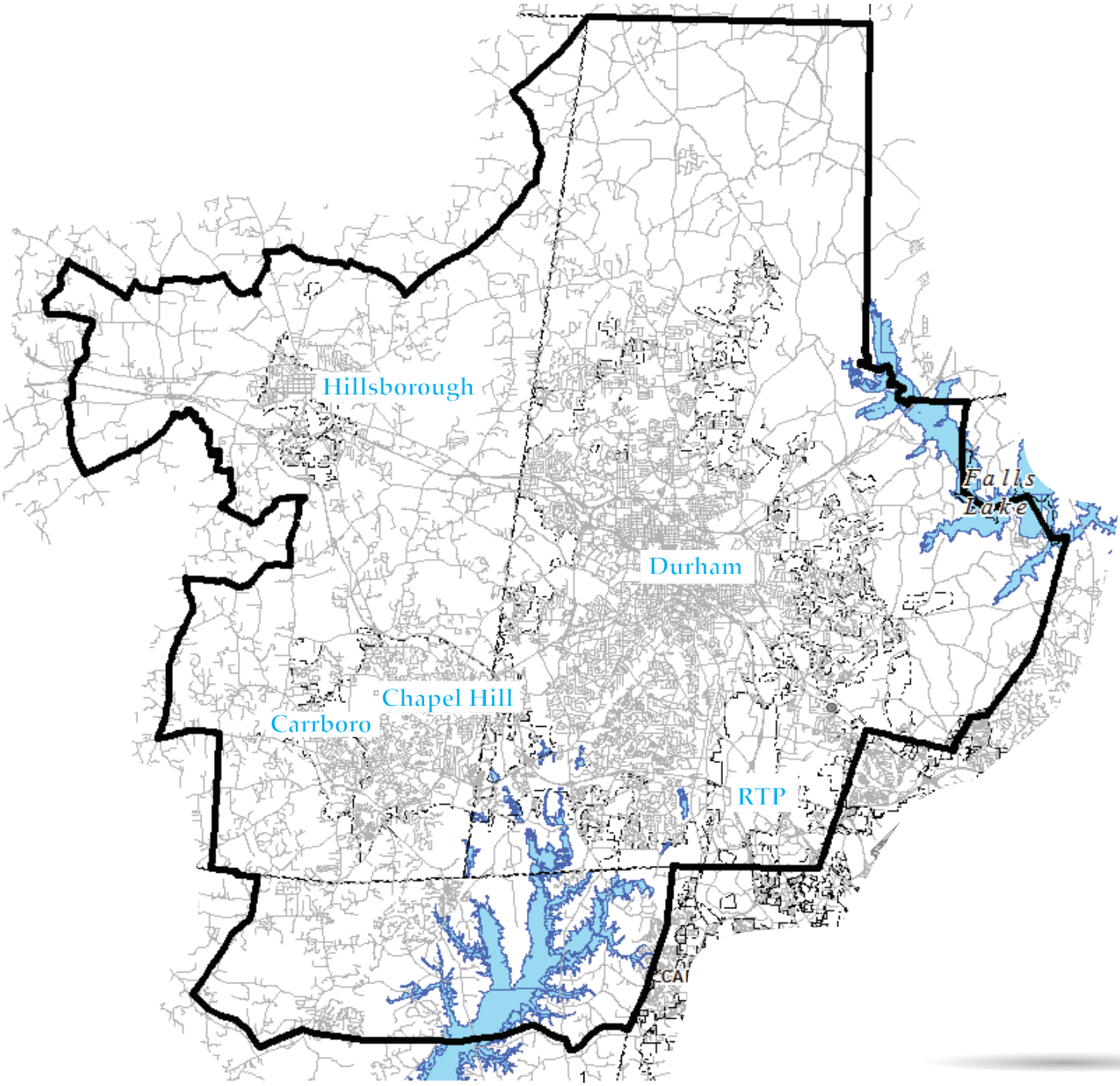
_____

Frederick Brian Rhodes, Notary Public
My commission expires: May 10, 2020

Durham Chapel-Hill Carrboro Metropolitan Planning Organization

FY2019 Unified Planning Work Program

Draft 2.14.18



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Durham-Chapel Hill-Carrboro
Metropolitan Planning Organization
(DCHC MPO)
RESOLUTION (FTA and FHWA)
Approving the FY2019 Unified Planning Work
Program of the DCHC MPO

February 14, 2018

A motion was made by MPO Board Member _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ and seconded by MPO Board Member _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ for the adoption of the following resolution, and upon being put to a vote was duly adopted.

Whereas, a comprehensive and continuing transportation planning program must be carried out cooperatively in order to ensure that funds for transportation projects are effectively allocated to the DCHC MPO; and

Whereas, the City of Durham Department of Transportation has been designated as the recipient of Federal Transit Administration (FTA) Metropolitan Planning Program funds; and

Whereas, the City of Durham Department of Transportation has been designated as the recipient of Section 104(f) Planning and Technical Studies Planning grant funds; and

Whereas, members of the DCHC MPO Board agree that the Unified Planning Work Program will effectively advance transportation planning for FY2019.

Now therefore, be it resolved that the MPO Board hereby endorses the *FY2019 Unified Planning Work Program for the DCHC MPO Urban Area*.

I, Damon Seils, Chair of the MPO Board do hereby certify that the above is a true and correct copy of an excerpt from the minutes of a meeting of the DCHC MPO Board, duly held on the ____ day of _____, 2018.

_____
Damon Seils, MPO Board Chair

Durham County, North Carolina
I certify that Damon Seils personally appeared before me this day acknowledging to me that he signed the forgoing document.

Date: _____, 2018

_____
Frederick Brian Rhodes, Notary Public
My commission expires: May 10, 2020

RESOLUTION CONFIRMING TRANSPORTATION PLANNING PROCESS

RESOLUTION CERTIFYING THE DURHAM-CHAPEL HILL-CARRBORO METROPOLITAN PLANNING ORGANIZATION (DCHC MPO) TRANSPORTATION PLANNING PROCESS FOR FY2019

Whereas, the MPO Board has found that the Metropolitan Planning Organization is conducting transportation planning in a continuous, cooperative, and comprehensive manner in accordance with 23 U.S.C. 134 and 49 U.S.C. 1607;

Whereas, the MPO Board has found the transportation planning process to be in compliance with Sections 174 and 176 (c) and (d) of the Clean Air Act (42 U.S.C. 7504, 7506 (c);

Whereas, the MPO Board has found the Transportation Planning Process to be in full compliance with Title VI of the Civil Rights Act of 1964 and the Title VI Assurance executed by each State under 23 U.S.C. 324 and 29 U.S.C. 794;

Whereas, the MPO Board has considered how the Transportation Planning Process will affect the involvement of Disadvantaged Business Enterprises in the FHWA and the FTA funded planning projects (Sec. 105(f), Pub. L. 97-424, 96 Stat. 2100, 49 CFR part 23);

Whereas, the MPO Board has considered how the Transportation Planning Process will affect the elderly and the disabled per the provision of the Americans with Disabilities Act of 1990 (Pub. L. 101-336, 104 Stat. 327, as amended) and the U.S. DOT implementing regulations (49 CFR parts 27, 37, and 38);

Whereas, the DCHC MPO Metropolitan Transportation Improvement Program is a subset of the currently conforming Metropolitan Transportation Plan (MTP);

Whereas, the Transportation Plan has a planning horizon year of 2045, and meets all the requirements for an adequate Transportation Plan,

Now therefore, be it resolved that the DCHC Urban Area MPO Board certifies the transportation planning process for the DCHC Metropolitan Planning Organization on this the ____ day of ____, 2018.

_____

Damon Seils,
Board Chair

_____

Clerk/Secretary/Planner

Metropolitan Planning Self-Certification Process

CFR 450.334 - The State and MPO shall annually certify to FHWA and FTA that the planning process is addressing the major issues facing the area and is being conducted in accordance with all applicable requirements of:

- Section 134 of title 23 U.S.C., section 8 of the Federal Transit Act (49 U.S.C. app. 1607) and;
- Section 174 and 176 (c) and (d) of the Clean Air Act (42 U.S.C. 7504, 7506 (c) and (d);
- Title VI of the Civil Rights Act of 1964 and Title VI assurance executed by each state under 23 U.S.C. 324 and 29 U.S.C. 794;
- Section 103(b) of the Intermodal Surface Transportation Efficiency Act of 1991 (Public Law 102-240) regarding the involvement of disadvantaged business enterprises in the FHWA and the FTA funded planning projects; and
- The provisions of the Americans with Disabilities Act of 1990 (Public Law 101-336, 104 Stat. 327, as amended) and U.S. DOT regulations "Transportation for Individuals with Disabilities" (49 CFR parts 27, 37, and 38).

In addition, the following checklist should help guide the MPO as they review their processes and programs for self-certification.

1. Is the MPO properly designated by agreement between the Governor and 75% of the urbanized area, including the central city, and in accordance in procedures set forth in state and local law (if applicable)? [23 U.S.C. 134 (b); 49 U.S.C. 5303 (c); 23 CFR 450.306 (a)]. Response: Yes

2. Does the policy board include elected officials, major modes of transportation providers and appropriate state officials? [23 U.S.C. 134 (b); 49 U.S.C. 5303 (c); 23 CF R 450.306 (i)] Response: Yes, the policy board includes elected official/representatives of Durham City, Durham County, Town of Carrboro, Town of Chapel Hill, Town of Hillsborough, Orange County, Chatham County, NCDOT BOT and GoTriangle (regional transit representative).

3. Does the MPO boundary encompass the existing urbanized area and the contiguous area expected to become urbanized within the 20-yr forecast period? [23 U.S.C. 134 (c), 49 U.S.C. 5303 (d); 23 CFR 450.308 (a)] Response: Yes

4. Is there a currently adopted Unified Planning Work Program? [23 CFR 450.314] Response: Yes.
    a. Is there an adopted prospectus? Yes
    b. Are tasks and products clearly outlined? Yes
    c. Is the UPWP consistent with the MTP? Yes
    d. Is the work identified in the UPWP completed in a timely fashion? Yes

5. Does the area have a valid transportation planning process? Response : Yes
   [23 U.S.C. 134; 23 CFR 450]
    a. Is the transportation planning process continuous, cooperative and comprehensive? Yes
    b. Is there a valid MTP? Yes
    c. Did the MTP have at least a 20-year horizon at the time of adoption? Yes
    d. Does it address the 8-planning factors? Yes,
    e. Does it cover all modes applicable to the area? Yes
    f. Is it financially constrained? Yes
    g. Does it include funding for the maintenance and operation of the system? Yes
    h. Does it conform to the State Implementation Plan (SIP) (if applicable)? Yes
    i. Is it updated/reevaluated in a timely fashion (at least every 4 or 5 years)? Yes

6. Is there a valid TIP? [23 CFR 450.324, 326, 328, 330, 332] Response: Yes
    a. Is it consistent with the MTP? Yes
    b. Is it fiscally constrained? Yes
    c. Is it developed cooperatively with the state and local transit operators? Yes.
    d. Is it updated at least every 4-yrs and adopted by the MPO and the Governor? Yes

7. Does the area have a valid CMP? (TMA only) [23 CFR 450.320] Response: Yes
    a. Is it consistent with the MTP? Yes
    b. Was it used for the development of the TIP? Yes
    c. Is it monitored and reevaluated to meet the needs of the area? Yes

8. Does the area have a process for including environmental mitigation discussion in the planning process? Yes
    a. How? Through periodic meeting with environmental resource agencies and involving the agencies in the MTP process.
    b. Why not? N/A

9. Does the planning process meet the following requirements? Response: Yes.
    a. 23 U.S.C. 134, 49 U.S.C. 5303, and this subpart;
    b. In nonattainment and maintenance areas, sections 174 and 176 (c) and (d) of the Clean Air Act, as amended 42 U.S.C. 7504, 7506 (c) and (d) and 40 CFR part 93;
    c. Title VI of the Civil Rights Act of 1964, as amended 42 U.S.C. 2000d-1 and 49 CFR part 21;
    d. 49 U.S.C. 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age in employment or business opportunity;
    e. MAP-21/FAST Act and 49 CFR part 26 regarding the involvement of disadvantaged business enterprises in USDOT funded projects;
    f. 23 CFR part 230, regarding the implementation of an equal employment opportunity program on Federal and Federal-aid highway construction contracts;
    g. The provisions of the Americans with Disabilities Act of 1990 Sections 42 U.S.C. 12101 et seq. and 49 CFR parts 27, 37, and 38;
    h. The Older Americans Act, as amended 42 U.S.C. 6101, prohibiting discrimination on the basis of age in programs or activities receiving Federal financial assistance;
    i. Section 324 title 23 U.S.C. regarding the prohibition of discrimination based on gender; and
    j. Section 504 of the Rehabilitation Act of 1973 29 U.S.C. 794 and 49 CFR part 27 regarding discrimination against individuals with disabilities.
    k. All other applicable provisions of Federal law. (i.e. Executive Order 12898)

10. Does the area have an adopted PIP/Public Participation Plan? [23 CRR 450.316 (b)(1)]? Yes
    a. Did the public participate in the development of the PIP? Yes
    b. Was the PIP made available for public review for at least 45-days prior to adoption? Yes.
    c. Is adequate notice provided for public meetings? Yes.
    d. Are meetings held at convenient times and at accessible locations? Yes.
    e. Is public given the opportunity to provide oral/written comment on planning process? Yes.
    f. Is the PIP periodically reviewed and updated to ensure its effectiveness? Yes.
    g. Are plans and documents available in an electronic accessible format, i.e. MPO website? Yes

11. Does the area have a process for including environmental, state, other transportation, historical, local land use and economic development agencies in the planning process? Yes
    a. How? Through inter-agency coordination, and collaboration
    b. Why not? N/A

DCHC MPO Title VI Assurances

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization –DCHC MPO (hereinafter referred to as the "Recipient") HEREBY AGREES THAT as a condition to receiving any Federal financial assistance from the North Carolina Department of Transportation and the US Department of Transportation it will comply with the Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d-42 (hereinafter referred to as the Act), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation. Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the Regulations) and other pertinent directives, to the end that in accordance with the Act, Regulations, and other pertinent directives, no person in the United States shall, on the grounds of race, color, sex, age, national origin or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance from the Department of Transportation, including the Federal Highway Administration, and HEREBY GIVES ASSURANCE THAT it will promptly take any measures necessary to effectuate this agreement. This assurance is required by subsection 21.7(a) (1) of the Regulations.

More specifically and without limiting the above general assurance, the Recipient hereby gives the following specific assurances with respect to its Federal-Aid Highway Program:

1. That the Recipient agrees that each "program" and each "facility" as defined in subsections 21.23 (b) and 21.23 (e) of the Regulations, will be (with regard to a "program") conducted, or will be (with regard to a "facility") operated in compliance with all requirements imposed by, or pursuant to, the Regulations.

2. That the Recipient shall insert the following notification in all solicitations for bids for work or material subject to the Regulations made in connection with the Federal-Aid Highway Program and, in adapted form in all proposals for negotiated agreements:

   > The DCHC MPO in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

3. That the Recipient shall insert the clauses of Appendix A of this assurance in every contract subject to the Act and the Regulations.

4. That the Recipient shall insert the clauses of Appendix B of this assurance, as a covenant running with the land, in any deed from the United States effecting a transfer of real property, structures, or improvements thereon, or interest therein.

5. That where the Recipient receives Federal financial assistance to construct a facility, or part of a facility, the assurance shall extend to the entire facility and facilities operated in connection therewith.

6. That where the Recipient receives Federal financial assistance in the form, or for the acquisition of real property or an interest in real property, the assurance shall extend to rights to space on, over or under such property.

7. That the Recipient shall include the appropriate clauses set forth in Appendix C of this assurance, as a covenant running with land, in any future deeds, leases, permits, licenses, and similar agreements entered into by the Recipient with other parties: (a) for the subsequent transfer of real property acquired or improved under the Federal-Aid Highway Program; and (b) for the construction or use of or access to space on, over or under real property acquired, or improved under the Federal-Aid Highway program.

8. That this assurance obligates the Recipient for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property or interest therein or structures or improvements thereon, in which case the assurance obligates the Recipient or any transferee for the longer of the following periods: (a) the period during which the property is sued for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or (b) the period during which the Recipient retains ownership or possession of the property.

9. The Recipient shall provide for such methods of administration for the program as are found by the Secretary of Transportation or the official to whom he delegates specific authority to give reasonable guarantee that it, other recipients, subgrantees, contractors, subcontractors, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Act, the Regulations and this assurance.

10. The Recipient agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the Act, the Regulations, and this assurance.

THIS ASSURANCE is given in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property, discounts or other Federal financial assistance extended after the date hereof to the Recipient under the Federal-Aid Highway Program and is binding on it, other recipients, subgrantees, contractors, subcontractors, transferees, successors in interest and other participants in the Federal-Aid Highway Program. The person or persons whose signatures appear below are authorized to sign this assurance on behalf of the Recipient.

_____ _____

Damon Seils, MPO Board Chair Date

_____ _____

Felix Nwoko, Ph.D. Date
DCHC MPO Manager

Introduction

The DCHC MPO is required by federal regulations to prepare an annual Unified Planning Work Program (UPWP) that details and guides the urban area transportation planning activities. Funding for the UPWP is provided on an annual basis by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). Essentially, the UPWP provides yearly funding allocations to support the ongoing transportation planning activities of the DCHC MPO. The UPWP must identify MPO planning tasks to be undertaken with the use of federal transportation funds, including highway and transit programs. Tasks are identified by an alphanumeric task code and description. A complete narrative description for each task is more completely described in the *Prospectus for Continuing Transportation Planning for the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization*, approved by the TAC on February 13, 2002. The *Prospectus* was developed by NCDOT in cooperation with MPOs throughout the state.

The UPWP also contains project descriptions for special projects and Federal Transit Administration (FTA) projects. Special project descriptions are provided by the responsible agency. FTA planning project task descriptions, FTA Disadvantaged Businesses Contracting Opportunities forms, and FTA funding source tables are also included in this work program.

The funding source tables reflect available federal planning fund sources and the amounts of non-federal matching funds. The match is provided through either local or state funds or both. Section 104(f) funds are designated for MPO planning and are used by the Lead Planning Agency to support MPO planning functions. Section 133(b)(3)(7) funds are the portion of STBG-DA funds flexed to the UPWP for MPO planning. The LPA and MPO jurisdictions use these funds to support the MPO planning functions and regional special projects, such as the Regional Freight Plan, data collection geo-database enterprise update, regional model update and enhancement, Triangle Toll Study, CSX study, NC 98 Corridor Study, travel behavior surveys and onboard transit survey, etc.

The main source of funds for transit planning for Chapel Hill Transit (CHT) and GoDurham is the Federal Transit Administration's Section 5303 funds. These funds are allocated by NCDOT's Public Transportation Division (PTD). Transit agencies can also use portions of their Section 5307 capital and operating funds for planning. These funds must be approved by the MPO Board as part of the UPWP approval process.

Proposed FY2019 UPWP Activities and Emphasis Areas

DCHC MPO activities and emphasis areas for the FY19 UPWP are summarized as follow:

- Preparatory work on the development of the 2050 Metropolitan Transportation Plan (MTP)
- Development of the 2020-27 MTIP
- Commence work activities associated with SPOT6
- Continue to implement Fast Act Metropolitan Planning requirements
- Monitory of ADA Transition Plan and Self-Assessment
- Monitoring of Title VI compliance
- Monitoring of Safety Targets
- Monitoring of State of Good Repairs Targets
- Continuation of routine planning- TIP, UPWP, Data monitoring, GIS, Public Involvement, AQ, etc.
- Continuation of special and mandated projects/programs: Title VI, LEP, EJ, safety/freight, modeling,
- Rolling household survey
- TRM V7 initiation and preparatory work

- TRM V6, land-use, Geocoder, integration of Community Viz with UrbanSim, CMP, transit, CTP, Asset Management Plan for all modes (required for all transit agencies), etc.
- 2016 Estimation Year data collection, inventory, analysis and tabulation for the TRM V7 (to be aligned and streamlined with CMP Data collection efforts)
- 2045 MTP – Public outreach for the draft plan and Plan adoption, etc.
- Preparation of Base Year data collection/inventory and travel survey for the major model update
- Annual (continuous ACS-style) surveys (household, transit onboard, cordon, etc.)
- Regional transit and implementation and update of County transit plans
- Congestion Management Process CMP- State of the System Report
- MPO-wide Mobility Report Card update
- Implementation of the Regional Freight Plan
- Continuation of the MPO website update, enhancement and application (portals) development
- Update and enhancement of the MPO geo-database enterprise
- Other 3-C planning process activities

Metropolitan Planning Factors & Federal Requirements

Federal transportation regulations require MPOs to consider specific planning factors when developing transportation plans and programs in the metropolitan area. Current legislation calls for MPOs to conduct planning that:

1. Supports the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increases the safety of the transportation system for motorized and non-motorized users;
3. Increases the security of the transportation system for motorized and non-motorized users;
4. Increases the accessibility and mobility of people and for freight;
5. Protects and enhances the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Enhances the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promotes efficient system management and operation;
8. Emphasizes the preservation of the existing transportation system.
9. Improves the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
10. Enhances travel and tourism

In addition, the current administration is promoting livability principles that are to be considered in the metropolitan planning process activities. These principles are:

- Provide more transportation choices
- Promote equitable, affordable housing
- Enhance economic competitiveness
- Support existing communities
- Coordinate policies and leverage investments, and
- Value communities and neighborhoods.

Each of these factors is addressed through various work program tasks.

Public Involvement and Title VI
Federal legislation requires MPOs to include provisions in the planning process to ensure the involvement of the public in the development of transportation plans and programs including the Metropolitan Transportation Plan, the short-term Transportation Improvement Program, and the annual Unified Planning Work Program. Emphasis is placed on broadening participation in transportation planning to include key stakeholders who have not traditionally been involved, including the business community, members of the public, community groups, and other governmental agencies. Effective public involvement will result in opportunities for the public to participate in the planning process.

Metropolitan Transportation Plan (MTP)
The MPO is responsible for developing a Metropolitan Transportation Plan (MTP) for a minimum of 20-year time horizon in cooperation with the State, MPO member agencies and with local transit operators. The MTP is produced through a planning process which involves the region's local governments, the North Carolina Department of Transportation (NCDOT), local jurisdictions and citizens of the region. Additionally, representatives from the local offices of the U.S. Department of Transportation (USDOT) Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), North Carolina Department of Environmental Quality (NCDEQ) and the U.S. Environmental Protection Agency (US EPA) provide guidance and participate in the planning process. The Metropolitan Transportation Plan (MTP) must include the following:

- Vision, Goals, and Objectives;
- Land use impacts;
- Identification and assessment of needs;
- Identification of transportation facilities (including major roadways, transit, multimodal and intermodal facilities and intermodal connectors) that function as an integrated metropolitan transportation system;
- A discussion of types of potential environmental mitigation activities and potential areas to carry out these activities;
- A financial plan that demonstrates how the adopted transportation plan can be implemented;
- Operations and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods;
- Capital investment and other strategies to preserve the existing and projected future metropolitan transportation infrastructure and provide for multimodal capacity increases based on regional priorities and needs; and
- Proposed transportation and transit enhancement activities.

Transportation Improvement Program (TIP)
The DCHC MPO is responsible for developing a Transportation Improvement Program (TIP) for a seven-year time horizon in cooperation with the State, MPO member agencies and with local transit operators. The TIP is produced through a planning process which involves the region's local governments, the NCDOT, local jurisdictions and citizens of the metropolitan area. The TIP must include the following:

- A list of proposed federally supported projects and strategies to be implemented during TIP period;
- Proactive public involvement process;
- A financial plan that demonstrates how the TIP can be implemented; and
- Descriptions of each project in the TIP.

Transportation Management Area (TMA)
Designated TMAs, such as the DCHC MPO, based on urbanized area population over 200,000 must also address the following: Transportation plans must be based on a continuing and comprehensive transportation planning process carried out by the MPO in cooperation with the State and public transportation operators. A Congestion Management Process (CMP) must be developed and implemented that provides for effective management and operation, based on a cooperatively developed and implemented metropolitan-wide strategy

of new and existing transportation facilities, through use of travel demand reduction and operations management strategies.

Air Quality Conformity Process
Currently, the DCHC MPO is designated as an attainment area for air quality. However, the Triangle region air quality partners have decided to continue to implement activities, including air quality analysis and conformity determination on its Metropolitan Transportation Plan (MTP) and Metropolitan Transportation Improvement Program (TIP). NCDOT and TJCOG will assist the MPOs in making a conformity determination by performing a systems level conformity analysis on the highway portion of the fiscally constrained MTP. The TIP is a subset of the MIT and is, therefore, covered by the conformity analysis.

FY2019 Emphasis Areas and Special Projects Descriptions
Special emphasis projects and new initiatives for the FY2019 UPWP are described below.

Triangle Regional Model (TRM) - Major Model Enhancement
The purpose of this task is to continue to review and analyze existing travel demand and air quality models in order to determine feasible enhancements to the modeling procedures that are used in the TRM study area. DCHC MPO will continue to perform regional travel demand, and micro simulation model runs for existing and future projects as requested and needed. Upon completion of the TRM-V6, the Triangle Regional Model Service Bureau (TRM-SB) and the regional model stakeholders will commence substantial revisions and enhancements in order to better respond to the evolving needs and policies of the DCHC MPO and other model stakeholders. One of the customary first tasks will be to identify and select model enhancements for implementation based on the needs of the various partners, which include local governments, and, on the feasibility and costs of desired enhancements. Enhancements specifically discussed within the DCHC MPO include; enhancing model precision for small area studies, improving non-motorized models, increasing sensitivity to travel demand management policies, network quality checks, and improved transit ridership forecasting, incorporating tools for policy analysis and responding to policy questions, improving HOV/HOT tools and parking sensitivity enhancements. Additional technical enhancements have also been proposed relative to trip generation, destination choice and mode choice. Integrated land use and transportation modeling is addressed in a separate item below. Specific activities to develop model enhancements include; staff time preparing and evaluating technical proposals for model revision and developing the model, negotiating the scope of enhancements with regional model partners (NCDOT, GoTriangle, CAMPO), consultant assistance in preparing technical specifications and in developing the model, and research and peer contact aimed at assessing the technical merits and operational challenges of the various modeling strategies that will be under consideration. The TRM is a regional project, and it is possible that some enhancements sought by DCHC MPO will not be included in the regional model plan, such as the enhancement of the non-motorized trip. In that case, additional specific activities may include developing extensions to the regional model to meet DCHC's remaining policy needs.

Annual Continuous Travel Behavior Survey (Household Survey)
Work will continue on the tabulation and analysis of the household survey. Also, estimation of parameter using the household survey will be undertaken during this UPWP period. Due to the changing demographics of the region, the model stakeholders have decided to undertake annual (ACS style) continuous survey. This will improve the model by capturing changing travel behavior and patterns. The existing Triangle Regional Model was calibrated with Travel Behavior Survey (TBS) data collected in 2006. Since then, the region has undergone substantial development and demographic changes. While some of these changes are captured in updates to socio-economic data that is input to the model, including Census 2010, there is much more information from the 2006 survey that needs to be updated in order to prepare more accurate forecasts and also to meet the federal requirements for using the latest planning assumptions. The TBS will collect detailed information on personal and household travel patterns from

approximately 2,000-3,000 households annually across the Triangle. The sample size for the DCHC MPO planning area will be based on the population. Information about trip purposes, mode choice, travel routes, time of day when travel is undertaken, response to road congestion, average trip distances and durations, and neighborhood and work destination characteristics will likely be gathered in these surveys.

In addition, the new TBS will allow better prediction of transit and non-motorized transportation. Despite the comprehensive character of the current TBS, it under-represents persons who travel by modes other than automobile. Consequently, in order to provide sufficient high-quality data to pursue the MPO's goal of understanding and increasing use of transit and non-motorized travel, the proposed budget includes a separate transit on-board survey bus riders, and surveys of bicycle and pedestrian activity and facilities. The benefit to the DCHC MPO will be a more accurate and reliable travel demand model that represents and captures local travel behavior and travel patterns.

Community Viz

The DCHC MPO in concert with CAMPO will continue to undertake the update and enhancement of the Community Viz tool. The primary purpose of the project is to implement a partnering strategy and create a spatial data planning model framework and scenario planning using Community Viz software that will mimic development patterns and intensities and allocate future year socioeconomic data for the jurisdictions within the Triangle region. The model will be used by DCHC MPO staff to identify regional goals and community values, and explore alternatives for growth, development, and transportation investment. Results from the model will be used in developing the DCHC MPO's next socio-economic forecasts and Metropolitan Transportation Plan.

During FY2017, the DCHC MPO and CAMPO under the leadership of TJCOG joined together to update the first Community Viz0 scenario planning initiative called Connect 2045. That tool provided a platform for regional socio-economic projection and forecasting. Additionally, it provided an opportunity to explore and debate regional visions for growth, their trade-offs, and alternative development futures. Scenario planning tools, and specifically, Community Viz, will be used throughout the planning process to measure and evaluate the impacts of competing development scenarios and major investments in the regional transportation system. Results of the scenario planning initiative will be the update and refinement of socio-economic forecasts.

Data Collection and Data Management

The MPO is required by federal regulations and the 3C process to perform continuous data monitoring and maintenance. A number of transportation and traffic conditions will be continuously surveyed and compiled annually to feed into various MPO technical analyses such as modeling, Metropolitan Transportation Plan update, Congestion Management Process, project development, Title VI planning, EJ/LEP demographic profiles, TIP, project prioritization, etc. The following data collection and monitoring tasks will be conducted during this UPWP period:

- 48 hour traffic volume –hourly, bi-directional, classified and 85th percentile speed;
- Turning Movement Count during AM, Noon and PM peak periods for cars, trucks, bikes and pedestrians;
- INRIX and HERE data
- Travel time and speed survey; and
- Pedestrian and bicycle counts at mid-block and intersections (peak counts and 12-hour counts).
- Crash and safety data
- Transit APC
- Transit Performance Targets data

Transportation models, Congestion Management Programs, federally mandated performance

management/targets, and prioritization are critically dependent on comprehensive, detailed, high-quality input data. In the past, such data have been gathered through an ad-hoc, short-term work effort, and have been used to produce model output for multiple years. As the region grows toward more sophisticated models and, as NCDOT and FHWA move toward detailed data-driven processes, it becomes increasingly desirable to undertake comprehensive and systematic data collection and management for the MPO. The on-going MPO data management program is intended to link the model's input directly to existing databases. More broadly, it is proposed to integrate these external data with existing and new geographic information so that they can be overlaid easily with transportation improvement projects, thoroughfare and corridor plans, updated street centerline locations and other information that will assist policy makers and the public to envision the impact of proposed projects and policies. Specific products to be output by staff and/or consultants include; design of work flow processes and data access strategies to support routine access to relevant information, continued design and update of a centralized database for information that will be used by transportation and land use models, development of presentation tools for the data (using ArcGIS Online), and adjustment of the travel demand model so that it can use directly such detailed data.

Intelligent Transportation System - The purpose of this task is to develop, maintain and enhance regional Intelligent Transportation System (ITS) activities to improve efficiency of the transportation network, public transit, emergency response, safety and security in the Capital Region. DCHC MPO will continue to update and maintain the regional ITS architecture, and coordinate with various stakeholders to ensure that ITS technologies are deployed in manner that will allow for communication, interoperability, and compatibility amongst various regional systems and entities.

Title VI Planning - The purpose of this task is to ensure that no person will, on the grounds of race, color, national origin, income, gender, age, and disability, as provided by Title VI of the Civil Rights Act of 1964 and the Civil Rights Restoration Act of 1987 (PL 100.259), be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity. DCHC MPO will continue to monitor the Title VI program and implement Title VI Assurance.

Safety and Security Planning - The purpose of this task is to reduce the human and economic toll on the region's multi-modal transportation system due to traffic crashes through collaboration and an integrated Vision Zero approach including engineering, enforcement, education and emergency response. DCHC MPO will continue to analyze safety data and collaborate with NCDOT and regional safety stakeholders to monitor safety programs and continually revise and refine the planning process.

Land Use, Socio-Economic, Environmental - The purpose of this task is to collect, maintain and analyze regional land use, socio-economic and environmental data that will be used in regional demographic forecasting, transportation planning, land use planning, air quality planning, emergency planning, Title VI and economic development efforts. DCHC MPO will continue to participate, provide input to member jurisdictions and agencies in the development of local comprehensive plans, and provide guidance to NCDOT Project Development and NEPA on land use and zoning issues affecting project development and Merger process.

Metropolitan Transportation Plan Reappraisal - This task addresses periodic reviews, changes, and progress on the long range planning process to foster livable and sustainable communities and transportation systems in the DCHC MPO area as required by FAST Act and the previous legislations.

FY2019 UPWP Funding Sources

FY2019 UPWP funding levels as well as the descriptions of funding sources is summarized below.

Planning (PL) Section 104(f) – These funds are Federal Highway Administration (FHWA) funds for urbanized areas, administered by NCDOT. These funds require a 20% match. The PL funding apportionment to the state is distributed to the MPOs through a population-based formula. The proposed Section 104(f) funding level is based on the FAST-ACT Section 104(f) allocation. The statewide section 104(f) funds are distributed among all MPOs based on a formula. The DCHC MPO PL fund allocation for FY2019 is below.

	MPO Total
Federal PL funds (80%)	$ 353,101
Local match (20%)	$ 88,275
Total PL Funds	**$ 441,376**

STBG-DA – These funds are the portion of the federal Surface Transportation Block Grant Program (STBG-DA) funds provided to Transportation Management Areas (TMAs) over 200,000 in population through FHWA. By agreement with the DCHC MPO and NCDOT, a portion of these funds are used for MPO transportation planning activities. STBG-DA funds proposed to be flexed in the FY2019 UPWP are shown below:

	MPO Total
Federal STBG-DA funds (80%)	$ 1,101,313
Local match (20%)	$ 275,328
Total STBG-DA Funds	**$ 1,376,641**

FTA Funds -Two types of funds are used for transit planning purposes by the DCHC MPO; Section 5303 and Section 5307 funds administered through the Federal Transit Administration (FTA) and the NCDOT Public Transit Division.

Section 5303 funds are grant monies from FTA that provide assistance to urbanized areas for transit planning. The funds are for planning and technical studies related to urban public transportation. They are provided from the FTA through the NCDOT-PTD to the MPO transit operators (80% from FTA, 10% from NCDOT-PTD, and 10% local match).

5303	**CHT**	**GoDurham**	**MPO Total**
Federal (80%)	$137,200	$142,800	$280,000
State (10%)	$17,150	$17,850	$35,000
Local (10%)	$17,150	$17,850	$35,000
Total Sect. 5303	$171,500	$178,500	$350,000

Section 5307 funds can be used for planning as well as other purposes, and are distributed by formula by FTA. The GoDurham, CHT, OPT and GoTriangle are eligible to use Section 5307 funds from the FTA for assistance on a wide range of planning activities. These funds require a 20% local match, which is provided by the City of Durham, the Town of Chapel Hill, Orange County and GoTriangle.

5307	GoDurham	GoTriangle	MPO Total
Federal (80%)	$ 236,000	$684,000	$ 920,000
Local (20%)	$ 59,000	$171,000	$ 230,000
Total Sect. 5307	$ 295,000	$855,000	$ 1,150,000

Summary of all Funding Sources

	Federal	State	Local	Total
PL/STBG-DA (FHWA)	$ 1,454,414		$ 363,603	$ 1,818,017
FTA 5303	$280,000	$35,000	$35,000	$350,000
FTA 5307	$ 920,000		$ 230,000	$ 1,150,000
Total	$ 2,654,414	$ 35,000	$ 628,603	$ 3,318,017

Summary of Federal Funding (80%) by Agency

	FHWA	FTA Transit Planning		
Agency	**Planning**	**5303**	**5307**	**Total**
Lead Planning Agency	$ 1,153,101			$ 1,153,101
Carrboro	$ 22,911			$ 22,911
Chapel Hill	$ 79,068	$137,200		$ 216,268
Durham City	$ 91,291			$ 91,291
Durham County	$ 43,042			$ 43,042
TJCOG	$ 65,000			$ 65,000
GoDurham		$142,800	$ 236,000	$ 378,800
GoTriangle			$684,000	$684,000
Total	**$ 1,454,414**	**$280,000**	**$ 920,000**	**$ 2,654,414**

LPA Local Match Cost Sharing

To receive the aforementioned federal funds through FHWA, a local match of twenty percent (20%) of the total project cost must be provided. The MPO member agencies contribute to the Lead Planning Agency 20% local match. Each MPO's member agencies' proportionate share of the local match is determined on an annual basis during the development of the UPWP. The following table displays the MPO's member agencies' proportionate share of the local match for FY2019. The local match shares for member jurisdictions referenced below were determined using population and number of data collection locations/segments. GoTriangle is 7.5% of the total MPO match required for local share of federal funds minus ITRE and data collection expenses and is based on average annual percentage of funds received including 5307 and STBG-DA.

Agency	Total FY2019
Durham City	$154,357
Durham County	$26,559
Chapel Hill	$38,691
Carrboro	$13,238
Hillsborough	$4,115
Orange County	$23,121
Chatham County	$9,573
GoTriangle	$18,621
Total	$288,275

Certification of MPO Transportation Planning Process

As part of the annual UPWP adoption process, the MPO is required to certify that it adheres to a transportation planning process that is continuous, cooperative, and comprehensive (ie. the 3-C planning process). The certification resolution is included as part of this work program.

Summary of FY2017 and First Quarter FY2018 UPWP Accomplishments

The main emphases of the FY2017 and first quarter of FY2018 UPWP were the development of the Comprehensive Transportation Plan, model enhancement, calibration and validation of the Triangle Regional Model, the update of the MPO GIS enterprise, Congestion Management Process, development of an interactive Mobility Report Card, MPO data collection and analysis, update of the MPO Data Management System, evaluation of performance indicators, update of Community Viz Land-use Scenario, State and Regional Coordination, collaboration on the regional transit activities, and Orange and Durham county transit initiatives. The MPO continued to fulfill State and Federal transportation mandates including the 3-C transportation process, UPWP planning, SPOT4/STI prioritization, Title VI/EJ/LEP, visualization, administration, management and oversight of grants, etc. The MPO made significant progress in these areas. Major milestones and accomplishments are summarized as follows:

Coordinated Public Transit Human Services - The DCHC MPO continued to address the Coordinated Public Transit Human Services Transportation Plan as required by FAST Act and foster coordination and communication among all transit providers in the region. Staff continued to meet and coordinate with the human services agencies that provide or have clients that need transportation services in the MPO, collect information on transportation services, and maintain the metropolitan transportation coordination plan.

Routine MPO Planning Progress and UPWP - The MPO continued to address periodic reviews, changes, and progress on the short-range planning process and changes to the Unified Planning Work Program (UPWP) as required by FAST Act and previous legislation. DCHC MPO will continue to conduct short range transportation and transportation planning activities, and coordinate with necessary local, regional and state agencies to conduct and track transportation projects in the DCHC MPO.

Non-Motorized Planning and Complete Streets – DCHC MPO continued to develop, support and promote plans and projects that increase and improve cycling and walking facilities, improve safety and security of vulnerable roadway users, and create alternative transportation mode choices for all travelers. DCHC MPO continued to prepare and evaluate transportation plans so that bicycle and pedestrian facilities are integrated wherever practicable, into the network.

Maintain Clean Air (attainment) – DCHC MPO continued to protect and enhance the environment, and promote consistency between transportation improvements, and state and local planned growth and economic development patterns. DCHC MPO continued to monitor the transportation planning activities and ensure that such activities do not deteriorate the air quality in the region.

Task A7 (Intelligent Transportation System) - The purpose of this task is to develop, maintain and enhance regional Intelligent Transportation System (ITS) activities to improve efficiency of the transportation network, public transit, emergency response, and safety and security in the region. DCHC MPO continued to update and maintain the regional ITS architecture, and coordinate with stakeholders to ensure that ITS technologies are deployed in a manner to allow communication, interoperability, and compatibility amongst various regional systems and entities.

Title VI Planning - The MPO continued to monitor and implement the MPO Title VI Assurance which ensures that no person will, on the grounds of race, color, national origin, income, gender, age, and disability, as provided by Title VI of the Civil Rights Act of 1964 and the Civil Rights Restoration Act of 1987 (PL 100.259), be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity.

Americans with Disabilities Act (ADA) Transition Plan & Self-Assessment - The MPO continued to monitor and implement the MPO's ADA Transition Plan and Self-Assessment

Model Enhancement – DCHC MPO continued to review and analyze existing travel demand and air quality models in order to determine feasible enhancements to the modeling procedures that are used in the TRM study area. DCHC MPO continued to perform air quality, regional travel demand, and micro simulation model runs for existing and future projects as requested and needed.

Safety and Security Planning - The MPO, through its planning activities, continued to strive to reduce the human and economic toll on the region's multi-modal transportation system due to traffic crashes through widespread collaboration and an integrated Vision Zero and Traffic Incident Management (TIM) program with an Engineering, Enforcement, Education and Emergency Response approach. DCHC MPO continued to analyze safety data and collaborate with regional safety stakeholders to keep them engaged in the routine monitoring of safety programs, and the revision and refinement of the planning process.

Development of Comprehensive Transportation Planning and Programs – DCHC MPO continued to evaluate, support, analyze and implement multi-modal transportation plans and programs that foster accessibility, mobility, safety and other FAST Act planning factors. DCHC MPO continued

to coordinate with local governments and various transportation stakeholders to develop and promote new programs that will foster better multi-modal transportation options.

MPO Data Development and Maintenance - The MPO continued to collect, maintain, and analyze regional information on topics including, but not limited to, census, land use, and related data that is needed for regional demographic forecasting, transportation and land use planning, air quality planning, TRM estimation, calibration and validation, CMP, MRC, transit planning, bike/pedestrian planning, emergency planning, Title VI, and economic development efforts.

Land Use, Socio-Economic, Environmental – DCHC MPO continued to collect, maintain and analyze regional land use, socio-economic and environmental data that will be used in regional demographic forecasting, transportation and land use planning, air quality planning, emergency planning, Title VI, and economic development efforts. DCHC MPO continued to participate, and provide input to NCDOT, in the development of local comprehensive plans, and provide guidance to NEPA/Merger/projected development on land use and zoning issues.

Transportation Plan Reappraisal – DCHC MPO continued to address periodic reviews, changes, and progress on the long range planning process to foster livable and sustainable communities and transportation systems in the planning area as required by FAST Act and the previous legislations.

Technical Assistance – DCHC MPO continued to perform service requests as well as utilize the expertise and knowledge of the staff in providing technical support services to local governments and interested citizens on transportation planning and other requests that support the planning factors in FAST Act and the previous legislation. This includes coordinating with public transit providers and local units of government in the region to create a regionally seamless transit system that improves accessibility and mobility for all citizens.

Travel Demand Management – Triangle J Council of Governments (TJCOG) on behalf of DCHC MPO continued to implement Travel Demand Management (TDM) strategies to influence individual travel behavior and provide expanded options to reduce the actual demand, or number of vehicles, placed on transportation facilities, and incorporate practices that focus on managing the demand side of the transportation equation rather than increasing supply by widening or building new roads. Progress continued to be made on reduction of peak VMT around the Research Triangle Park employee commute options, and Best Employer for Commute programs.

Regional SHSP Implementation – DCHC MPO continued to work to create a Regional Transportation Safety Coalition with the aim of reducing crashes on major roadways through widespread collaboration and an integrated approach including engineering, education, enforcement and emergency services. DCHC MPO continued to coordinate with the stakeholders and implement action items in the TIMS Plan to achieve the goal of reducing the number of fatalities within the MPO by half by the year 2045, and ultimately the vision of Destination Zero Deaths.

The other accomplishments for the FY2017 and first quarter FY2018 UPWP are summarized as follows:

1. The MPO Administration program element focuses on all aspects of the MPO's personnel management, governing board support and meeting coordination, budgeting, policy development and review, annual work program development and reporting, and otherwise meeting all state and federal requirements for planning program administration. Most tasks in this element are routine and ongoing in nature including Comprehensive Transportation plan (CTP), Metropolitan Transportation Plan (MTP), SPOT Prioritization, data collection

and analysis, development and maintenance of spatial GIS portals, Incident Management plan, update of ADA Transition Plan, enhancement and update of the regional model, development of Counties Transit Plans and LRT, etc.

2. Data management activity included collecting, analyzing, maintaining and reporting activities necessary to support the transportation planning process and work program. Various data is captured, processed and subsequently used to identify transportation issues, propose solutions, and monitor activity.

3. Trends. All data maintained by the MPO is accessible to member agencies and the public. Certain tasks are associated with technical tools and functions necessary to support analytical work and forecasting, including computer hardware and software and licenses for travel demand modeling and traffic operations microsimulation, and for electronic hardware used in various types of traffic counting.

4. Development of the DCHC-MPO Comprehensive Transportation Plan (CTP): The LPA and NCDOT Transportation Planning Branch (TPB) worked cooperatively in the development of the CTP multi-modal maps and tables. CTP is mandated by NC General Statute. It differs from the federally mandated Metropolitan Transportation Plan (MTP) in that it is not fiscally constrained and does not have a horizon year. CTP has been completed and mutually adopted by the MPO Board and the Board of Transportation.

5. 2045 Metropolitan Transportation Plan (MTP): significant progress was made in the development of the 2045 MTP. The MPO finalized the Goals and Objectives. Progress was made in the development of the MTP performance measures and targets. Other 2045 MTP accomplishments include: development of SE control and guide totals, refinements and enhancements of CommunityViz tool, development of preliminary scenarios. etc.

6. MPO Congestion Management Process (CMP): The MPO continued work on the update, analyses and mapping associated with the development of the federally required CMP. Tasks accomplished include summarization and analysis of data, measurement of multi-modal transportation system performance, and implementation of CMP mapping in an interactive GIS.

7. MPO Mobility Report Card (MRC): Staff continued to measure and monitor multi-modal transportation system performance. Other accomplishments included a state-of-the-system report that focuses on measures of system performance for which data collected on an annual basis is used to index overall performance of the MPO transportation system from year to year. Data reported included, arterial LOS, intersection LOS, transit services, bicycle facilities, sidewalks, safety, etc.

8. MPO ADA Transition Plan: DCHC MPO conducted an ADA roundtable and stakeholder outreach. Continued to oversee the update of the DCHC MPO ADA Transition Plan, specifically; update of 508 compliance, preparation of ADA roundtable, assessment of MPO ADA programs, etc.

9. Regional Freight Plan: Staff continued to serve as the project manager for the development of the Triangle Regional Freight Plan. Work tasks accomplished included but are not limited to:

- Public outreach and stakeholder engagement
- Data collection, inventory and assessment

- Development of data needs
- Establishment of the Freight Stakeholder Advisory Committee
- Development of freight goals, objectives, performance measures and targets
- Analysis of existing conditions and trends
- Analysis of freight land-use issues
- Freight demand and supply chain analysis
- Generation of designated freight works

10. Public Involvement Process: Continued to provide the public with complete information, timely notice, and full access to key decisions and opportunities for early and continuing involvement in the 3C process. Also, continued to assess the effectiveness of the DCHC MPO Public Involvement Process and to develop and enhance the process of regional involvement supporting the objectives of the DCHC MPO Public Involvement Policy (PIP) and federal regulations (such as FAST-Act). Staff continued to explore, and apply new and innovative approaches to improve MPO public participation levels and opportunities, especially for plans and programs using social media; Facebook and Twitter. Continued to oversee the update and the maintenance of the MPO website, including update and enhancement of portals, update of CivicaSoft website system application, and update of content management systems. Continued to provide management support for the MPO visualization such as reviewing current AGOL, land-use 3-D, Urban-canvas, MS2 portals and webservers, and suggested updates and enhancements.

11. Safety Analysis: The MPO completed analyses related to bike and pedestrian safety, transit safety, and vehicular safety. Other safety related accomplishments included participating in North Carolina safety education initiatives and regional bike and pedestrian safety programs.

12. Environmental Justice/Title VI: The MPO continued to update and implement EJ and Title VI program, including update of demographic profiles and incorporation of FHWA comments.

13. Metropolitan Transportation Improvement Program (MTIP): The MPO continued to work on TIP-related activities such as prioritization, review of the MPO methodology, Local Supplement of the STIP, and the development of the draft Metropolitan Transportation Program (MTIP).

14. Amendments and Administrative Modifications to the MTIP: The MPO processed several amendments and administrative modifications to the 2016-25 MTIP and forwarded to NCDOT to be included in the STIP for BOT approval.

15. Triangle Regional Model (TRM) Update and Enhancement: The MPO continued to participate in the update and enhancement of the TRM at ITRE. Work tasks accomplished included, completion of generation, destination choice and mode choice models, calibration and the validation of 2010 Estimation Year TRM-V6.The MPO is one of the funding partners of the modeling service bureau and continued to provide .5 FTE to ITRE Model Service Bureau.

16. Bicycle lane restriping. The MPO continued to work with NCDOT Division 5 and Division 7 regarding priorities and plans for restriping roadways scheduled for resurfacing by NCDOT.

17. Other Project Development Planning and NEPA: The MPO continued to participate in project development planning and NEPA for several on-going NCDOT projects within the MPO

including; I-40 Managed Lanes Feasibility Study, US 15-501 Corridor Study, US 15-1501 Feasibility Study, Infinity-Latta intersection, NC54 widening project planning, I-40 widening (US15-501 to I-85), several bridge replacement projects, resurfacing projects, etc.

18. Oversight, Monitoring and Administration of Transit Grants: The MPO continued to process invoices for sub-recipients reimbursements as well continued to administer and monitor transit grants.

19. Service Requests: Staff performed numerous services requests from the public and member agencies.

20. Management and Operations: Staff continued routine tasks that encompass the administration and support of the 3-C transportation planning process as mandated by federal regulations, Tasks have been divided into the following sub- tasks including, but not limited to:

- Provided liaisons between DCHC MPO member agencies, transit providers, GoTriangle, CAMPO, NCDOT, NCDEQ, TJCOG, RDU and other organizations at the local, regional, state, and federal levels on transportation-related matters, issues and actions.

- Provided technical assistance to the MPO Board, member agencies, stakeholders and citizens and other member jurisdictions policy bodies.

- Participated in joint regional technical meetings as a means to continually improve the quality and operation of the transportation planning process and decision making in the region.

- Reviewed and commented on federal and state transportation-related plans, programs, regulations and guidelines, including review of Notice of Proposed Rule Making (NPRM), federal register and literature review of new transportation planning procedures.

- Provided assistance to the MPO Board and Technical Committee with meeting preparation, development of agenda and minutes, follow-up to directives to staff, and support of the agenda management system.

- Updated and provided support for MPO planning documents as required.

- Administration and oversight of contracts and fiscal management.

21. Assisted with the compliance of federal and state regulations and mandates.

22. Performed various supervisory duties.

City of Durham Accomplishments

The City of Durham supported all areas of MPO work through participation in the CTP, MTP, and TIP processes as well as special studies like the NC 98 Corridor Study and FTA TOD Planning Grant. There are many funded TIP projects in development in the City of Durham that City staff have been coordinating extensively with NCDOT and the MP on. The City also managed the successful completion and adoption of the Bike+Walk Implementation Plan which sets priorities for pedestrian and cycling infrastructure needs in the City.

Durham County Accomplishments
County staff developed updated land use data based on existing zoning, adopted plans, and aspirational scenarios to be incorporated into the development of the Triangle Regional Model. County staff also began development of station area plans for the Patterson Place and Erwin Road Compact Neighborhoods for land use, transportation, and critical infrastructure. Durham County was also an active participant in the NC 98 corridor study and the GoTriangle TOD planning grant.

Orange County Accomplishments
Orange County played an active role in the State's Transportation Improvement Program (STIP) for FY 2020 – 2029 and DCHC MPO's 2045 Metropolitan Transportation Plan, working hand-in-hand with MPO staff, NCDOT, and local stakeholders. This involved continuing work on funded and programmed projects while identifying new projects and shepherding them through the SPOT 5.0 and different planning processes. This fiscal year, Orange County also conducted population and employment projections for the MPO's travel demand model and helped shape the Guide Totals for the County, a task the County will continue doing for all models in the region. Planning staff also coordinated, reviewed and provided numerous presentations to keep key local and regional stakeholders keeping them aware of new developments in Orange County, SPOT process, and Strategic Transportation Investment Law.

The Management and Operations task involved much of the administrative and reporting work that Orange County is required to provide to the MPO. This includes de-obligating STBG-DA funds and flexing them to 5307 by Orange Public Transportation (OPT) in coordination with MPO for its transit purposes. Orange County is actively involved in regional transportation planning by regularly attending all MPO TC and Board, Triangle J Council of Government joint Technical Team meetings, Triangle Area Rural Planning Organization Rural Technical Advisory Committee (RTAC) & Rural Technical Coordinating Committee (RTCC) meetings and keeps local Orange Unified Transportation Board and County Commissioners informed and involved in the growing transportation network.

Town of Carrboro Accomplishments
Much of the Town of Carrboro's planning work during FY2017 focused on continuing and finishing efforts started during the previous fiscal year. For example, staff continued to meet with neighbors to refine designs for residential traffic calming proposals. Town staff worked with the parking consultant hired during FY2016 to present the finding and recommendations from the downtown parking study at a public hearing and to adopt document as the Town's Parking Plan.

Town staff worked with MPO and NCDOT staff to review the different components of the CTP and MTP and to facilitate presentations for elected officials. Staff also participated in the development of the Orange County and Durham County Transit Plans with particular efforts toward the development of the list of capital projects for the Orange County Transit Plan. Carrboro continues to participate in the implementation of the transit plans as well as the development of the Chapel Hill Transit North-South Corridor BRT project.

Carrboro staff was also heavily involved in the prioritization process for SPOT 5.0, working with MPO and NCDOT staff to identify and define new projects. The Town continues to manage local TIP projects that have received funding, including the Homestead-CHHS MUP, and the Morgan Creek Greenway, Rogers Road Sidewalk, Bike Loop Detector project, and Jones Creek Greenway which continue to move forward. Town staff continued to attend bi-weekly MPO meetings, subcommittee meetings, provide support to Town advisory boards and communicate with elected officials about upcoming transportation-related matters.

Town of Chapel Hill Accomplishments
The Town of Chapel Hill conducted a number of transportation planning and project management activities under the FY2017 Unified Planning Work Program. Town staff supported the Durham-Chapel Hill-Carrboro MPO in region-wide planning efforts and worked on Chapel Hill-specific projects that will support regional transportation planning activities and goals.

Town Staff continued its work on the 2045 Metropolitan Transportation Plan including attending regular sub-committee meetings, reviewing Community Viz and TRM model runs, presenting information to elected officials and advisory boards, and providing staff support during public engagement events. The 2040 Comprehensive Transportation plan was completed and adopted by the DCHC MPO in FY 17. Town Staff contributed significant time reviewing proposed projects and providing information to elected officials and advisory boards during the public comment period.

The Town of Chapel Hill continued its work with Stewart Engineering in the development of the Mobility and Connectivity Plan. This multimodal transportation plan provides lists of bicycle and pedestrian projects that will enhance connectivity and improve access to transit. The project includes an ADA Transition Plan for the Town, which compliments the regional ADA Plan and provides Town staff with a list of projects and programs aimed at improving ADA compliance.

Town staff identified highway, bike/ped, and transit projects for the SPOT 5.0 prioritization process. Town staff worked closely with the DCHC MPO and other jurisdictions to develop the final list of project submissions, and will continue to provide support as the process moves forward. Town staff also continued to manage local TIP projects: the Estes Drive Bike-Ped Improvements project is entering Right-of-Way acquisition and the 15-501 Sidepath, the Homestead Road sidewalk and multiuse path, and the Variable Message Signs are in the design phase. Town staff has also continued work with NCDOT on NC 54 and US 15-501 highway projects.

Town staff continued to attend bi-weekly MPO meetings and frequent sub-committee meetings, provide support to Town advisory boards, communicate with elected officials about transportation-related issues, and attend trainings and conferences.

Town of Hillsborough Accomplishments
The town used funds to hire a consulting firm to collect traffic volume counts on local streets not captured by NCDOT to inform local planning and ensure MPO plans include the necessary collector and arterial designations. We were able to identify 42 locations and completed counts consistent with MPO count deadlines. The count information has been shared with the MPO for integration into the regional model. This data will help inform local development review to the extent the Unified Development Ordinance refers to street classification. It will also inform the region's CMP and TRM model.

The town updated mapping for socio-economic data, development proposals, and data layers needed for the MTP, CTP, and TRM which supported mapping activities for the MTP and generate maps as needed for other MPO and town transportation planning tasks. The town reviewed and edited place type and development status layers for Community Viz at the parcel level, reviewed maps made for the MTP, CTP, and other MPO-related activities, and provided data layers or maps requested by the LPA.

The town actively participated in the administrative tasks necessary to maintain the 3C planning process will be completed, including Technical committee meetings, subcommittee meetings, support of the elected official board, and UPWP filings.

Development Schedule

The proposed development schedule for this UPWP is below. The schedule provides for the coordination of the UPWP development with the local government budget process and NCDOT deadlines.

Dates	DCHC MPO Activity Description
October -December 2017	Development of draft FY2019 UPWP and coordination with the Oversight Committee and local agencies.
November 3, 2017	Deadline for funding request and supplemental documents to be submitted to MPO by member agencies.
December 20, 2017	TC reviews draft FY2019 UPWP and recommends Board release for public comment.
January 10, 2018	MPO Board reviews draft of FY2019 UPWP and releases draft for public comment.
January 24, 2018	TC receives draft of FY2019 UPWP and recommends Board hold public hearing and approve draft at February Board meeting.
January 31, 2018	Draft FY2019 UPWP submitted to NCDOT/PTD
February 14, 2018	MPO Board holds public hearing and approves draft FY2019 UPWP including approval of self-certification process and local match.
April 2, 2018	Deadline for final FY2019 UPWP to be submitted to NCDOT and FHWA for approval. NCDOT/PTD will submit UPWP to FTA for approval.

MPO Funding Table - Distribution by Agency

Receiving Agency	STBGP Sec. 133(b)(3)(7)		Section 104(f) PL		Section 5303 Highway/Transit			Section 5307 Transit			Funding Summary			
	Local	FHWA	Local	FHWA	Local	NCDOT	FTA	Local	NCDOT	FTA				
	20%	80%	20%	80%	10%	10%	80%	20%	0%	80%	Local	NCDOT	Federal	Total
LPA	$200,000	$800,000	$88,275	$353,101	$0	$0	$0	$0	$0	$0	$288,275	$0	$1,153,101	$1,441,376
Carrboro	$5,728	$22,911	$0	$0	$0	$0	$0	$0	$0	$0	$5,728	$0	$22,911	$28,639
Chapel Hill/CHT	$19,767	$79,068	$0	$0	$17,150	$17,150	$137,200	$0	$0	$0	$36,917	$17,150	$216,268	$270,335
Chatham County	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Durham/GoDurham	$22,823	$91,291	$0	$0	$17,850	$17,850	$142,800	$59,000	$0	$236,000	$99,673	$17,850	$470,091	$587,614
Durham County	$10,761	$43,042	$0	$0	$0	$0	$0	$0	$0	$0	$10,761	$0	$43,042	$53,803
Hillsborough	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Orange County	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TJCOG	$16,250	$65,000	$0	$0	$0	$0	$0	$0	$0	$0	$16,250	$0	$65,000	$81,250
GoTriangle	$0	$0	$0	$0	$0	$0	$0	$171,000	$0	$684,000	$171,000	$0	$684,000	$855,000
NCDOT	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$275,328	$1,101,313	$88,275	$353,101	$35,000	$35,000	$280,000	$230,000	$0	$920,000	$628,603	$35,000	$2,654,414	$3,318,017

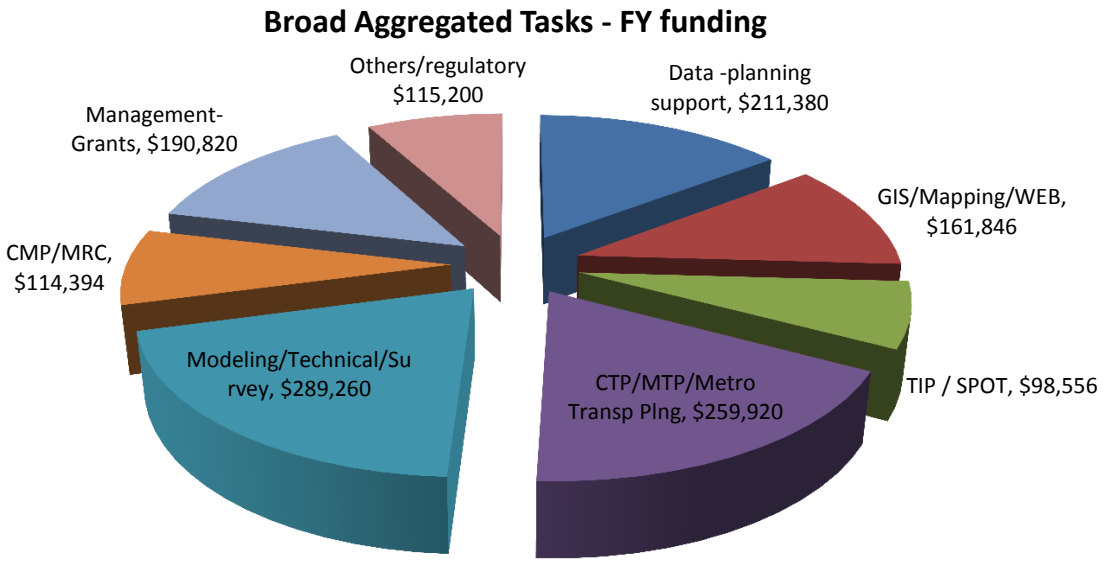
MPO Wide - Detail Funding Tables - All Funding Sources

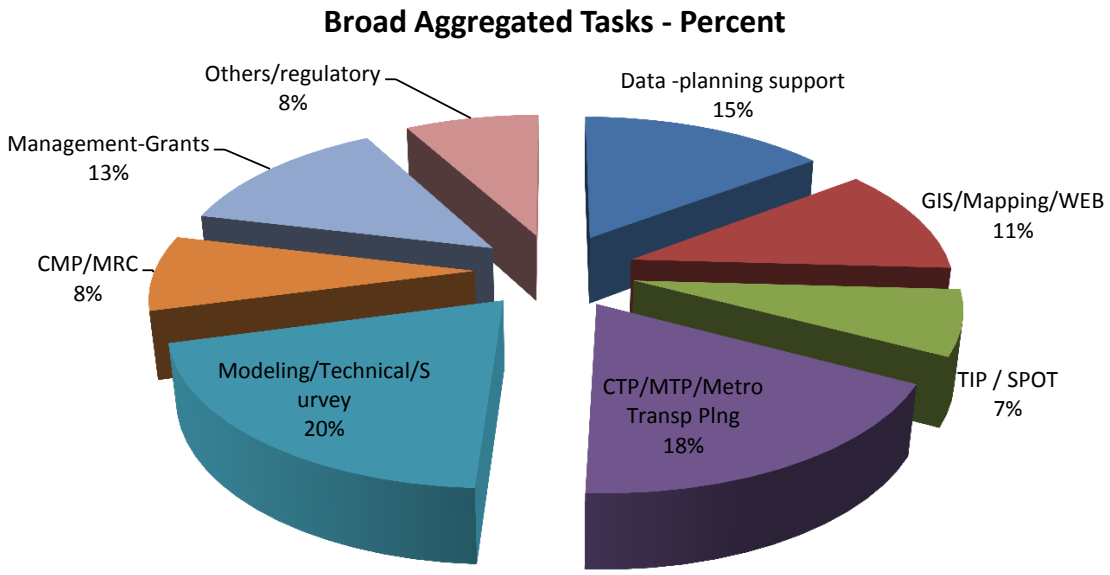
	Task Description	STBGP 133(b)(3)(7)		Sec. 104(f) PL		Section 5303 Highway/Transit			Section 5307 Transit			Task Funding Summary			
		Local 20%	FHWA 80%	Local 20%	FHWA 80%	Local 10%	NCDOT 10%	FTA 80%	Local 20%	NCDOT 0	FTA 80%	Local	NCDOT	Federal	Total
II A	Surveillance of Change														
1	Traffic Volume Counts	6,878	27,514	1,000	4,000	0	0	0	0	0	0	7,878	-	31,514	39,392
2	Vehicle Miles of Travel	800	3,200	400	1,600	0	0	0	0	0	0	1,200	-	4,800	6,000
3	Street System Changes	1,169	4,676	1,120	4,480	0	0	0	0	0	0	2,289	-	9,156	11,445
4	Traffic Accidents	4,776	19,104	1,080	4,320	0	0	0	0	0	0	5,856	-	23,424	29,280
5	Transit System Data	1,600	6,400	1,200	4,800	8,946	8,946	71,568	10,556	0	42,224	22,302	8,946	124,992	156,240
6	Dwelling Unit, Pop. & Emp. Change	7,335	29,340	5,000	20,000	0	0	0	0	0	0	12,335	-	49,340	61,675
7	Air Travel	400	1,600	100	400	0	0	0	0	0	0	500	-	2,000	2,500
8	Vehicle Occupancy Rates	0	0	0	0	0	0	0	0	0	0	-	-	-	-
9	Travel Time Studies	2,460	9,840	1,800	7,200	0	0	0	0	0	0	4,260	-	17,040	21,300
10	Mapping	18,241	72,964	4,800	19,200	3,610	3,610	28,880	0	0	0	26,651	3,610	121,044	151,305
11	Central Area Parking Inventory	2,404	9,616	400	1,600	0	0	0	0	0	0	2,804	-	11,216	14,020
12	Bike & Ped. Facilities Inventory	1,635	6,542	1,000	4,000	952	952	7,616	0	0	0	3,587	952	18,158	22,697
13	Bike & Ped. Counts	3,120	12,482	1,000	4,000	656	656	5,248	0	0	0	4,776	656	21,730	27,162
II-B	**Long Range Transp. Plan (MTP)**														
1	Collection of Base Year Data	3,740	14,960	0	0	0	0	0	0	0	0	3,740	-	14,960	18,700
2	Collection of Network Data	3,900	15,600	800	3,200	0	0	0	0	0	0	4,700	-	18,800	23,500
3	Travel Model Updates	38,080	152,320	4,072	16,288	0	0	0	0	0	0	42,152	-	168,608	210,760
4	Travel Surveys	4,200	16,800	3,060	12,240	0	0	0	0	0	0	7,260	-	29,040	36,300
5	Forecast of Data to Horizon year	2,526	10,104	240	960	0	0	0	0	0	0	2,766	-	11,064	13,830
6	Community Goals & Objectives	0	0	1,330	5,320	0	0	0	0	0	0	1,330	-	5,320	6,650
7	Forecast of Futurel Travel Patterns	520	2,080	1,100	4,400	0	0	0	0	0	0	1,620	-	6,480	8,100
8	Capacity Deficiency Analysis	5,360	21,440	2,400	9,600	0	0	0	0	0	0	7,760	-	31,040	38,800
9	Highway Element of th MTP	7,406	29,625	3,800	15,200	0	0	0	0	0	0	11,206	-	44,825	56,031
10	Transit Element of the MTP	12,277	49,108	3,800	15,200	1,278	1,278	10,224	966	0	3,864	18,321	1,278	78,396	97,994
11	Bicycle & Ped. Element of the MTP	8,941	35,765	2,878	11,512	0	0	0	0	0	0	11,819	-	47,277	59,096
12	Airport/Air Travel Element of MTP	1,120	4,480	200	800	0	0	0	0	0	0	1,320	-	5,280	6,600
13	Collector Street Element of MTP	1,914	7,656	600	2,400	0	0	0	0	0	0	2,514	-	10,056	12,570
14	Rail, Water or other mode of MTP	1,500	6,000	0	0	0	0	0	0	0	0	1,500	-	6,000	7,500
15	Freight Movement/Mobility Planning	3,540	14,160	200	800	0	0	0	0	0	0	3,740	-	14,960	18,700
16	Financial Planning	2,103	8,411	480	1,920	979	979	7,832	18,728	0	74,912	22,290	979	93,075	116,344
17	Congestion Management Strategies	18,935	75,742	1,139	4,555	620	620	4,960	0	0	0	20,694	620	85,257	106,571
18	Air Qual. Planning/Conformity Anal.	1,360	5,440	1,600	6,400	0	0	0	0	0	0	2,960	-	11,840	14,800
II-C	**Short Range Transit Planning**														
	Short Range Transit Planning	355	1,418	0	0	3,690	3,690	29,520	20,116	0	80,464	24,161	3,690	111,402	139,253
III-A	**Planning Work Program**														
	Planning Work Program	8,834	35,335	4,006	16,024	860	860	6,880	0	0	0	13,700	860	58,239	72,799
III-B	**Transp. Improvement Plan**														
	TIP	16,375	65,498	5,661	22,645	3,002	3,002	24,016	1,938	0	7,752	26,976	3,002	119,911	149,889
III-C	**Cvl Rgts. Cmp./Otr .Reg. Reqs.**														
1	Title VI	2,000	8,000	1,000	4,000	326	326	2,608	700	0	2,800	4,026	326	17,408	21,760
2	Environmental Justice	1,800	7,200	1,640	6,560	0	0	0	0	0	0	3,440	-	13,760	17,200
3	Minority Business Enterprise	0	0	400	1,600	0	0	0	0	0	0	400	-	1,600	2,000
4	Planning for the Elderly & Disabled	400	1,600	400	1,600	240	240	1,920	0	0	0	1,040	240	5,120	6,400
5	Safety/Drug Control Planning	2,800	11,200	1,600	6,400	0	0	0	0	0	0	4,400	-	17,600	22,000
6	Public Involvement	10,301	41,205	3,769	15,077	814	814	6,512	1,874	0	7,496	16,758	814	70,289	87,862
7	Private Sector Participation	0	0	0	0	0	0	0	0	0	0	-	-	-	-
		0	0	0	0	0	0	0	0	0	0				
III-D	**Incidental Plng./Project Dev.**														
1	Transportation Enhancement Plng.	0	0	0	0	0	0	0	0	0	0	-	-	-	-
2	Enviro. Analysis & Pre-TIP Plng.	9,876	39,503	2,600	10,400	336	336	2,688	0	0	0	12,812	336	52,591	65,739
3	Special Studies	11,461	45,843	4,600	18,400	620	620	4,960	171,000	0	684,000	187,681	620	753,203	941,504
4	Regional or Statewide Planning	23,205	92,820	3,600	14,400	1,240	1,240	9,920	0	0	0	28,045	1,240	117,140	146,425
III-E	**Management & Operations**														
1	Management & Operations	19,681	78,725	12,400	49,600	6,831	6,831	54,648	4,122	0	16,488	43,034	6,831	199,461	249,326
	Totals	$275,328	$1,101,313	$88,275	$353,101	$35,000	$35,000	$280,000	$230,000	$0	$920,000	$628,603	$35,000	$2,654,414	$3,318,017

LPA

	Task Description	STBGP 133(b)(3)(7)		Sec. 104(f) PL		Section 5303 Highway/Transit			Section 5307 Transit			Task Funding Summary			
		Local 20%	FHWA 80%	Local 20%	FHWA 80%	Local 10%	NCDOT 10%	FTA 80%	Local 10%	NCDOT 10%	FTA 80%	Local	NCDOT	Federal	Total
II A	**Surveillance of Change**														
1	Traffic Volume Counts	$6,000	$24,000	$1,000	$4,000	$0	$0	$0	$0	$0	$0	$7,000	$0	$28,000	$35,000
2	Vehicle Miles of Travel	$800	$3,200	$400	$1,600	$0	$0	$0	$0	$0	$0	$1,200	$0	$4,800	$6,000
3	Street System Changes	$1,000	$4,000	$1,120	$4,480	$0	$0	$0	$0	$0	$0	$2,120	$0	$8,480	$10,600
4	Traffic Accidents	$4,776	$19,104	$1,080	$4,320	$0	$0	$0	$0	$0	$0	$5,856	$0	$23,424	$29,280
5	Transit System Data	$1,600	$6,400	$1,200	$4,800	$0	$0	$0	$0	$0	$0	$2,800	$0	$11,200	$14,000
6	Dwelling Unit, Pop. & Emp. Change	$7,000	$28,000	$5,000	$20,000	$0	$0	$0	$0	$0	$0	$12,000	$0	$48,000	$60,000
7	Air Travel	$400	$1,600	$100	$400	$0	$0	$0	$0	$0	$0	$500	$0	$2,000	$2,500
8	Vehicle Occupancy Rates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Travel Time Studies	$2,460	$9,840	$1,800	$7,200	$0	$0	$0	$0	$0	$0	$4,260	$0	$17,040	$21,300
10	Mapping	$15,000	$60,000	$4,800	$19,200	$0	$0	$0	$0	$0	$0	$19,800	$0	$79,200	$99,000
11	Central Area Parking Inventory	$1,800	$7,200	$400	$1,600	$0	$0	$0	$0	$0	$0	$2,200	$0	$8,800	$11,000
12	Bike & Ped. Facilities Inventory	$400	$1,600	$1,000	$4,000	$0	$0	$0	$0	$0	$0	$1,400	$0	$5,600	$7,000
13	Bike & Ped. Counts	$1,940	$7,760	$1,000	$4,000	$0	$0	$0	$0	$0	$0	$2,940	$0	$11,760	$14,700
		$0	$0	$0	$0										
II B	**Long Range Transp. Plan (MTP)**	$0	$0	$0	$0										
1	Collection of Base Year Data	$3,740	$14,960	$0	$0	$0	$0	$0	$0	$0	$0	$3,740	$0	$14,960	$18,700
2	Collection of Network Data	$3,900	$15,600	$800	$3,200	$0	$0	$0	$0	$0	$0	$4,700	$0	$18,800	$23,500
3	Travel Model Updates	$38,080	$152,320	$4,072	$16,288	$0	$0	$0	$0	$0	$0	$42,152	$0	$168,608	$210,760
4	Travel Surveys	$4,200	$16,800	$3,060	$12,240	$0	$0	$0	$0	$0	$0	$7,260	$0	$29,040	$36,300
5	Forecast of Data to Horizon year	$526	$2,104	$240	$960	$0	$0	$0	$0	$0	$0	$766	$0	$3,064	$3,830
6	Community Goals & Objectives	$0	$0	$1,330	$5,320	$0	$0	$0	$0	$0	$0	$1,330	$0	$5,320	$6,650
7	Forecast of Futurel Travel Patterns	$520	$2,080	$1,100	$4,400	$0	$0	$0	$0	$0	$0	$1,620	$0	$6,480	$8,100
8	Capacity Deficiency Analysis	$5,360	$21,440	$2,400	$9,600	$0	$0	$0	$0	$0	$0	$7,760	$0	$31,040	$38,800
9	Highway Element of th MTP	$3,112	$12,448	$3,800	$15,200	$0	$0	$0	$0	$0	$0	$6,912	$0	$27,648	$34,560
10	Transit Element of the MTP	$6,424	$25,696	$3,800	$15,200	$0	$0	$0	$0	$0	$0	$10,224	$0	$40,896	$51,120
11	Bicycle & Ped. Element of the MTP	$7,200	$28,800	$2,878	$11,512	$0	$0	$0	$0	$0	$0	$10,078	$0	$40,312	$50,390
12	Airport/Air Travel Element of MTP	$1,120	$4,480	$200	$800	$0	$0	$0	$0	$0	$0	$1,320	$0	$5,280	$6,600
13	Collector Street Element of MTP	$1,794	$7,176	$600	$2,400	$0	$0	$0	$0	$0	$0	$2,394	$0	$9,576	$11,970
14	Rail, Water or other mode of MTP	$1,400	$5,600	$0	$0	$0	$0	$0	$0	$0	$0	$1,400	$0	$5,600	$7,000
15	Freight Movement/Mobility Planning	$3,540	$14,160	$200	$800	$0	$0	$0	$0	$0	$0	$3,740	$0	$14,960	$18,700
16	Financial Planning	$1,000	$4,000	$480	$1,920	$0	$0	$0	$0	$0	$0	$1,480	$0	$5,920	$7,400
17	Congestion Management Strategies	$17,340	$69,360	$1,139	$4,555	$0	$0	$0	$0	$0	$0	$18,479	$0	$73,915	$92,394
18	Air Qual. Planning/Conformity Anal.	$1,360	$5,440	$1,600	$6,400	$0	$0	$0	$0	$0	$0	$2,960	$0	$11,840	$14,800
		$0	$0	$0	$0										
II C	**Short Range Transit Planning**	$0	$0	$0	$0										
1	Short Range Transit Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0	$0	$0										
III-A	**Planning Work Program**	$0	$0	$0	$0										
	Planning Work Program	$5,958	$23,832	$4,006	$16,024	$0	$0	$0	$0	$0	$0	$9,964	$0	$39,856	$49,820
		$0	$0	$0	$0										
III-B	**Transp. Improvement Plan**	$0	$0	$0	$0										
	TIP	$7,980	$31,920	$5,661	$22,645	$0	$0	$0	$0	$0	$0	$13,641	$0	$54,565	$68,206
		$0	$0	$0	$0										
III-C	**Cvl Rgts. Cmp./Otr .Reg. Reqs.**	$0	$0	$0	$0										
1	Title VI	$2,000	$8,000	$1,000	$4,000	$0	$0	$0	$0	$0	$0	$3,000	$0	$12,000	$15,000
2	Environmental Justice	$1,800	$7,200	$1,640	$6,560	$0	$0	$0	$0	$0	$0	$3,440	$0	$13,760	$17,200
3	Minority Business Enterprise	$0	$0	$400	$1,600	$0	$0	$0	$0	$0	$0	$400	$0	$1,600	$2,000
4	Planning for the Elderly & Disabled	$400	$1,600	$400	$1,600	$0	$0	$0	$0	$0	$0	$800	$0	$3,200	$4,000
5	Safety/Drug Control Planning	$2,800	$11,200	$1,600	$6,400	$0	$0	$0	$0	$0	$0	$4,400	$0	$17,600	$22,000
6	Public Involvement	$8,800	$35,200	$3,769	$15,077	$0	$0	$0	$0	$0	$0	$12,569	$0	$50,277	$62,846
7	Private Sector Participation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0	$0	$0										
III-D	**Incidental Plng./Project Dev.**	$0	$0	$0	$0										
1	Transportation Enhancement Plng.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Enviro. Analysis & Pre-TIP Plng.	$3,470	$13,880	$2,600	$10,400	$0	$0	$0	$0	$0	$0	$6,070	$0	$24,280	$30,350
3	Special Studies	$2,800	$11,200	$4,600	$18,400	$0	$0	$0	$0	$0	$0	$7,400	$0	$29,600	$37,000
4	Regional or Statewide Planning	$4,400	$17,600	$3,600	$14,400	$0	$0	$0	$0	$0	$0	$8,000	$0	$32,000	$40,000
		$0	$0	$0	$0										
III-E	**Management & Operations**	$0	$0	$0	$0										
1	Management & Operations	$15,800	$63,200	$12,400	$49,600	$0	$0	$0	$0	$0	$0	$28,200	$0	$112,800	$141,000
	Totals	$200,000	$800,000	$88,275	$353,101	$0	$0	$0	$0	$0	$0	$288,275	$0	$1,153,101	$1,441,376

Summary of LPA Tasks and Funding by Broad Categories		
Broad Aggregated Tasks	**FY funding**	**Percent**
Data -planning support	$211,380	14.7%
GIS/Mapping/WEB	$161,846	11.2%
TIP / SPOT	$98,556	6.8%
CTP/MTP/Metro Transp Plng	$259,920	18.0%
Modeling/Technical/Survey	$289,260	20.1%
CMP/MRC	$114,394	7.9%
Management-Grants	$190,820	13.2%
Others/regulatory	$115,200	8.0%
Total	$1,441,376	100%





January 2018

DCHC MPO
LEAD PLANNING AGENCY (LPA)

Felix Nwoko, MPO Manager
Administration of the MPO
Management/Operation of MPO (3C)
State and regional coordination
MPO Policy and programs
Technical project management
NEPA Project planning & Air Quality Conformity
Civil Rights/Title VI

Yangping Zhang – Model, Technical Team Lead
Modeling
Technical
Special Projects
Lane use modeling
Air Quality Analysis
Performance Measures

KoSok Chae, CMP
CMP
Data monitoring
Surveillance of change
ITS
Traffic analysis
Planning/Operations
Coordination (DynSmart)

Mike Bruff – Modeling/Technical
Modeling
Technical support
Demographic/behavioral data
Staff support to the TRM Service Bureau

Andy Henry - LRTP/CTP
MTP/CTP & Collector Street planning
Implementation of planning factors
Land Use/SE data
Air Quality Conformity & Public Involvement

Dale Mckeel – Bicycle & Pedestrian Planning & Programming
Bike-Pedestrian planning activities
Education, Enforcement, Engineering
Safety, TDM, & Public Involvement
Safe Routes to School/Transportation Alternatives
NEPA Project Planning

Brian Rhodes – Technician, Graphic & GIS Support
MTP/CTP
Collector Street planning
Implementation of planning factors
Land Use/SE data & Public Involvement

Durmus Cesur – Database/Systems Administrator
GIS oversight
Database administration
Website management and administration
Interactive GIS

Margaret Scully – Grant and Fiscal Management & Oversight
UPWP development and management
Grant administration & program oversight
5307/5340/5310/5339 apportionment
Funding (CMAQ/STPDA)

Interns/Temporary Part-Time
Data Collection, mining analyses
GIS/Geo-Spatial Analyses
Operation coordination
Data support & management
Civil Rights/Title VI
Environmental Justice/LEP
Minutes preparation
Board/TC meeting support

Aaron Cain – MPO Board/TC
MPO Board/TC liaison
3-C Process & TIP/SPOT
Mobility Funds & Public Involvement
Project Prioritization

Maureen Devlin – Staff Work Group Administrator
Administers County Transit Plans/Staff Work Group

DCHC MPO Task Description and Summary Narrative

II-A: Surveillance of Change

The MPO is required by federal regulations and the 3C process to perform continuous data monitoring and maintenance. A number of transportation and socio-economic/demographic conditions will be continuously surveyed and compiled annually to feed into MPO technical analyses such as modeling, Metropolitan Transportation Plan update, Congestion Management Process, Mobility Report Card project development, Title VI planning, EJ/LEP demographic profiles, TIP, project prioritization, etc. The following data collection and monitoring tasks will be conducted during the FY2019 UPWP period.

Task II-A-1: Traffic Volume Counts

The Lead Planning Agency (LPA) will continue to collect tabulate and analyze traffic counts and turning movement counts at specified locations. This task includes maintaining ADT counts and database for model calibration on arterial, minor arterial, and collector streets. The LPA will continue routine traffic counts data collection as part of the annual count program as well as on screen lines and cut lines for model validation. These counts will augment triennial traffic counts collected by NCDOT. Traffic counts will include daily, hourly, vehicle classification, or turning movements. The MPO agencies will be responsible for supplementing counts at specified locations within their jurisdiction and for furnishing the raw daily traffic counts, count information, and location maps to the LPA. The traffic count data will feed into the MPO Congestion Management Process (CMP), Triangle Regional Model (TRM) maintenance and update, MPO GIS and safety and freight planning, TIP prioritization, and federally required performance measurement and establishment of targets.

Task II-A-2: Vehicle Miles of Travel (VMT) Person Miles of Travel (PMT)

The LPA will continue to tabulate VMT by functional classification and County. As specified by the Metropolitan Transportation Plan Goals, Objectives and Targets, annual VMT growth will be monitored and compared to the MTP Targets. The MPO will continue to refine the methodology for tracking multi-modal PMT. This information will help to develop performance measures required by federal legislation and also help determine if the Plan targets are being met. This will feed into the Highway Performance Monitoring System (HPMS), CMP and the Mobility Report Card. The LPA will continue to generate VMT metric from the Triangle Regional Model.

Task II-A-3: Street System Mileage Change

DCHC MPO will update local street centerline GIS data for all DCHC MPO counties and all counties immediately adjacent to the region. DCHC MPO counties will be updated as needed, with metadata verified or created; the old layer will be archived with a timestamp in the filename. Adjacent counties will follow the same protocol, but be done on a bi-annual basis unless a higher frequency is required. The MPO will continue to update inventory of improvements to municipal street system, and update the inventory of signalization on existing major streets, to provide accurate inputs for the Triangle Regional Model (TRM). The MPO will monitor changes in street mileage systems from previous years and summarize inventory by functional classification. The MPO will continue to update HERE (formerly NAVTEQ) street file and attribute data. The MPO municipalities (Town of Chapel Hill, the Town of Carrboro, and the City of Durham) will continue to gather from the NCDOT Division 7 and 5 offices and compile in database, improvements to the state highway system, whether planned, underway, or completed. Each municipality will compile and maintain similar records for its municipal street system. The MPO municipalities participating in the Powell Bill Program will certify street mileage maintained during this fiscal year. The product of this task will feed into the MPO GIS and data management system. The objective is that, periodically or as changes or additions to the major street system occur, street inventory will be updated and be current through the proposed data automation and management system. These data will also feed into the MPO performance measures as required by federal regulation.

Task II-A-4: Traffic Accidents (Crash/Safety)
The LPA will continue to collect, tabulate and analyze route traffic accident data from TEES and prepare a summary and analysis of high accident locations by mode as well as compare data analysis to previous years' results. Crash data will include auto, bike and pedestrian crashes for the latest three year period within the MPO Metropolitan Planning Boundary. This task will align, build from, and support the safety work of the NCDOT as required by federal regulations. The task will feed into the MPO Congestion Management Process (CMP), MPO MTIP ranking and project prioritization, SPOT, mobility funds and urban loop funds prioritization, etc. The LPA will update the geo-spatial application that will map, manage and analyze crash data in a way that will allow planners, engineers and the public to better understand crashes within our region. The analytical tool will also allow the MPO to formulate public policy with our entities that will reduce crashes and improve public safety.

Task II-A-5: Transit System Data
The LPA will continue to undertake a comprehensive transit system data collection effort. Transit data will be collected for MPO transit providers including GoDurham, Chapel Hill Transit (CHT), GoTriangle and Duke University Transit. This will include APC data to evaluate transit service performance, route productivity, and develop standards. Operators will identify strengths and weaknesses of service by route in order to assess service barriers and future options. Information will be used to monitor service and meet FTA NTD reporting requirements. APC data will be summarized and tabulated for CHT, GoDurham, Duke and GoTriangle as follows: stop level, trip level, time period (peak/nonpeak) level, segment by trip, segment by time period, spatial analysis (TAZ and census tract) and micro analysis (system level).

Task II-A-6: Dwelling Unit / Population and Employment Changes
The LPA will continue to maintain inventory of dwelling units and population to track changes and to compare with assumptions used in the adopted MTP and CTP. Changes in development will be used to determine needed changes in transportation services and how well developments compare to current and projected demands. The LPA continues to review developments to assess impacts to the 2040 Metropolitan Transportation Plan (2040 MTP), socio-economic and demographic data for MTP update, update of Community Viz land-use scenario planning, land-use model update, and transportation project development. Changes in dwelling units and employment within the MPO will be identified and evaluated to determine accuracy and consistency with the socio-economic forecast. The MPO will review and tabulate Census data, local parcel, zoning, tax data records, InfoUSA, and Employment Security Commission data as part of this monitoring task. The MPO will continue work on the update and enhancement of the MPO GIS enterprise and the Employment Analyst.

Task II-A-7: Air Travel
The MPO will continue to undertake routine collection of travel and passenger data at the Raleigh-Durham International Airport (RDU). Data to be collected and analyzed include, but are not limited to, number of daily flights, number of daily enplaned passengers, number of deplaned passengers, ground transportation, and tons of cargo activity. The purpose of the data collection and monitoring is to determine the influence of RDU as a generator on the regional transportation system and to identify need for additional services.

Task II-A-9: Travel Time Studies
The MPO will continue to undertake routine travel-time runs (floating car technique) on selected links during peak period to provide accurate inputs for applications such as the travel model update and the CMP. MPO will continue evaluation of travel time field data collector, and validation using INRIX and other Bluetooth. The LPA will collect highway/auto travel time and speed along major and minor facilities. The MPO will continue to update the HERE travel time and the MS2 travel time portal.

Task II-A-10: Mapping

This task will include, but not be limited to, mapping of, and geo-spatial updates to, UPWP transportation planning activities such as the CMP, traffic counts, bicycle and pedestrian counts and inventory, transit routes, land use, traffic analysis zones, socio-economic and demographic trends, Title VI and environmental factors. The MPO will continue to update base maps for corridor studies and project planning. Work will continue on the development and update of the GIS online. Work will continue on the update and enhancement of mapping for the MPO website and Public Involvement planning. Work will also continue on the integration and maintenance of the Employment Analyst, community Viz and enterprise GIS. The LPA will continue to improve MPO GIS support for short and long-range transportation plans by providing visualization enhancement and as required by federal regulations, including creating and maintaining metadata and data catalog for MPO planning area. MPO transit operators will update GIS data for transit routes, stops and segments including attributes. The LPA will continue work associated with management of MPO database, ArcGIS shape files and Google KML files. Expected deliverables and work products are summarized as follows:

- Update and enhancements of GIS Online portals
- GIS online mapping
- Maintenance and development of updated MPO data collection maps
- Transit APC mapping
- Updated transit routes, stops, segments with attributes
- Maintain project geospatial and tabular data related to transit component of the CTP, MTP and TIP
- Parking inventory spatial database and mapping
- ADT mapping in support of planning needs
- Data mapping in support of planning needs
- Employment Analyst enhancements
- Base year tear socio economic and demographic maps
- LEP/EJ demographic profiles mapping
- Updated local and composite street centerline mapping
- Updated HERE street layer
- Crash and safety mapping in support of planning needs and project development.

Task II-A-11: Central Area Parking Inventory

The LPA will continue data collection and inventory of on- and off- street parking facilities in the Central Business Districts (CBD), major generators and universities. Parking data to be collected include number of spaces, parking fee rates (hourly daily, and monthly), average weekday costs, and demand. Parking information collected will help in the calibration and maintenance of the travel model. The LPA will update the parking inventory and usage spatial geodatabase as well as Parking Area Study Analysis.

Task II-A-12: Bike & Pedestrian Facilities Inventory

The MPO will continue to conduct inventory of bicycle and pedestrian facilities as part of the CMP and development of performance measures. The inventory will provide inputs for the travel model and help identify future sidewalk projects, guide pedestrian improvement planning, and support specific projects, such as the Comprehensive Bicycle Plan, Comprehensive Pedestrian Plan and TIP/SPOT prioritization.

Task II-A-13: Bicycle and Pedestrian Counts

The LPA staff will continue to participate in bicycle and pedestrian planning in the region and provide technical assistance/coordination to other government units as needed. The MTP supports and encourages bicycle and pedestrian planning and staff continue to work toward achieving those goals. The primary activity in this task will be the further development of the bicycle system inventory using GIS

online and Google Earth. The MPO will continue to conduct an inventory of bicycle and pedestrian facilities as part of the CMP and the development of performance measures. The proposed inventory will provide accurate inputs for the travel model update as well as help identify future sidewalk projects, guide pedestrian improvement planning, and to support specific projects, such as the Comprehensive Bicycle Plan, Comprehensive Pedestrian Plan, and TIP/SPOT prioritization. Also, inventory of bicycle and pedestrian counts will continue to be conducted as part of the Congestion Management Process and development of performance measures. The inventory will guide pedestrian improvement planning, and support specific projects, such as the Comprehensive Bicycle Plan, Comprehensive Pedestrian Plan, development of Transportation Alternatives (TA) funding allocation criteria, etc.

II-B: Long Range Transportation Plan/Metropolitan Transportation Plan (MTP) Activities

Federal Law and USDOT's Metropolitan Planning Regulations require the MPO to have a Metropolitan Transportation Plan (MTP) that is: multi-modal, financially constrained, has a minimum 20 year horizon, adheres to the MPO's adopted Public Involvement Policy (PIP), has growth forecasts consistent with latest planning assumptions and local land use plan, meets air quality conformity, and be approved by the MPO Board. The MTP must be updated and reaffirmed every 4 years. The DCHC will continue tasks associated with the update and reappraisal of the comprehensive transportation plan as well as commence data collection preparation for the 2020 model base year. The MPO will continue to work on the preparatory work for timely and efficient development of the 2050 MTP.

Task II-B-1: Collection of Base Year Data

This task provides travel and socio-economic data for the modeling update. The data collection initiatives include processing and analysis of Census, American Community Survey (ACS) and employment/special generator. These efforts will result in the creation of several travel modeling databases that will be used in the development and update of forecasting tools. The LPA will continue to update the socio-economic and demographic data for the base year model and Title VI demographic/ Minority and Low Income (MLI) profiles. Work activities will include update, estimation and tabulation of the following data elements; population, housing, income, auto ownership, limited-english proficiency, linguistically isolated households, workers, head of household, environmental justice, linguistic demographic factors, ACS community patterns, school enrollment, etc. It is expected that these variables will be linked to the proposed data automation projects, and a GIS database and management system will be used to maintain the aforementioned socio-economic and land use information. An integral part of this task also will be continuous data verification, reconciliation, and quality and error checks.

Task II-B-2: Collection of Network Data

The MPO will continue to update transportation/model network data. The proposed work activities will include collection and update of the following transportation network variables and attributes:

A-Highways: 1) posted speed limit; 2) number of lanes; 3) segment length; 4) turn pockets; 5) parking conditions; 6) traffic signal locations and stop conditions; 7) signal density; 8) access control and driveway conditions; 9) land use and area type; 10) free flow speeds; 11) Travel Time; 12) median condition; and 13) facility type and functional classification.

B-Transit: 1) headways; 2) speed; 3) hours of operation; 4) services miles; 5) fare structure; 6) transfer information; 7) schedule information; and 8) route information and service characteristics for each route.

C-Bicycle and Pedestrian: 1) mileage; 2) activity density; 3) neighborhood characteristics; 4) environment/friendliness factors/indices; and 5) connectivity.

Task II-B-3: Travel Model Updates

The purpose of this task is to continue to review and analyze existing travel demand and air quality models in order to determine feasible enhancements to the modeling procedures that are used in the TRM. DCHC MPO will continue to perform air quality, regional travel demand, and micro-simulation model runs for existing and future projects as needed. Staff will continue to be involved in the development, enhancement and update of the Triangle Regional Model (TRM). Specifically, work will focus on the development, calibration and development of Version 6.1 of the model and preparatory work for version 6.x or V7. This element provides for maintenance, improvement, and support of travel models housed at the Service Bureau. These models provide analytical tools for various transportation analyses, policy testing, and public outreach. Improvement activities involve developing new tools and techniques to enhance travel model applications in various areas**.** Support activities involve maintenance of the software and hardware of the modeling system, documentation, staff training, and assisting consultants who are providing service to the regional projects. This element also provides for technical communication and participation at the State and Federal (FHWA &FTA) levels to ensure travel models are developed in a coordinated manner to meet future needs and expectations. Consultants and University partnership/ assistance will be utilized in undertaking work activities under this task.

The DCHC MPO, with CAMPO, NCDOT and GoTriangle, develops and maintains a regional travel demand model for predicting the impact of transportation investments and land-use policies on travel demand and air quality. The model is used by the MPO in development of the required MTP and CTP, by NCDOT in project development, SPOT/TIP prioritization, Mobility funds ranking and loop prioritization, by GoTriangle in new Start analysis and fixed guideway transit, and by local and state agencies for development impacts analysis and scenario planning. The main modeling work tasks include:

- Monitor and understand changes in federal requirements as they affect MPO modeling.
- Continue to improve and enhance models and make them responsive to technical and policy questions the MPO seeks to answer.
- Research ways in which the state-of-the-practice is changing and develop modification and improvements in the modeling process to meet those standards.
- Acquire and process data so work program can be accomplished to meet federal requirements.
- Estimate, calibrate and validate current TRM as an on-going activity.
- Ensure that validation focuses on improvements to link level and route level performance.
- Ensure TRM base year and future years are ready for MTP evaluation two years before hand.
- Document TRM so it can be understood and replicated.
- Document the modeling process so that its capabilities and limitations can be understood by policy makers and lay person.

Essentially, the modeling in the proposed work program involves the update, calibration and validation for the model to support the development of the TRM versions 6.1 and 6.x and MTP modeling support. Update of the TRM including improvements, enhancements and major updates.

Task II-B-4: Travel Surveys

The DCHC MPO, along with the other TRM stakeholders, will undertake an annual rolling ACS style continuous travel behavior survey (household survey) and Transit Onboard survey tabulation and analysis. The survey is being managed by the TRM Service Bureau, however LPA staff will be involved in every facet of the survey and analysis.

Task II-B-5: Forecast of Data to Horizon Year

The LPA will continue to generate and update socio-economic and demographic projections and forecasts. CTP and MTP forecasts will continue to be re-evaluated and refined consistent with local land-use plans as well as State and regional land use policies.

Task II-B-6: Community Goals and Objectives
The MPO will continue work on performance measures/targets as subset of Goals and Objectives.

Task II-B-7: Forecast of Future Travel Patterns
MPO will generate and update travel demand forecasts for future years including MTIP, SPOT, CMP, MRC, etc. The forecast of travel patterns will include a review of these factors and comparison to community goals and objectives to determine if changes in assumptions are warranted.

Task II-B-8: Capacity Deficiency Analysis
The MPO will continue to update capacity deficiency analysis for reappraisal activities for CTP and MTP, MRC, CMP and other project development activities. Essentially this task encompasses application of the Triangle Regional Model and other modeling tools to analyze deficiencies in the existing transportation system relative to anticipated future travel demand.

Task II-B-9: Highway Element of the MTP
The MPO will continue work associated with the reappraisal and evaluation of highway elements of the Comprehensive Transportation Plan and the update of the 2045 MTP. Performance measures will be established for evaluating highway performance.

Task II-B-10: Transit Element of the MTP
The MPO will continue with the update and evaluation of transit elements of the Comprehensive Transportation Plan, the MTP, County transit plans, and the regional New Starts. Transit evaluation will include fixed-route bus service, fixed-guideway transit, high capacity transit and demand- response transit. Using travel behavior, ridership forecasts and other analysis, evaluation of the transit element will look at unmet needs, new service areas and potential markets. Performance measures will be established for evaluating transit alternatives.

The MPO will continue to coordinate with GoTriangle and other regional partners regarding the development of the regional commuter rail and light rail. Specifically, the MPO will conduct planning and studies for D-O LRT, and high capacity transit and circulator transit (MLK BRT in Chapel Hill), and other planning work necessary for the preparation of the FTA Small-Start project. It is anticipated that this work will be accomplished with the help of consulting services.

Task II-B-11: Bicycle & Pedestrian Element of the MTP
The MPO will continue with the reappraisal and reevaluation of bicycle and pedestrian elements of the Comprehensive Transportation Plan and the MTP. The MPO and its member agencies will continue work on improving and enhancing bike and pedestrian investment within the MPO.

Task II-B-12: Airport/Air Travel Element of MTP
The MPO will continue with the evaluation of airport/air travel element of the Metropolitan Transportation Plan, including inter-modal connection and access/ground transportation. Work task will include review of RDU plans and comparison and integration as necessary with the MTP for consistency.

Task II-B-13: Collector Street Element of MTP
MPO will continue work on the update of the MPO Collector Street and Connectivity Plan. Work tasks will to involve the identification of future collector street connectivity needs, provisions for local street connectivity, development ordinance implementation provisions, additional local government consultation, and public involvement. The MPO will continue to involve CAMPO, City of Raleigh and Wake County regarding collector street and connectivity planning in Brier Creek and east Durham area.

Task II-B-14: Rail, Water, or Other Mode of MTP
The MPO will continue to work with NCDOT Rail Division, GoTriangle and CAMPO regarding rail transportation in the Triangle. Work includes, but is not limited to, survey of rail plans, relationship to the MPO Metropolitan Transportation Plan and Comprehensive Transportation Plan, programmatic impacts, etc. Also, this task will include planning associated with commuter and light rail efforts. The CRT MIS work will continue in FY2019.

Task II-B-15: Freight Movement/Mobility Planning
MPO will continue to undertake tasks associated with urban goods movement, specifically freight accessibility and mobility. Tasks associated with the implementation of the Regional Freight Plan will continue. Other tasks to be undertaken include attending and staffing the Regional Freight Stakeholders meetings, survey of freight carriers, recommendations for improving truck mobility or train/truck intermodal movements, and identifying acceptable truck routes. The MPO will continue the management role to the update of the Triangle Regional Freight plan.

Task II-B-16: Financial Planning
The MPO will continue to update and refine cost estimates and revenues for the regional transit initiatives and the 2045 MTP. As part of this task, the MPO will examine financial options for funding proposed transportation projects and programs, including review of the financial planning assumptions/ projections in the 2045 MTP and update of the Durham County and Orange County financial plans based on the latest half-cent sales tax revenue collection.

Task II-B-17: Congestion Management Systems Strategies
The MPO will work to implement and monitor the Congestion Management Program (CMP) in accordance with the provisions of 23 U.S.C. and 23 CFR. Specifically, the MPO will continue with the update and monitoring of CMP strategies and State of the Systems Report. Also, the MPO will continue to update the Mobility Report Card, including updating metrics, graphics and reports. The MPO will continue to participate in, and collaborate on, the update, monitoring and implementation of the Travel Demand Management (TDM) activities and program.

Task II-B-18: Air Quality Planning/Conformity Analysis
Although the MPO is now designated as attainment for criteria pollutants as of September 18, 2015, the MPO will continue to perform and undertake air quality planning activities. Essentially, the MPO will continue to make a determination as to whether or not transportation plans, programs, and projects (MTP and TIP) conform to air quality standards. The LPA will continue to provide technical support to the TC and Board regarding air quality planning. In addition the LPA will continue participation in the development and application of State Implementation Plans for air quality, participation in the statewide interagency consultation, and providing assistance to NCDEQ in developing and maintaining mobile source emission inventories.

Task II-C: Short Range Transit Planning
The MPO transit operators will continue activities related to short range transit planning. This includes continuous evaluation of their respective transit development plans and service performance.

Task III-A: Planning Work Program
Unified Planning Work Program (UPWP) work includes conducting metropolitan planning and implementing planning activities for the MPO. This involves responding to regulations and mandates, and reporting information on 3C planning topics, including those identified in federal legislation, and issues related to federal policies, regulations, and guidance, such as responding to federal certification recommendations. Additionally, the LPA will provide support related to planning topics such as those

highlighted in federal planning guidance, including operations and management, sustainability, health, freight, economic effects, and environmental issues.

Under this work element, the LPA will finalize the reimbursement and invoicing process for the FY2018 UPWP, administer the FY2019 UPWP, prepare and process amendments as needed, evaluate transportation planning work needs and emphasis areas and prepare the FY2020 UPWP. LPA will prepare and continually maintain UPWP that describes all transportation and transportation-related planning activities anticipated within the DCHC MPO planning area for the FY2019. Work program will include the development and maintenance of UPWP in conformance with applicable federal, state, and regional guidelines. In addition, work will include the preparation of UPWP amendments as necessary and requested by member agencies, to reflect any change in programming or focus for the current fiscal year. The MPO will commence the preparatory work on the development of the FY2020 UPWP.

Task III-B: Transportation Improvement Program (TIP)
The LPA will continue work associated with the development of the 2020-29 MTIP, including prioritization work (SPOT-6) activities. Also, the MPO will continue to process TIP amendments as needed, including coordinating with the MPO member agencies and conducting public involvement/outreach, and commence work on the development of the TIP ranking and prioritization. This includes the refinement of the MPO Priority Needs and the identification of the transportation projects, programs, and services towards which the MPO will direct STBG-DA funds. As the Lead Planning Agency (LPA) of the DCHC MPO, the City of Durham Transportation Department –Planning Division is responsible for annually developing, amending, adjusting and maintaining the Transportation Improvement Program (TIP) for the metropolitan area. Under this activity, the LPA will examine any possible need to update and amend the current transportation improvement projects (MTIP) that is consistent with the 2045 Metropolitan Transportation Plan, STIP and FHWA/FTA Planning Regulations.

Task III-C: Civil Rights Compliance/Other Regulations and Requirements

Task III-C-1: Title VI
The MPO will continue work on the Title VI plan and the NCDOT Civil Right compliance report. NCDOT Civil Right Division conducted a Title VI audit. As a result of the audit the MPO prepared the required Title VI Policy Statement and Assurance. That assurance will be updated accordingly. The DCHC MPO will continue work on the development of the MPO Limited English Proficiency plan as it relates to Title VI issues.

Task III-C-2: Environmental Justice (EJ)
In accordance with Federal action (Executive Order 12898), the MPO will develop an Environmental Justice Plan which will focus on complying with the Executive Order and the three basic principles of Environmental Justice: 1) Ensure adequate public involvement of low-income and minority groups in decision-making; 2) Prevent disproportionately high and adverse impacts to low-income and minority groups resulting from transportation and environmental decisions made by the MPO; and 3) Assure that low-income and minority groups receive a proportionate share of benefits resulting from transportation decisions made by the MPO. Tasks include:

1. Develop MPO Environmental Justice Plan, including establishment of Environmental Justice Advisory Board
2. Update demographic profiles based on Census CTPP and PUMS as well as MPO SE data forecasts - maps to identify areas of low-income, minority and elderly populations, job accessibility, and overlay of major employers, fixed route transit systems, and major shopping areas.
3. Provide increased opportunities for under-served populations to be represented in the transportation planning process.

4. Define target areas through the use of Census Block Group data from the 2010 Census.
5. Analyze the mobility of target area populations to jobs, childcare, and transit routes.
6. Review existing public outreach and involvement plan.
7. Develop a protocol for responding to issues and concerns regarding environmental justice in general and Hispanic population in particular.
8. Conduct analysis as needed regarding equitable distribution of transportation system benefits and costs among all socio-economic groups throughout the MPO area

Task III-C-3: Minority Business Enterprise
The MPO will continue to address and monitor the Minority Business Enterprise (MBE) program as a part of the planning and programming phases of project development. The MPO will monitor transportation projects and programs to ensure that meaningful and full consideration are given to MBEs. The LPA will review and summarize transit operators MBE program and utilization.

Task III-C-4: Planning for the Elderly & Disabled
The MPO will continue to emphasize planning and provision of transportation facilities and services for persons who are elderly or have a disability. Specifically, the MPO will update the inventory of locations and needs of persons who are elderly or have a disability. The MPO will work with transit operators in the planning and evaluation of para-transit services.

Task III-C-5: Safety and Drug Control Planning
The MPO will continue to update the regional safety plan and report using the data from, and analysis of, TEES data. The MPO will continue to participate in the transit operator's safety coordination meetings as well as update the multi-modal safety plan. The MPO will develop an MPO Safety Plan that incorporates elements of VISION ZERO.

Task III-C-6: Public Involvement
The MPO will continue to update and enhance the MPO website as well as continue to strive to provide early, proactive, and meaningful public participation and input throughout the transportation planning process, including providing for open exchange of information and ideas between the public and transportation decision-makers, to provide the public with complete information, timely notice, full access to key decisions and opportunities for early and continuing involvement in the 3C process, to assess the effectiveness of the current Public Involvement Process as required by the federal Certification Team, and to develop and enhance the process of public dissemination of information. It also includes providing process support, such as developing and preparing informational materials for the MPO website, conducting public outreach, managing the MPO website, preparing and distributing the MPO's newsletter, implementing other social media (Twitter, YouTube and Facebook), and maintaining mailing lists and email lists.

Task III-D: Incidental Planning/Project Development

Task III-D-2: Environmental Analysis & Pre-TIP Planning
The LPA will continue to participate regularly and consistently in the TIP project planning and development process, including submission of comments, attending public meetings, attending scoping meetings, attending NEPA 404 merger meetings, and participating in field inspections. The LPA will continue to be involved in NCDOT project development and the NEPA process including taking the lead in the public involvement process as needed. The MPO will continue to support and be involved in NCDOT efforts to link the NEPA process in the MPO systems planning process.

Task III-D-3 Special Studies

The MPO will continue with wide range of studies which are being conducted to meet the transportation planning needs of the area. These studies include Mobility Report Card. Community Viz integration with RPAT, US 15-501 Corridor, continuation of the regional ITS and Toll Study, MS2 Data portals, funding /E-TIP database, application and portals development, incident management plan, GIS enterprise/GIS online, non-motorized trip model update, land-use model update, etc.

Task III-D-4: Regional or Statewide Planning

The MPO will continue to coordinate with CAMPO, GoTriangle, NCDOT, NCDEQ, FHWA, FTA, EPA, and other State and regional agencies in regional transportation. This includes participation in the DCHC-CAMPO joint Board meetings, GoTriangle Board Meetings, Durham-Chapel Hill-Orange County Work Group, and a wide range of regional transportation planning working groups and committees. Examples include the Model Team, the Executive Committee, and the regional transit planning/operation coordination. Statewide planning includes participation in various statewide planning initiatives such as CMAQ Committee, Indirect and Cumulative Impacts of Transportation Projects in North Carolina, the State Transportation Plan process, and the CTP.

Task III-E: Management and Operations

The purpose of this work is to assist, support, and facilitate an open Comprehensive, Cooperative, and Continuing (3C) transportation planning and programming process in conformance with applicable federal and state requirements and guidelines as described in the 3C Memorandum of Understanding. This work element encompasses the administration and support of transportation planning process as mandated and required by federal regulations. The continuing transportation planning process requires considerable administrative time for attending monthly committee meetings, preparing agendas and minutes of these meetings, training, preparing quarterly progress reports, documenting expenditures for the various planning work items, and filing for reimbursement of expenditures from the PL and STBG-DA funds account and other Federal funds. In addition, this work includes consultation with other agencies involved within 3C planning activities; liaison activities between the MPO and NCDOT and ongoing coordination with CAMPO; and communication with other regional groups. Other activities include the day-to-day oversight of, and reporting on, the progress of projects listed in the UPWP, and the establishment of work priorities in light of MPO needs. Proposed tasks include, but are not limited to:

1. Provide liaisons between DCHC MPO member agencies, transit providers, CAMPO, NCDOT, NCDEQ, TJCOG, and other organizations at the local, regional, state, and federal levels on transportation related matters, issues and actions.
2. Respond to federal and State legislation and regulations.
3. Provide service request to citizens.
4. Provide service requests and technical support to MPO member agencies.
5. Provide oversight to MPO planning and transit funding policies.
6. Work with the CAMPO on regional issues. Prepare Regional Priority lists and MTIP and amend as necessary, update transportation plans, travel demand model, and monitor data changes. Evaluate transportation planning programs developed through the 3C public participation process for appropriate MPO action.
7. Provide technical assistance to the Board and other member jurisdictions policy bodies.
8. Participate in joint CAMPO/DCHC MPO TC and Board meetings to continually improve the quality and operation of the transportation planning process and decision making in the Triangle Region.
9. Review and comment on federal and state transportation-related plans, programs, regulations and guidelines.

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1	**Surveillance of Change/ Data monitoring**	**Surveillance of Change/ Data monitoring**	**Surveillance of Change/ Data monitoring**	**Surveillance of Change/ Data monitoring**	**Surveillance of Change/ Data monitoring**
1.1	ADT count and TMC annual and seasonal, including update of count databasr system	ADT count and TMC annual and seasonal, including update of count databasr system	ADT count and TMC annual and seasonal, including update of count databasr system	ADT count and TMC annual and seasonal, including update of count databasr system	ADT count and TMC annual and seasonal, including update of count databasr system
1.2	VMT update and monitoring	VMT update and monitoring	VMT update and monitoring	VMT update and monitoring	VMT update and monitoring
1.3	Street System Changes update. Update of HERE Street layer	Street System Changes update. Update of INRIX/HERE Street layer	Street System Changes update. Update of INRIX/HERE Street layer	Street System Changes update. Update of INRIX/HERE Street layer	Street System Changes update. Update of INRIX/HERE Street layer
1.4	Traffic accidents data/ multi-modal safety data update and analyses	Traffic accidents data/ multi-modal safety data update and analyses	Traffic accidents data/ multi-modal safety data update and analyses	Traffic accidents data/ multi-modal safety data update and analyses	Traffic accidents data/ multi-modal safety data update and analyses
1.5	Transit system data/Continual update of APC data	Transit system data/Continual update of APC data	Transit system data/Continual update of APC data	Transit system data/Continual update of APC data	Transit system data/Continual update of APC data
1.6	Housing, POP, Emp. Data,including development review/permits, CO, Census, INFOUSA (employment & household data), etc	Housing, POP, Emp. Data,including development review/permits, CO, Census, INFOUSA (employment & household data), etc	Housing, POP, Emp. Data,including development review/permits, CO, Census, INFOUSA (employment & household data), etc	Housing, POP, Emp. Data,including development review/permits, CO, Census, INFOUSA (employment & household data), etc	Housing, POP, Emp. Data,including development review/permits, CO, Census, INFOUSA (employment & household data), etc
1.7	Air travel. Continual monitoring of RDU passemger activities and ground transportation	Air travel. Continual monitoring of RDU passemger activities and ground transportation	Air travel. Continual monitoring of RDU passemger activities and ground transportation	Air travel. Continual monitoring of RDU passemger activities and ground transportation	Air travel. Continual monitoring of RDU passemger activities and ground transportation
1.8	VOC	VOC	VOC	VOC	VOC
1.9	Travel Time, including continual gathering and update of INRIX, HERE and Travel Time database monitoring system.	Travel Time, including continual gathering and update of INRIX, HERE and Travel Time database monitoring system.	Travel Time, including continual gathering and update of INRIX, HERE and Travel Time database monitoring system.	Travel Time, including continual gathering and update of INRIX, HERE and Travel Time database monitoring system.	Travel Time, including continual gathering and update of INRIX, HERE and Travel Time database monitoring system.
1.10	Mapping and update/enhancement and maintenance of the MPO Geo-spatial databse and GIS enterprise	Mapping and update/enhancement and maintenance of the MPO Geo-spatial databse and GIS enterprise	Mapping and update/enhancement and maintenance of the MPO Geo-spatial databse and GIS enterprise	Mapping and update/enhancement and maintenance of the MPO Geo-spatial databse and GIS enterprise	Mapping and update/enhancement and maintenance of the MPO Geo-spatial databse and GIS enterprise
1.11	Parking inventory	Parking inventory	Parking inventory	Parking inventory	Parking inventory
1.12	Bike/Pedestrian. Facilities Inv	Bike/Pedestrian. Facilities Inv	Bike/Pedestrian. Facilities Inv	Bike/Pedestrian. Facilities Inv	Bike/Pedestrian. Facilities Inv
1.13	Bike/Pedestrian. Facilities Counts	Bike/Pedestrian. Facilities Counts	Bike/Pedestrian. Facilities Counts	Bike/Pedestrian. Facilities Counts	Bike/Pedestrian. Facilities Counts
2	**Unified Planning Work Program (UPWP)**	**Unified Planning Work Program (UPWP)**	**Unified Planning Work Program (UPWP)**	**Unified Planning Work Program (UPWP)**	**Unified Planning Work Program (UPWP)**
2.1	Process UPWP amendments as necessary	Process UPWP amendments as necessary	Amend UPWP as necessary	Amend UPWP as necessary	Amend UPWP as necessary
2.2	Process quarterly invoices and reports	Process quarterly invoices and reports	Process quarterly invoices and reports	Process quarterly invoices and reports	Process quarterly invoices and reports
2.3	Prepare annual UPWP progress report and performance evaluation	Prepare annual UPWP progress report and performance evaluation	Prepare annual UPWP progress report and performance evaluation	Prepare annual UPWP progress report and performance evaluation	Prepare annual UPWP progress report and performance evaluation
2.4	Develop FY 2020 UPWP	Develop FY 2021 UPWP	Develop FY 2022 UPWP	Develop FY 2023 UPWP	Develop FY 2024 UPWP
2.5	UPWP financial management and administration	UPWP financial management and administration	UPWP financial management and administration	UPWP financial management and administration	UPWP financial management and administration
	Grant monitoring, oversight and audit	Grant monitoring, oversight and audit	Grant monitoring, oversight and audit	Grant monitoring, oversight and audit	Grant monitoring, oversight and audit
2.6	Perform annual self-certification & On-Going Process-Development	Perform annual self-certification & On-Going Process-Development	Perform annual self-certification & On-Going Process-Development	Perform annual self-certification & On-Going Process-Development	Perform annual self-certification & On-Going Process-Development
2.7	LPA Local match Cost Sharing, including preparation of annual report.	LPA Local match Cost Sharing, including preparation of annual report.	LPA Local match Cost Sharing, including preparation of annual report.	LPA Local match Cost Sharing, including preparation of annual report.	LPA Local match Cost Sharing, including preparation of annual report.
2.8	Management and Operations of the 3-C Process.	Management and Operations of the 3-C Process.	Management and Operations of the 3-C Process.	Management and Operations of the 3-C Process.	Management and Operations of the 3-C Process.
3	**Metropolitan Transportation Plan (MTP)/Long-Range Transportation Planning**	**Metropolitan Transportation Plan (MTP)/Long-Range Transportation Planning**	**Metropolitan Transportation Plan (MTP)/Long-Range Transportation Planning**	**Metropolitan Transportation Plan (MTP)/Long-Range Transportation Planning**	**Metropolitan Transportation Plan (MTP)/Long-Range Transportation Planning**

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3.1	Amendment of the 2045 MTP as necessary	Adoption of the CTP	Amendment of the 2040 LRTP for AQ analysis and conformity as necessary	Work commences on MPO wide Community visioning. Product to lead into Goals and Objectives development	2050 MTP environmental analysis and considertaion
3.2	Refinement of SE forecast to Horizon and intermediate years.	MTP Financial analysis and preparation of Financial Plan.	Initiate work on Community Viz 3.0 and scenario plannng set up and preparation	Work associated with Goals, Objectives and targets for 2050 MTP commences.	Model and technical analyses for the 2050 MTP
3.3	Model Update and improvements for 2050 MTP development commences	CTP continual update and amendemnt as necessary.	CTP continual update and amendemnt as necessary.	Deficiency analysis and needs assessment for 2050 MTP	Continue work on GIS and mapping for MTP base maps
3.4	Inter-Agency Consultation process	Initiate base year SE and networks data collection	Update of base year networks and their attributes		Selection of Preferrred MTP Option.
3.5	CTP continual update and amendemnt as necessary.	2050 MTP Visioning process	Update of modeling and technical tools for 2050 MTP analyses.	Generation of alternatives for 2050 MTP	AQ analysis and conformity determination process
3.6	Land-use Scenario analysis	Adoption of the 2050 MTP development process and schedule	Continue work on GIS and mapping for MTP base maps	Evaluation and analysis of alternatives	Inter-Agency Consultation process
3.7	MTP Visioning process and coordination kick-off	Develop 2050 MTP Publie Outreach and input process, including involvement and input from MPO member agencies.	Base year SE data collection and analysis for 2050 MTP	Public outreach and input on the draft preferred plans (options).	Public outreach and involvement of the 2050 MTP.
		2050 Goals, Objectives and Performance Measures	Comm Viz Scenario planning and selction of the preferrred scenario	CTP continual update and amendemnt as necessary.	Adoption of 2050 MTP and AQ comformity report
		Initiate Community Viz 3.0 model update and land-us scenario building.	Socio-economic and demographic forecasts for 2050 MTP, including 2030 and 2040 intermediate years	Incorporation of freight, airport, safety, EJ, etc.	Initiation of 2055 MTP development and update process
		Public outreach for land-use scenario	Amendment of the 2045 MTP as necessary	Amendment of the 2045 MTP as necessary	Amendment of the 2045 MTP as necessary
4	**Travel Demand Model Development and Update**	**Travel Demand Model Development and Update**	**Travel Demand Model Development and Update**	**Travel Demand Model Development and Update**	**Travel Demand Model Development and Update**
4.1	On-going model maintenance and enhancement activities	On-going model maintenance and enhancement activities	On-going model maintenance and enhancement activities	On-going model maintenance and enhancement activities	On-going model maintenance and enhancement activities
4.2	Collection of annual continuous household and transit on board survey. Coordination of estimation year data collection	Support MPO 2045 MTP and air quality conformity model applications	Develop TRMv7: continue estimating models for tour mode choice	Develop TRMv7: incorporate existing model components for commercial vehicles & external models	Develop TRMv7: complete model calibration and validation
4.3	Survey tabulation and analyses winter/spring 2018. Analysis and tabulation of estimation year data (traffic counts, SE data, PASA parking)	Collection of network data and development of networks	Develop TRMv7: model applications completed	Develop TRMv7: initial model calibration and validation begins	Develop TRMv7: develop application tools for plan evaluation & air quality analysis
4.4	Support MPO 2045 MTP model application and demand forecasts.	Maintain/enhance TRMv6: develop addional tools for application	Develop TRMv7: continue estimating models for tour mode choice		2020 census TAZ delineation
4.5	Maintain/enhance TRMv6.x: develop improved parking model	Develop TRMv7: begin developing/adapting application programs for population synthesizer/tour-activity scheduler/router			
4.6	Develop TRMv7: investigate/specify tour/activity scheduler/router	Develop TRMv7: begin model estimation and calibration for usual work and school location, activity scheduler, and router			
	Develop TRMv7: begin preparing data for estimation				

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	Develop TRMv7: available data will be entered in selected data structure				
4.7					
5	**Bicycle & Pedestrian Planning**	**Bicycle & Pedestrian Planning**	**Bicycle & Pedestrian Planning**	**Bicycle & Pedestrian Planning**	**Bicycle & Pedestrian Planning**
5.1	On-going bike and pedestrian advocacy	On-going bike and pedestrian advocacy	On-going bike and pedestrian advocacy	On-going bike and pedestrian advocacy	On-going bike and pedestrian advocacy
5.2	Update of the Comprehensive Pedestrian Plan	Update of the Comprehensive Bicycle Plan. Update of the Regional Bike Plan	on-going implementation of the bike and pedestrian plans	on-going implementation of the bike and pedestrian plans	on-going implementation of the bike and pedestrian plans
5.3		On-going bike-pedstrian programs monitoring of strategies & effectiveness	On-going bike-pedstrian programs monitoring of strategies & effectiveness	On-going bike-pedstrian programs monitoring of strategies & effectiveness	On-going bike-pedstrian programs monitoring of strategies & effectiveness
6	**Short-Range Transit Plan**	**Short-Range Transit Plan**	**Short-Range Transit Plan**	**Short-Range Transit Plan**	**Short-Range Transit Plan**
6.1	On-going transit planning process	On-going transit planning process	On-going transit planning process	On-going transit planning process	On-going transit planning process
6.2	Update of Transit Development Plan (TDP)/Short range transit planning.	Update of Transit Development Plan (TDP)/Short range transit planning.	Update of Transit Development Plan (TDP)/Short range transit planning.	Transit survey	Transit survey
7	**Congestion Management Process (CMS/CMP)**	**Congestion Management Process (CMS/CMP)**	**Congestion Management Process (CMS/CMP)**	**Congestion Management Process (CMS/CMP)**	**Congestion Management Process (CMS/CMP)**
7.1	On-going update and enhancement of the MPO Mobility Report Card (MRC)	MRC report and AGOL	On-going update and enhancement of the MPO Mobility Report Card (MRC)	MRC report and AGOL	On-going update and enhancement of the MPO Mobility Report Card (MRC)
7.2	On-going CMP monitoring of strategies & effectiveness	On-going CMP monitoring of strategies & effectiveness	On-going CMP monitoring of strategies & effectiveness	On-going CMP monitoring of strategies & effectiveness	On-going CMP monitoring of strategies & effectiveness
7.3		Update of area of incluence and congestion networks. Application & reevaluation of definition of congestion		Update of area of incluence and congestion networks. Application & reevaluation of definition of congestion	
7.4		Transportation system definition (modes & networks)		Transportation system definition (modes & networks)	
7.5		Transportation system definition (modes & networks)		Transportation system definition (modes & networks)	
7.6	Data collection & analysis for MPO CMS Update	Data collection & analysis for MPO CMS Update	Data collection & analysis for MPO CMS Update	Data collection & analysis for MPO CMS Update	Data collection & analysis for MPO CMS Update
7.7	Update Performance monitoring Plan	Develop Performance monitoring Plan	Update Performance monitoring Plan	Develop Performance monitoring Plan	Develop Performance monitoring Plan
7.8	update Identification and evaluation of strategies.	Identification and evaluation of strategies.	update Identification and evaluation of strategies.	Identification and evaluation of strategies.	Identification and evaluation of strategies continues
7.9		Action plan for monitoring effectiveness of strategies		Action plan for monitoring effectiveness of strategies	
7.10		Public comment and adoption of the MPO CMS		Public comment and adoption of the MPO CMS	Public comment and adoption of the MPO CMS
8	**TIP**	**TIP**	**TIP**	**TIP**	**TIP**
	BOT Approves 2018-2027 STIP	Finalize SPOT 5 Point Assignment	BOT Approves 2020-2029 STIP	Develop final draft 2022-2031 MTIP. TIP conformity determination	Develop final draft 2020-2026 MTIP. TIP conformity determination
	Update TIP ranking & project prioritization methodology as necessary	One-on-one discussion between the MPO and NCDOT	Update TIP ranking & project prioritization methodology as necessary	One-on-one discussion between the MPO and NCDOT	BOT Approves 2020-2026 STIP
	Develop & submit TIP Project Priority List for SPOT5 (2020-2029 TIP)	Analysis of the draft 2020-2029 STIP local supplement	Develop & submit TIP Project Priority List for SPOT-6 (2022-2031 TIP)	Analysis of the draft 2031-2031 STIP local supplement	Develop & submit TIP Project Priority List for SPOT-7 (2024-2033 TIP)
	Review project revisions, modification and new submissions and prepare comparative analysis Generate data associated with P5 online submission	Development 2020-2029 MTIP . Public input and comment process.	Review project revisions, modification and new submissions and prepare comparative analysis Generate data associated with P6 online submission	Development 2022-2031 MTIP . Public input and comment process.	Review project revisions, modification and new submissions and prepare comparative analysis Generate data associated with P7 online submission

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	SPOT-5 Prioritization	Develop draft 2020-2029 MTIP.	SPOT6 Prioritization	One-on-one discussion between the MPO and NCDOT	SPOT-7 Prioritization
	MPO SPOT 5 points assignment		MPO SPOT 6 points assignment	Development 2020-2026 MTIP . Public input and comment process.	MPO SPOT-7 points assignment
	Develop final draft 2018-2027 MTIP.				
	Process MTIP amendments as needed	Process MTIP amendments as needed	Process MTIP amendments as needed	Process MTIP amendments as needed	Process MTIP amendments as needed
	Annual TIP project Listing	Annual TIP project Listing	Annual TIP project Listing	Annual TIP project Listing	Annual TIP project Listing
9	**Title VI/Civil Rights/EJ**	**Title VI/Civil Rights/EJ**	**Title VI/Civil Rights/EJ**	**Title VI/Civil Rights/EJ**	**Title VI/Civil Rights/EJ**
	Continuous update of Title VI programs, including Assurance Certification, EJ and LEP	Continuous update of Title VI programs, including Assurance Certification, EJ and LEP. Evaluate effectiveness of programs and outreach efforts	Continuous update of Title VI programs, including Assurance Certification, EJ and LEP. Evaluate effectiveness of programs and outreach efforts	Update EJ Plan and LEP program, and evaluate effectiveness of program and outreach efforts	Continuous update of Title VI programs, including Assurance Certification, EJ and LEP. Evaluate effectiveness of programs and outreach efforts
	Update EJ and LEP outreach mailing list	Update EJ and LEP outreach mailing list	Update EJ and LEP outreach mailing list	Update EJ and LEP outreach mailing list	Update EJ and LEP outreach mailing list
	Administer and monitor MPO EJ/LEP program	Administer and monitor MPO EJ/LEP program	Administer and monitor MPO EJ/LEP program	Administer and monitor MPO EJ/LEP program	Administer and monitor MPO EJ/LEP program
	Evaluate and Perform EJ analysis, impacts as needed	Evaluate and Perform EJ analysis, impacts as needed	Evaluate and Perform EJ analysis, impacts as needed	Evaluate and Perform EJ analysis, impacts as needed	Evaluate and Perform EJ analysis, impacts as needed
	Update EL/LEP demographic profile and database	Update EL/LEP demographic profile and database	Update EL/LEP demographic profile and database	Update EL/LEP demographic profile and database	Update EL/LEP demographic profile and database
10	**Public Involvement/Participation Plan (PIP/PPP)**	**Public Involvement/Participation Plan (PIP/PPP)**	**Public Involvement/Participation Plan (PIP/PPP)**	**Public Involvement/Participation Plan (PIP/PPP)**	**Public Involvement/Participation Plan (PIP/PPP)**
	Review and evaluate effectiveness of MPO Public Involvement Process	Review and evaluate effectiveness of MPO Public Involvement Process	Review and evaluate effectiveness of MPO Public Involvement Process	Review and evaluate effectiveness of MPO Public Involvement Process	Review and evaluate effectiveness of MPO Public Involvement Process
	Social media in mpo public outreach and input process	Social media in mpo public outreach and input process	Social media in mpo public outreach and input process	Social media in mpo public outreach and input process	Social media in mpo public outreach and input process
	On-going MPO website update and content management	On-going MPO website update and content management	On-going MPO website update and content management	On-going MPO website update and content management	On-going MPO website update and content management
11	**Project Development & Incidental Planning**	**Project Development & Incidental Planning**	**Project Development & Incidental Planning**	**Project Development & Incidental Planning**	**Project Development & Incidental Planning**
	Participation in project development, environmental analysis, NEPA process and studies	Participation in project development, environmental analysis, NEPA process and studies	Participation in project development, environmental analysis, NEPA process and studies	Participation in project development, environmental analysis, NEPA process and studies	Participation in project development, environmental analysis, NEPA process and studies
	Pre-TIP project planning and coordination	Pre-TIP project planning and coordination	Pre-TIP project planning and coordination	Pre-TIP project planning and coordination	Pre-TIP project planning and coordination
12	**Land-use & Transportation integration**	**Land-use & Transportation integration**	**Land-use & Transportation integration**	**Land-use & Transportation integration**	**Land-use & Transportation integration**
	Community Viz and UrbanSim implementaion, maintenance and update	Community Viz and UrbanSim implementaion, maintenance and update	Community Viz and UrbanSim implementaion, maintenance and update	Community Viz and UrbanSim implementaion, maintenance and update	Community Viz and UrbanSim implementaion, maintenance and update
	Monitoring of land use development and consistency check with SE forecasts	Monitoring of land use development and consistency check with SE forecasts	Monitoring of land use development and consistency check with SE forecasts	Monitoring of land use development and consistency check with SE forecasts	Monitoring of land use development and consistency check with SE forecasts
13	**Intelligent Transportation System Planning**	**Intelligent Transportation System Planning**	**Intelligent Transportation System Planning**	**Intelligent Transportation System Planning**	**Intelligent Transportation System Planning**
	Turbo Architecture, IDAS and DynaSmart enhancement, update and maintenance	Turbo Architecture, IDAS and DynaSmart enhancement, update and maintenance	Turbo Architecture, IDAS and DynaSmart enhancement, update and maintenance	Turbo Architecture, IDAS and DynaSmart enhancement, update and maintenance	Turbo Architecture, IDAS and DynaSmart enhancement, update and maintenance
	ITS planning, operation and monitoring	ITS planning, operation and monitoring	ITS planning, operation and monitoring	ITS planning, operation and monitoring	ITS planning, operation and monitoring
14	**Safety Planning**	**Safety Planning**	**Safety Planning**	**Safety Planning**	**Safety Planning**

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	Safety data collection and analysis, and coordination with other agencies.	Safety data collection and analysis, and coordination with other agencies.	Safety data collection and analysis, and coordination with other agencies.	Safety data collection and analysis, and coordination with other agencies.	Safety data collection and analysis, and coordination with other agencies.
14.1	Development of the MPO Safety plan to reflect State Highway Safety initiatives	Update MPO Safety plan and incorporate features of Vision Plan.	Update MPO Safety plan and incorporate features of Vision Plan.	Update MPO Safety plan and incorporate features of Vision Plan.	Update MPO Safety plan and incorporate features of Vision Plan.
	Ongoing integration of safety in the MPO transportation planning process	Ongoing integration of safety in the MPO transportation planning process	Ongoing integration of safety in the MPO transportation planning process	Ongoing integration of safety in the MPO transportation planning process	Ongoing integration of safety in the MPO transportation planning process
15	**Freight Planning**	**Freight Planning**	**Freight Planning**	**Freight Planning**	**Freight Planning**
	on-going freight planning and coordination	on-going freight planning and coordination	on-going freight planning and coordination	on-going freight planning and coordination	on-going freight planning and coordination
	Outreach with freight and logistic companies	Outreach with freight and logistic companies	Outreach with freight and logistic companies	Outreach with freight and logistic companies	Outreach with freight and logistic companies
	Continuous update of truck circulation maps	Continuous update of truck circulation maps	Continuous update of truck circulation maps	Continuous update of truck circulation maps	Continuous update of truck circulation maps
16	**Transportation System Preservation**	**Transportation System Preservation**	**Transportation System Preservation**	**Transportation System Preservation**	**Transportation System Preservation**
	Transportation System Preservation planning and operation	Transportation System Preservation planning and operation	Transportation System Preservation planning and operation	Transportation System Preservation planning and operation	Transportation System Preservation planning and operation
	TDM and TSM (ITS) planning, programming, implementation, monitoring and evaluation	TDM and TSM (ITS) planning, programming, implementation, monitoring and evaluation	TDM and TSM (ITS) planning, programming, implementation, monitoring and evaluation	TDM and TSM (ITS) planning, programming, implementation, monitoring and evaluation	TDM and TSM (ITS) planning, programming, implementation, monitoring and evaluation
17	**GIS Development**	**GIS Development**	**GIS Development**	**GIS Development**	**GIS Development**
	Maintain Databases	*Maintain Databases*	*Maintain Databases*	*Maintain Databases*	*Maintain Databases*
	Maintain Databases	Acquire and Maintain Data; maintain hardware and software	Acquire and Maintain Data; maintain hardware and software	Acquire and Maintain Data; maintain hardware and software	Acquire and Maintain Data; maintain hardware and software
	Maintenance of MPO GIS and data layers	Maintenance of MPO GIS and data layers	Maintenance of MPO GIS and data layers	Maintenance of MPO GIS and data layers	Maintenance of MPO GIS and data layers
	Coordination with resource agencies and linkages of transportation data with environmental data	Coordination with resource agencies and linkages of transportation data with environmental data	Coordination with resource agencies and linkages of transportation data with environmental data	Coordination with resource agencies and linkages of transportation data with environmental data	Coordination with resource agencies and linkages of transportation data with environmental data
	Update green print maps	*Update green print maps*	*Update green print maps*	*Update green print maps*	*Update green print maps*
	Data development and update. Maintenance and update of spatial geodatabase applications and AGOL.	Data development and update. Maintenance and update of spatial geodatabase applications and AGOL.	Data development and update. Maintenance and update of spatial geodatabase applications and AGOL.	Data development and update. Maintenance and update of spatial geodatabase applications and AGOL.	Data development and update. Maintenance and update of spatial geodatabase applications and AGOL.
18	**Management and Operations**	**Management and Operations**	**Management and Operations**	**Management and Operations**	**Management and Operations**
	Management and Operations of the MPO 3-C process	Management and Operations of the MPO 3-C process	Management and Operations of the MPO 3-C process	Management and Operations of the MPO 3-C process	Management and Operations of the MPO 3-C process
	Board directives	Board directives	Board directives	Board directives	Board directives
19	**Special Studies/State & Regional Planning**	**Special Studies/State & Regional Planning**	**Special Studies/State & Regional Planning**	**Special Studies/State & Regional Planning**	**Special Studies/State & Regional Planning**
	Continuous parking study update	Continuous parking survey update	Continuous parking survey update	Continuous parking survey update	Continuous parking survey update

Town of Carrboro

	Task Description	STBGP 133(b)(3)(7)		Sec. 104(f) PL		Section 5303 Highway/Transit			Section 5307 Transit			Task Funding Summary			
		Local	FHWA	Local	FHWA	Local	NCDOT	FTA	Local	NCDOT	FTA	Local	NCDOT	Federal	Total
		20%	80%	20%	80%	10%	10%	80%	10%	10%	80%				
II-A	**Surveillance of Change**														
1	Traffic Volume Counts	$102	$408	$0	$0	$0	$0	$0	$0	$0	$0	$102	$0	$408	$510
2	Vehicle Miles of Travel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Street System Changes	$169	$676	$0	$0	$0	$0	$0	$0	$0	$0	$169	$0	$676	$845
4	Traffic Accidents	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Transit System Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Dwelling Unit, Pop. & Emp. Change	$135	$540	$0	$0	$0	$0	$0	$0	$0	$0	$135	$0	$540	$675
7	Air Travel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	Vehicle Occupancy Rates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Travel Time Studies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
10	Mapping	$884	$3,536	$0	$0	$0	$0	$0	$0	$0	$0	$884	$0	$3,536	$4,420
11	Central Area Parking Inventory	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12	Bike & Ped. Facilities Inventory	$200	$800	$0	$0	$0	$0	$0	$0	$0	$0	$200	$0	$800	$1,000
13	Bike & Ped. Counts	$145	$580	$0	$0	$0	$0	$0	$0	$0	$0	$145	$0	$580	$725
		$0	$0												
II-B	**Long Range Transp. Plan (MTP)**	$0	$0												
1	Collection of Base Year Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Collection of Network Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Travel Model Updates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Travel Surveys	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Forecast of Data to Horizon year	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Community Goals & Objectives	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	Forecast of Futurel Travel Patterns	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	Capacity Deficiency Analysis	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Highway Element of th MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
10	Transit Element of the MTP	$170	$680	$0	$0	$0	$0	$0	$0	$0	$0	$170	$0	$680	$850
11	Bicycle & Ped. Element of the MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12	Airport/Air Travel Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
13	Collector Street Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
14	Rail, Water or other mode of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15	Freight Movement/Mobility Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
16	Financial Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
17	Congestion Management Strategies	$215	$860	$0	$0	$0	$0	$0	$0	$0	$0	$215	$0	$860	$1,075
18	Air Qual. Planning/Conformity Anal.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0												
II-C	**Short Range Transit Planning**	$0	$0												
1	Short Range Transit Planning	$355	$1,418	$0	$0	$0	$0	$0	$0	$0	$0	$355	$0	$1,418	$1,773
		$0	$0									$0	$0	$0	$0
III-A	**Planning Work Program**	$0	$0												
	Planning Work Program	$352	$1,408	$0	$0	$0	$0	$0	$0	$0	$0	$352	$0	$1,408	$1,760
		$0	$0									$0	$0	$0	$0
III-B	**Transp. Improvement Plan**	$0	$0												
	TIP	$691	$2,765	$0	$0	$0	$0	$0	$0	$0	$0	$691	$0	$2,765	$3,456
		$0	$0									$0	$0		
III-C	**Cvl Rgts. Cmp./Otr .Reg. Reqs.**	$0	$0												
1	Title VI	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Environmental Justice	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Minority Business Enterprise	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Planning for the Elderly & Disabled	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Safety/Drug Control Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Public Involvement	$360	$1,440	$0	$0	$0	$0	$0	$0	$0	$0	$360	$0	$1,440	$1,800
7	Private Sector Participation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0												
III-D	**Incidental Plng./Project Dev.**	$0	$0												
1	Transportation Enhancement Plng.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Enviro. Analysis & Pre-TIP Plng.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Special Studies	$1,100	$4,400	$0	$0	$0	$0	$0	$0	$0	$0	$1,100	$0	$4,400	$5,500
4	Regional or Statewide Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0												
III-E	**Management & Operations**	$0	$0												
1	Management & Operations	$850	$3,400	$0	$0	$0	$0	$0	$0	$0	$0	$850	$0	$3,400	$4,250
Totals		$5,728	$22,911	$0	$0	$0	$0	$0	$0	$0	$0	$5,728	$0	$22,911	$28,639

TOWN OF CARRBORO
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

II-A-1: Traffic Volume Counts

The Town will provide local traffic count data, collected for various local planning purposes including, traffic impact studies, development review and other studies conducted, or for MPO activities including the Congestion Management Process and Mobility Report Cards. The Town will also conduct additional traffic counts, as needed, for other plans or studies that relate to traffic congestion or safety.

Objectives

To collect local traffic count data relevant to the CMP, TRM model analysis, and-or local traffic studies.

Previous Work

In FY 2012, the Town submitted traffic count data for the CMP. The Town has collected traffic data for traffic calming studies and Traffic Impact Analyses for numerous development projects. Three Mobility Report Cards (2003, 2005 and the DCHC-MPO in 2014) report vehicular traffic and congestion, as well as pedestrian and bicycle traffic.

Proposed Activities

1. Collect traffic data using Town counters and manual bike-ped counting
2. Provide traffic data and reports as needed for the previously mentioned MPO activities
3. Work with LPA staff on determining best traffic count locations for MRC and other studies
4. Continue to collect traffic data relating to local traffic calming requests

Products

1. Traffic volume data from as recent a year as possible

Relationship to Other Plans and MPO Activities

Data will be used for the CMP and MRC. Counts may be helpful in determining focus areas for TDM strategies, the Triangle Regional Model (TRM), and the Town's conceptual Slow Zone plan.

Proposed Budget and Level of Effort

50 percent of the work to be completed by the Transportation Planner; 50 percent of the work to be completed by the Planning Administrator; Staff hours: 12 hours

Task II-A-3: Street System Mileage

Town staff will report on street system changes from the last reporting year and provide data to the LPA, including intersection geometry, including data relating to maintenance from Powell Bill improvements. The Town shall also include information from NCDOT Division 7 relating to improvements to the state highway system, as appropriate, as well as improvements on the local street system.

Objectives

To maintain a current shapefile of Carrboro's street system and provide data to the LPA**.**

Previous Work

The Town will have submitted a current shapefile of the street system to the LPA.

Proposed Activities

1. Track changes to Carrboro's street system
2. Maintain shapefile of current street system
3. Submit data to LPA with 4th quarter reports

TOWN OF CARRBORO
TASK DESCRIPTIONS & NARRATIVES
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Products
Provide the municipality's street system data to the LPA as part the 4th quarter progress report.

Relationship to other plans and MPO activities
Data can be used for CMP, MRC and regional TRM, as well as for various Town studies.

Proposed budget and level of effort
66 percent of work to be completed by GIS Analyst; 33 percent of work to be completed by Planning Administrator; Staff hours: 18 hours

Task II-A-6: Dwelling Units, Population & Employment Changes
The Town will continue its collection of monthly development review activities, building permit and Certificate of Occupancy (CO) data and will submit regular reports of data to the LPA along with summarized data in quarterly progress reports.

Objectives
To review dwelling unit, population, and employment data as part of the long range planning efforts, and to support the Travel Behavior Survey (TBS) of the Triangle Regional Model (TRM) processes.

Previous Work
In FY 2012 and again in 2016, the Town submitted place type and development status information to the LPA and reviewed population and employment control totals for use in the 2040 and 2045 MTP.

Proposed Activities
1. Review data generated by the TBS household survey
2. Collect monthly development review activities, building permits, and COs and submit to LPA

Products
1. Tabulation of development review proposals, building permits, and Certificate of Occupancies
2. Submit monthly data to the LPA and in summarize data in the quarterly progress report

Relationship to Other Plans and MPO Activities
Relates to 2045 MTP, TRM, MRC, processes and provides regular data for long term planning efforts.

Proposed Budget and Level of Effort
50 percent of work to be completed by Planning Director; 50 percent of work to be completed by GIS Analyst; Staff hours: 12 hours

Task II-A-10: Mapping
Town staff will update geo-spatial mapping for SE data, development proposals/permits/COs, bike-pedestrian networks and facilities, highway and transit elements of the 2045 MTP, etc.

Objectives
To support mapping activities for the 2045 MTP and generate maps as needed for other MPO or Town transportation planning tasks.

Previous Work
The Town provided local socioeconomic data for the 2040 and 2045 MTPs. Reviewed and modified CommunityViz 2040 and 2045 MTP place type and development status categories. The Town edited

employment shapefile in Employment Analyst in preparation for the 2045 MTP, analyzed residential and employment density in the vicinity of bus stops for the Orange County Transit Plan, provided downtown Carrboro parking inventory maps, and regularly updated transportation shapefiles based on new developments and completed projects.

Proposed Activities

1. Review maps made for the MTP, MRC, and other MPO-related activities
2. Provide any data or maps as requested by the LPA
3. Maintain current GIS data for all transportation planning activities in Carrboro
4. Generate the following GIS shape files, SE data, development review/proposals, permits, COs, bike-pedestrian networks, data collection locations base maps, etc.
5. Update of geodatabase of transit routes and stops, highway element of the MTP, bike-pedestrian element of the MTP, etc.
6. Generate the following GIS shape files, SE data, development review/proposals, permits, COs, bike-pedestrian networks and facilities, data collection location base maps, etc.
7. Update of geodatabase of transit routes and stops, highway element of the MTP, bike-pedestrian element of the MTP, etc.

Relationship to Other Plans and MPO Activities

2045 MTP, MRC, Carrboro Parking Plan, Orange Co. Transit, and the Comprehensive Bicycle Transportation Plan

Proposed Budget and Level of Effort

80 percent of work to be completed by the GIS Analyst; 20 percent of work to be completed by Transportation Planner; Staff hours: 100 hours

Task II-A-12: Bike and Pedestrian facilities Inventory

The Town will continue to provide bicycle and pedestrian traffic information for local and regional planning processes as needed. The Town will continue to conduct bike and pedestrian counts as part of the traffic calming process and Safe Routes to School program.

Objectives

To collect continuous, reliable pedestrian and bicycle volume data that can be averaged over time and disaggregated for independent variables such as month, time, and weather. The Town will also supply bicycle and pedestrian travel data for regional planning processes.

Previous Work

The Town has collected bicycle and pedestrian data for a number of planning processes, including the 2009 Comprehensive Bicycle Transportation Plan and regional Mobility Report Card. The Town participated in a pilot program with the MPO/ITRE that installed pedestrian and bicycle counters on the Libba Cotten Bikeway and on Old NC 86, just north of the intersection with Old Fayetteville Road, and assumed control of these counters in late 2016.

Proposed Activities

1. Prepare updated bike-pedestrian GIS maps and attributes (including trails)
2. Update geodatabase of bike-pedestrian inventory
3. Collect bike-pedestrian facility information for SPOT, CMAQ/TAP funding
4. Review data collected by bike-ped counters previously installed by ITRE/MPO, and use counts for Town analysis and MPO data collection

TOWN OF CARRBORO
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

5. Continue to conduct bicycle and pedestrian counts
6. Work with LPA staff to coordinate additional data collection efforts

Products
Spreadsheets or tally sheets with bicycle and pedestrian counts

Relationship to Other Plans and MPO Activities
2045 MTP and Mobility Report Card; the Town anticipates working with a consultant to prepare an updated comprehensive bicycle plan (see special studies).

Proposed Budget and Level of Effort
50 percent of work to be completed by Transportation Planner; 25 percent of the work to be completed by the Planning Administrator; 25 percent of work to be completed by GIS Analyst; Staff hours: 24 hours

II-A-13 Bicycle and Pedestrian Counts
The Town will contribute existing bicycle and pedestrian traffic information for local and regional planning processes as needed. The Town will continue to conduct bike and pedestrian counts as part of the traffic calming process and Safe Routes to School program.

Objectives
To collect continuous, reliable pedestrian and bicycle volume data that can be averaged over time and disaggregated for independent variables such as month, time, and weather. The Town will also supply bicycle and pedestrian travel data for regional planning processes.

Previous Work
The Town has collected bicycle and pedestrian data for a number of planning processes, including the 2009 Comprehensive Bicycle Transportation Plan and regional Mobility Report Card. The Town participated in a pilot program with the MPO/ITRE that installed pedestrian and bicycle counters on the Libba Cotten Bikeway and on Old NC 86, just north of the intersection with Old Fayetteville Road, and assumed control of these counters in late 2016.

Proposed Activities
1. Review data collected by bike-ped counters previously installed by ITRE/MPO, and use counts for Town analysis and MPO data collection
2. Continue to conduct bicycle and pedestrian counts
3. Work with LPA staff to coordinate additional data collection efforts

Products
Spreadsheets or tally sheets with bicycle and pedestrian counts

Relationship to Other Plans and MPO Activities
2045 MTP, Mobility Report Card, and the anticipated updated comprehensive bike plan.

Proposed Budget and Level of Effort
66 percent of work to be completed by Transportation Planner; 33 percent of the work to be completed by the Planning Administrator: Staff hours: 18 hours

Task II-B-10: Transit Element of the MTP
Support evaluation of transit element of the 2045 MTP, including DO-LRT, Commuter rail and BRT.

TOWN OF CARRBORO
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Objectives
To provide input and evaluate the transit element of the 2045 MTP and participate in regional planning efforts related to the DO-LRT, Commuter rail and Bus Rapid Transit.

Previous Work
Town staff has participated in regional planning efforts related to the DO-LRT, Chapel Hill Bus Rapid Transit, Orange County Transit Plan, and other transit projects.

Proposed Activities
1. Town staff will assist in the evaluation of transit preferred options, update of the 2045 transit tables and attributes, and geodatabase of transit preferred option, and final 2045 projects

Products
1. Evaluation of transit preferred options
2. Update 2045 transit tables and attributes
3. Update of geodatabase of transit preferred option and final 2045 projects

Relationship to Other Plans and MPO Activities
2045 MTP, CTP, Orange County Bus and Rail Investment Plan

Proposed Budget and Level of Effort
50 percent of work to be completed by Transportation Planner; 50 percent of work to be completed by Planning Administrator; Staff hours: 20 hours

<u>Task II-B-17: CMP and Mobility Report</u> (MRC)
The MPO is maintaining a Congestion Management Process (CMP) to address congestion within the metropolitan area boundary. The Town will contribute planning resources to this process as well as the Mobility Report Card and continued analysis of downtown Carrboro congestion.

Objectives
To contribute to the ongoing development of the CMP, MRC, and continue research and analysis on downtown Carrboro traffic level of service (LOS).

Previous Work
The Town has contributed to the CMP and previous Mobility Report Cards. The Town has also conducted a number of local studies related to traffic and congestion within Town boundaries. Town staff has also worked on Transportation Demand Management efforts as a strategy for decreasing congestion.

Proposed Activities
1. Evaluation of CMP and MRC networks
2. Review of products and analyses
3. Provide GIS shape files

Products
1. GIS shapefile of sub-areas
2. Local and transit data as needed

TOWN OF CARRBORO
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

Relationship to Other Plans and MPO Activities
CMP, 2045 MTP, Mobility Report Card, TDM and updates to Town Parking Plan

Proposed Budget and Level of Effort
40 percent of work to be completed by Transportation Planner ; 20 percent of work to be completed by GIS Analyst; 40 percent of work to be completed by Planning Administrator; Staff hours: 25 hours

II-C-1 Short Range Transit Planning
The Town will participate in short-range transit planning for the region, with a focus on the Chapel Hill-Carrboro area. Through the Transit Partners Committee, the Town will provide input on Chapel Hill Transit planning initiatives, including the Bus Rapid Transit project and the completion of the short range transit plan. The Town will coordinate with Orange County, GoTriangle, and the MPO on the update and implementation of the Orange County Transit Plan for Orange County and the DO-LRT. This task may include the development of a 5-year need based Budget and Connectivity plan.

Objectives
To ensure that Carrboro plays a key role in CHT planning, capital investment, and operations by continuing to work with Chapel Hill Transit on new initiatives, short range planning, public involvement, and troubleshooting. The Town will also assist as needed in implementation of the Orange County Transit Plan for Orange County and the DO-LRT, coordinating with Orange County, GoTriangle, and the MPO.

Previous Work
Town of Carrboro elected officials, advisory board members, and staff attend CHT Partners Committee meetings, N-S Corridor Study meetings and the short range transit plan meetings. The Board of Aldermen endorsed the Orange County Transit Plan in 2017. The Town has provided input into initiatives such as the Comprehensive Operations Analysis, Eubanks Road Park-and-Ride Feasibility Study, and others. The Town worked with GoTriangle to begin peak-hour bus service from Carrboro to Durham.

Proposed Activities
1. Continue to participate in Transit Partners Committee, and staff working groups
2. Attend staff working group meetings to implement the Orange County Transit Plan, including the development of service improvements and capital projects as part of adopted transit plans, including providing information on transit access and service priorities
3. Review on-board transit survey information as it pertains to Carrboro and Carrboro ridership as part of the short-range and long-range planning efforts
4. Work with LPA staff on the 5-year plan

Products
1. 5-Year plan
2. System performance report
3. GIS shape files of routes and proposed changes
4. Implementation and construction of small capital infrastructure projects for the Town of Carrboro using Orange County Transit Plan funds as identified in the adopted plan.

Relationship to Other Plans and MPO Activities
OC Transit Plan, 2045 MTP, CHT N-S Corridor Bus Rapid Transit, and short range transit plan.

TOWN OF CARRBORO
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

Proposed Budget and Level of Effort
35 percent of work to be completed by Transportation Planner; 65 percent of work to be completed by Planning Administrator; Staff hours: 40 hours

Task III-A: UPWP
Development of the FY20UPWP, process amendment of the FY19 UPWP as necessary, prepares quarterly invoice and reimbursement requests. The Town will administer the FY 2019 UPWP, and prepare and process amendments as needed. Working with MPO staff, Town staff will identify transportation planning emphasis areas for the subsequent fiscal year and prepare the FY 2020 UPWP. Town staff will participate in UPWP oversight meetings with MPO staff and staff from other MPO member jurisdictions.

Objectives
To track and report on Carrboro's 2019 UPWP activities, and process amendments to the UPWP if necessary. The Town will submit Carrboro's portion of the 2019 UPWP to the MPO and participate in oversight of the UPWP process.

Previous Work
Town staff has prepared UPWPs each year and tracked completion of tasks with quarterly progress reports. Progress reports have made clear how much funding remains for tasks in the fiscal year, guiding whether or not amendments are necessary. Town staff has also participated in LPA oversight meetings.

Proposed Activities
1. Complete quarterly reports for the 2019 UPWP
2. Complete amendment spreadsheets as needed
3. Prepare Carrboro's 2020 UPWP documents and budget
4. Attend LPA oversight meetings and review documents

Products
1. Development of draft and final FY20 UPWP
2. Quarterly invoices and reports
3. Amendment of UPWP as necessary
4. Transmittal of documentation, work products/deliverable highlighted elsewhere to the LPA

Relationship to Other Plans and MPO Activities
Required by federal law, the UPWP is the mechanism for regional transportation planning and coordination. It allocates a portion of STP-DA and transit funding for planning activities.

Proposed Budget and Level of Effort
35 percent of work to be completed by Transportation Planner; 65 percent of work to be completed by Planning Administrator; Staff hours: 40 hours

Task III-B: TIP/SPOT
Assist with MTIP development and SPOT-5 activities. Staff will continue to implement planning, design, and construction of TIP projects. Staff will assist with MTIP development and SPOT 5.0 activities.

Objectives
To facilitate timely progress on TIP projects and process amendments when necessary. The Town will continue to participate in review and coordination regarding the SPOT 5.0 prioritization process.

TOWN OF CARRBORO
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

Previous Work
The Wilson Park Multi-use Path (U-4726-DF) is a recently-completed TIP project, and the Homestead-Chapel Hill High School Multi-Use Path (U-4726-DE) is expected to be finished in 2018. The installation of Bicycle Loop Detectors (U-4726-DF) in the downtown and the Rogers Road Sidewalk (U-4726-DD) should also be completed in 2018. Other projects currently underway include Morgan Creek Greenway Phases 1 and 2 (EL-4828) and Jones Creek Greenway (C-5181). Work on the South Greensboro Street sidewalk (C-5650) should also be underway.

Proposed Activities
1. Continue implementation of projects currently underway
2. Process MTIP amendments as necessary
3. Assist in SPOT 5.0 process

Products
1. 2018-2027 MTIP local agencies' supplement
2. MTIP amendments
3. Summary of public involvement activities
4. STP-DA/TAP project delivery status
5. SPOT-5 local prioritization and points assignments
6. STP-DA obligated projects

Relationship to Other Plans and MPO Activities
2017-2028 TIP, 2045 MTP, Orange County Transit Plan, CMAQ funding.

Proposed Budget and Level of Effort
15 percent of work to be completed by Transportation Planner; 85 percent of work to be completed by Planning Administrator; Staff hours: 73.5 hours

Task III-C-6: Public Involvement
The Town will continue to provide for an open exchange of information and ideas between the public and transportation decision-makers. The Town will work to increase public participation in transportation planning issues at the local and regional (MPO) levels.

Objectives
To participate in and contribute to MPO-related meetings and adhere to the goals and tasks laid out in the Unified Planning Work Program. Town staff will ensure that elected officials have adequate information to make informed decisions on local and regional transportation issues. Town staff will also ensure the local transportation advisory board has the information it needs to develop sound recommendations on local and regional transportation issues. To improve staff efficiency and knowledge through training sessions and educational materials.

Previous Work
The Town will continue its public activities in FY 2019, similar to proposed activities described below, and will include increasing use of social media for notice of local matters on transportation matters and of MPO meetings and input opportunities. Public involvement occurs for most development review processes, already.

TOWN OF CARRBORO
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Proposed Activities

1. Participation in MPO development of public outreach planning, databases, and evaluation
2. Assistance in MPO public input opportunities for the draft 2045 LRTP, MRC, and Orange County Transit Plan.
3. Other public input opportunities as they arise

Products

1. Staff reports for Board of Aldermen and advisory board meetings
2. Update public involvement mailing list (and email address).
3. Summary of public involvement activities, including means of advertisement, attendance, and response to comments.
4. Report on the analysis of the effectiveness of the local agencies' public involvement.
5. ADA checklist and activities.

Relationship to Other Plans and MPO Activities

This task supports all plans and MPO activities.

The Town will continue to provide for an open exchange of information and ideas between the public and transportation decision-makers. The Town will work to increase public participation in transportation planning issues at the local and regional (MPO) levels.

Proposed Budget and Level of Effort

25 percent of work to be completed by Transportation Planner; 75 percent of work to be completed by Planning Administrator; Staff hours: 40

III-D-3 Special Studies

Town staff will continue to conduct special studies related to local transportation issues.

Objectives

To update the bike plan for the Town, which will reflect new technologies and best practices since 2009. To assist MPO and other local staff in the oversight of the completion of the NC 54 Corridor Study, and to apply the data and recommendations from the corridor study to identify future infrastructure projects to submit for P6.0. To use the recommendations from the Estes Road corridor study toward the preliminary design for bike-ped improvements on Estes Drive. To submit an application to the League of American Bicyclists for consideration as a gold level bicycle friendly community.

Previous Work

The Town has engaged in transportation-related studies such as the Comprehensive Bicycle Master Plan, the Bolin and Morgan Creek Greenway Conceptual Master Plans, the Safe Routes to School Action Plan, the Oak-Poplar Neighborhood Traffic Circulation Study, the West Main Street Road Diet Study, and the Downtown Carrboro Parking Study. The Town assisted in writing and releasing a Request for Information for the NC 54 West Corridor Study in 2016.

Proposed Activities

1. Finish the bike plan update
2. Apply for bicycle friendly community gold status
3. Participation in the oversight of the NC 54 West Corridor Study, and a corridor study of Estes Drive (funded by the Orange County Transit Plan)
4. Review other Town plans and studies as necessary

TOWN OF CARRBORO
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Products

1. Updated comprehensive bicycle plan
2. Application for bicycle friendly community status
3. Data for use by MPO
4. Estes Drive Corridor Study

Relationship to Other Plans and MPO Activities
2045 MTP, CMP, 2009 Comprehensive Bicycle Plan

Proposed Budget and Level of Effort
21 percent of work to be completed by Transportation Planner; 63 percent of work to be completed by Planning Administrator; 16 percent of work to be completed by GIS Analyst; Staff hours: 120 hours

Task III-E- Management and Operations
Administrative tasks necessary to maintaining the 3C planning process will be completed.

Objectives
To participate in and contribute to MPO-related meetings and adhere to the goals and tasks laid out in the UPWP. Town staff will ensure that elected officials have adequate information to make informed decisions on local and regional transportation issues. Staff will also ensure the local transportation advisory board has information to develop sound recommendations on local and regional transportation issues. To improve staff efficiency and knowledge through training sessions and educational materials.

Previous Work
Similar to proposed activities described below.

Proposed Activities

1. Attend and participate in MPO Board, TC meetings, and subcommittee meetings
2. Prepare materials and present to the local elected officials related to local and regional transportation planning topics
3. Facilitate local Transportation Advisory Board meetings by creating agendas, minutes, and staff reports
4. Prepare quarterly progress reports/invoices and documenting expenditures for planning work items
5. Staff development through professional training courses, seminars, and conferences Subscriptions to professional publications and professional organizational dues
6. Acquire needed software, books, and other materials

Products
Staff reports for Board of Aldermen and advisory board meetings

Relationship to Other Plans and MPO Activities
This task supports all plans and MPO activities.

Proposed Budget and Level of Effort
50 percent of work to be completed by Transportation Planner; 50 percent of work to be completed by Planning Administrator; Staff hours: 100

Town of Chapel Hill

	Task Description	STBGP 133(b)(3)(7)		Sec. 104(f) PL		Section 5303 Highway/Transit			Section 5307 Transit			Task Funding Summary			
		Local 20%	FHWA 80%	Local 20%	FHWA 80%	Local 10%	NCDOT 10%	FTA 80%	Local 10%	NCDOT 10%	FTA 80%	Local	NCDOT	Federal	Total
II-A	**Surveillance of Change**														
1	Traffic Volume Counts	$776	$3,106	$0	$0	$0	$0	$0	$0	$0	$0	$776	$0	$3,106	$3,882
2	Vehicle Miles of Travel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Street System Changes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Traffic Accidents	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Transit System Data	$0	$0	$0	$0	$870	$870	$6,960	$0	$0	$0	$870	$870	$6,960	$8,700
6	Dwelling Unit, Pop. & Emp. Change	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	Air Travel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	Vehicle Occupancy Rates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Travel Time Studies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
10	Mapping	$2,157	$8,628	$0	$0	$3,610	$3,610	$28,880	$0	$0	$0	$5,767	$3,610	$37,508	$46,885
11	Central Area Parking Inventory	$604	$2,416	$0	$0	$0	$0	$0	$0	$0	$0	$604	$0	$2,416	$3,020
12	Bike & Ped. Facilities Inventory	$1,035	$4,142	$0	$0	$952	$952	$7,616	$0	$0	$0	$1,987	$952	$11,758	$14,697
13	Bike & Ped. Counts	$1,035	$4,142	$0	$0	$656	$656	$5,248	$0	$0	$0	$1,691	$656	$9,390	$11,737
		$0	$0			$0	$0	$0							
II-B	**Long Range Transp. Plan (MTP)**	$0	$0			$0	$0	$0							
1	Collection of Base Year Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Collection of Network Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Travel Model Updates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Travel Surveys	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Forecast of Data to Horizon year	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Community Goals & Objectives	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	Forecast of Futurel Travel Patterns	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	Capacity Deficiency Analysis	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Highway Element of the MTP	$1,553	$6,212	$0	$0	$0	$0	$0	$0	$0	$0	$1,553	$0	$6,212	$7,765
10	Transit Element of the MTP	$0	$0	$0	$0	$952	$952	$7,616	$0	$0	$0	$952	$952	$7,616	$9,520
11	Bicycle & Ped. Element of the MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12	Airport/Air Travel Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
13	Collector Street Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
14	Rail, Water or other mode of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15	Freight Movement/Mobility Plannin	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
16	Financial Planning	$1,103	$4,411	$0	$0	$653	$653	$5,224	$0	$0	$0	$1,756	$653	$9,635	$12,044
17	Congestion Management Strategies	$1,380	$5,522	$0	$0	$620	$620	$4,960	$0	$0	$0	$2,000	$620	$10,482	$13,102
18	Air Qual. Planning/Conformity Ana	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0			$0	$0	$0							
II-C	**Short Range Transit Planning**	$0	$0			$0	$0	$0							
	Short Range Transit Planning	$0	$0	$0	$0	$1,080	$1,080	$8,640	$0	$0	$0	$1,080	$1,080	$8,640	$10,800
		$0	$0			$0	$0	$0							
III-A	**Planning Work Program**	$0	$0			$0	$0	$0							
	Planning Work Program	$1,003	$4,010	$0	$0	$860	$860	$6,880	$0	$0	$0	$1,863	$860	$10,890	$13,613
		$0	$0			$0	$0	$0							
III-B	**Transp. Improvement Plan**	$0	$0			$0	$0	$0							
	TIP	$3,900	$15,600	$0	$0	$2,349	$2,349	$18,792	$0	$0	$0	$6,249	$2,349	$34,392	$42,990
		$0	$0			$0	$0	$0							
III-C	**Cvl Rgts. Cmp./Otr .Reg. Reqs.**	$0	$0			$0	$0	$0							
1	Title VI	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Environmental Justice	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Minority Business Enterprise	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Planning for the Elderly & Disabled	$0	$0	$0	$0	$240	$240	$1,920	$0	$0	$0	$240	$240	$1,920	$2,400
5	Safety/Drug Control Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Public Involvement	$0	$0	$0	$0	$488	$488	$3,904	$0	$0	$0	$488	$488	$3,904	$4,880
7	Private Sector Participation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0			$0	$0	$0							
III-D	**Incidental Plng./Project Dev.**	$0	$0			$0	$0	$0							
1	Transportation Enhancement Plng.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Enviro. Analysis & Pre-TIP Plng.	$0	$0	$0	$0	$336	$336	$2,688	$0	$0	$0	$336	$336	$2,688	$3,360
3	Special Studies	$1,855	$7,420	$0	$0	$620	$620	$4,960	$0	$0	$0	$2,475	$620	$12,380	$15,475
4	Regional or Statewide Planning	$1,855	$7,420	$0	$0	$1,240	$1,240	$9,920	$0	$0	$0	$3,095	$1,240	$17,340	$21,675
		$0	$0			$0	$0	$0							
III-E	**Management & Operations**	$0	$0			$0	$0	$0							
1	Management & Operations	$1,510	$6,040	$0	$0	$1,624	$1,624	$12,992	$0	$0	$0	$3,134	$1,624	$19,032	$23,790
	Totals	$19,767	$79,068	$0	$0	$17,150	$17,150	$137,200	$0	$0	$0	$36,917	$17,150	$216,268	$270,335

TOWN OF CHAPEL HILL
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Task II-A-1: Traffic Volume Counts

The Town of Chapel Hill will conduct local traffic counts for planning purposes and provide data to DCHC-MPO as needed. The locations will primarily be located in the downtown and in the Blue Hill (formerly called Ephesus-Fordham) District, and will serve to support local plans and feed into the MPO Congestion Mitigation Process and other regional studies. The Town developed a traffic model for a large sub-area of Town and will work to train staff and expand the model to the entire town.

Objectives

- Collect local traffic counts
- Create plan for expanding model to rest of Town
- Gather traffic counts as components of development TIAs

Previous Work

The Town has routinely collected local traffic counts for local studies/plans, Traffic Impact Analyses related to proposed developments, and previous Mobility Report Cards. The Town recently completed a traffic model for the Blue Hill District and developed mitigation strategies based on the findings from the model.

Proposed Activities

- Collect traffic data at important locations in Town
- Receive training on Transmodeler software
- Create a plan for expanding model to rest of Town
- Provide traffic data and reports to MPO
- Work with LPA staff to determine traffic count locations for MRC and other studies

Products

- Traffic volume data

Relationship to Other Plans and MPO Activities

Data will be used for the CMP, Mobility Report Card and TRM, as well as the Chapel Hill Downtown Parking and Circulation Plan.

Proposed Budget and Level of Effort

Task will be undertaken by Transportation Planners and Division Manager. 90 hours

Task II-A-10: Mapping

The Town of Chapel Hill will continue to undertake tasks associated with mapping and updates to UPWP transportation planning activities such as the CMP, MTP, CTP, TIP, SPOT/ Prioritization, traffic counts, bicycle and pedestrian counts and inventory, transit routes, land use, development review, socio-economic and demographic trends, and environmental factors. The Town mapping and spatial GIS products will support the MPO overall GIS and geo-spatial management system.

Objectives

- Provide maps for use in various MPO planning activities
- Update base maps
- Update and maintain geo-spatial maps
- Provide mapping support for Community Viz, modeling, MTP, CTP, etc.
- Maintain GIS-Online

TOWN OF CHAPEL HILL
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Previous Work
The Town has prepared mapping for various MPO activities such as the 2040 & 2045 MTP, SPOT processes and resulting STIP projects, traffic/bike-ped count locations, station area planning for future transit stations, and other activities related to local and regional transportation projects.

Proposed Activities
- Collect updated geospatial information
- Create files and maps containing MPO transportation information

Products
- Maps for various MPO planning activities
- Region-wide GIS files
- Geo-spatial mapping
- Update count maps
- ArcGIS Online

Relationship to Other Plans and MPO Activities
GIS data will be used in many MPO activities such as the Triangle Regional Model, Metropolitan Transportation Plan (MTP), Comprehensive Transportation Plan (CTP), the Congestion Management Program (CMP) Mobility Report Card, MTIP development, SPOT, land-use scenarios, environmental layers, and other mappings to support the MPO transportation planning activities.

Proposed Budget and Level of Effort (Staff or Consulting)
Task will be undertaken by Transportation Planners and Division Manager. 250 hours

Task II-A-11: Central Area Parking Inventory
The Town of Chapel Hill will continue to update the model of existing parking in the downtown, which includes number of spaces, fees, and demand/occupancy data. The Town will share this data with the MPO as requested.

Objectives
- Develop and maintain a complete inventory of public and private parking spaces in downtown Chapel Hill

Previous Work
The Town updated the inventory and model as part of the Parking and Circulation Plan for the Downtown.

Proposed Activities
- Update database of downtown parking facilities
- GIS shape files containing parking data

Products
- Shapefile and spreadsheet with parking space count data and attributes

Relationship to Other Plans and MPO Activities
2045 MTP, Chapel Hill Downtown Parking and Circulation Plan

TOWN OF CHAPEL HILL
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Proposed Budget and Level of Effort
Task will be undertaken by the Transportation Planners and Division Manager. 70 hours

Task II-A-12: Bike & Ped Facilities Inventory
The Town of Chapel Hill will maintain and update the existing inventory of bicycle and pedestrian facilities throughout the community. This inventory will assist in MPO-related projects. It will also allow the Town to identify new bike-ped projects to submit to SPOT and other funding sources.

Objectives
- To provide inventories of bicycle and pedestrian facilities for use in various MPO planning activities
- Update base maps of bicycle and pedestrian networks

Previous Work
The Town has maintained a database of bicycle and pedestrian facilities.

Proposed Activities
- Collect updated data on bicycle and pedestrian facilities
- Monitor new construction and incorporate into base data
- Create files and maps containing MPO transportation information
- Collect Bike-pedestrian facility information for SPOT, CMAQ/TAP funding

Products
- Updated bike-ped GIS maps and attributes
- Updated database

Relationship to Other Plans and MPO Activities
More accurate bicycle and pedestrian networks assisted in the preparation of the 2045 MTP, CTP, Mobility Report Card, and other MPO activities. Development of TIP projects will be improved with accurate bicycle and pedestrian networks.

Proposed Budget and Level of Effort (Staff or Consulting)
Task will be undertaken by Transportation Planners and Division Manager. 120 hours

Task II-A-13: Bike & Ped Counts
The Town of Chapel Hill will conduct ongoing bike and pedestrian counts at various locations in Town. This data will assist in larger MPO data collection efforts, such as the Mobility Report Card. The Town will use the data to evaluate the effectiveness of TIP projects and determine need for future infrastructure.

Objectives
- Ongoing bike and ped counts at permanent locations
- Conduct counts with mobile ped counters
- Online platform for sharing the data publicly

Previous Work
The Town has conducted bike-ped counts at four greenway locations and one roadway for the past several years.

TOWN OF CHAPEL HILL
TASK DESCRIPTIONS & NARRATIVES
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Proposed Activities

- Collect data regularly from counters
- Implement a schedule for the mobile ped counters
- Implement an open data platform for sharing data publicly
- Share data with MPO as needed

Products

- Chapel Hill bike-ped counter online data available for public and MPO use.

Relationship to Other Plans and MPO Activities

The data from the bike and ped counters will aid in numerous Town planning projects and processes, and will be available for MPO-related studies such as the Mobility Report Card, MTPs and CTP 2.0.

Proposed Budget and Level of Effort (Staff or Consulting)

Task will be undertaken by Transportation Planners and Division Manager. 120 hours

Task II-B-9: Highway Element of MTP

The Town of Chapel Hill will assist and support the MPO on the evaluation of highway elements of the 2045 MTP. Different combinations of these roadway widening and construction of new facilities will be analyzed to find the alternative that best meets the MTP's Goals and Objectives and targets, and meets the fiscal constraint requirement. Staff will work to implement highway projects from the adopted 2045 MTP. Staff will participate in the process for developing the template for CTP 2.0. Finally, the Town of Chapel Hill will assist MPO staff in managing the development of the US 15-501 Corridor Study.

Objectives

- Develop a process for developers to request amendment to roadway design plans
- Work with NCDOT to develop designs for highway projects in Chapel Hill
- Design local roadway projects from adopted 2045 MTP
- Assist in development of US 15-501 Corridor Study

Previous Work

- 2040 and 2045 LRTP/MTP
- Travel demand forecast
- Capacity deficiency analysis

Proposed Activities

- Develop key data for roadway performance
- Design local roadways in 2045 MTP
- Work with NCDOT and consultants to design highways in MTP
- Attend meetings and provide data for the US 15-501 Corridor Study

Products

- Key data for highway projects
- Roadway design for Elliott Road Extension
- Designs for NC 54 and US 15-501
- MPO Corridor Study for US 15-501

TOWN OF CHAPEL HILL
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Relationship to Other Plans and MPO Activities
Projects in the 2045 MTP are also in the CTP. Several of the highway projects in the MTP are in the current STIP and programmed for funding.

Proposed Budget and Level of Effort (Staff or Consulting)
Task will be undertaken by Transportation Planners and Division Manager. 180 hours

Task II-B-16: Financial Planning
The Town of Chapel Hill will participate and assist the MPO and GoTriangle in developing revenue and expenditure assumptions and data related to the Orange and Durham County Transit Plans and other MPO-related finances. Town staff will develop cost estimates and budgets for SPOT submissions, TIP projects, and other projects from the 2045 MTP.

Objectives
- Provide financial information as necessary to the Orange County Transit Plan
- Monitor implementation of the Orange County Transit Plan
- Create, adopt and monitor budgets for TIP projects
- Cost estimates for SPOT submissions

Previous Work
- Financial element of the 2040 & 2045 MTP
- Development of initial Orange County Transit Plan financial element

Proposed Activities
- Coordinate with MPO staff on anticipated regional revenues through 2045
- Monitor financial reporting from GoTriangle for Orange County Transit Plan
- Submit necessary documentation to GoTriangle for OC Transit Plan projects
- Attend quarterly Orange County Transit Plan Staff Working Group meetings
- Budget work for Town and regional TIP projects

Products
- Orange County Transit Plan financial element
- Quarterly invoices and reports for OC Transit Plan projects
- Cost estimates and budgets for TIP and SPOT projects

Relationship to Other Plans and MPO Activities
Financial planning activities support the development of the annual UPWP, the MPO TIP and the development of the 2045 MTP.

Proposed Budget and Level of Effort (Staff)
Task will be undertaken primarily by the Division Manager. 110 hours

Task II-B-17: Congestion Management Strategies
The Town of Chapel Hill works with the MPO to refine the collection and analysis of data related to the ongoing development of congestion management system for the MPO. Using data collected locally and through the efforts of the MPO the Town will prepare information and analysis specific to evaluating congestion in Chapel Hill and develop strategies to address these issues. Town staff also coordinate Transportation Demand Management (TDM) activities for numerous businesses in Chapel Hill as well as

the general public. The Chapel Hill TDM program is part of a larger regional effort that is responsible in part to the MPO.

Objectives

- To identify areas of congestion within the Town based on count information
- Develop strategies to address congested corridors and key intersections
- Prepare biannual report for Town Council highlighting key issues and proposed recommendations
- Coordinate with MPO staff to develop regional CMS
- Promote TDM to Chapel Hill businesses, including Town Hall

Previous Work

- Coordination with MPO for collection of 2013 based data
- Review of draft MPO CMS Report

Proposed Activities

- Coordinate with MPO on collection of data
- Provide MPO with local congestion data
- Prepare status report for Town of Chapel Hill
- Support MPO development of MPO CMS
- Continue TDM activities throughout Town

Products

- MPO CMS Report
- Chapel Hill data for Mobility Report Card
- Results from biannual TDM survey

Relationship to Other Plans and MPO Activities

The MPO CMS Report provides an ongoing source of information for local government on current state of the transportation network, and identifies key problem areas to be addressed in the development of the MTP and the implementation of the MTP through the TIP.

Proposed Budget and Level of Effort (Staff or Consulting)

Task will be undertaken by Transportation Planners and Division Manager. 160 hours

Task III-A: Planning Work Program

Administer the Chapel Hill element of the FY 2018-19 UPWP that describes all transportation and transportation-related planning activities anticipated within the Town of Chapel Hill and DCHC MPO planning area Staff will prepare and process amendments as needed. Evaluate transportation planning work needs and emphasis areas and prepare the FY 2020 -21 UPWP.

Objective

- Prepare and continually maintain the FY 2018-19 UPWP
- Develop, maintain, and complete the UPWP quarterly reports and invoices
- To prepare UPWP amendments as necessary
- Prepare the FY 20-21 UPWP

Previous Work

- FY 2016-17 & FY 2017-18 UPWP

TOWN OF CHAPEL HILL
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

Proposed Activities

- Review and amend relevant portions of the FY 2018-19 UPWP
- Prepare and submit quarterly reports
- Develop the FY 2018-19 UPWP
- Attend MPO Oversight Committee meetings as required

Products

- Amendments to the current UPWP as necessary
- Quarterly reports for current UPWP
- FY 2019-20 UPWP

Relationship to Other Plans and MPO Activities

The UPWP captures work required for all other plans and MPO activities.

Proposed Budget and Level of Effort (Staff)

Task will be undertaken primarily by the Division Manager. 100 hours

Task III-B-1: Transportation Improvement Program

The Town of Chapel Hill will participate and assist the MPO in developing projects for consideration in the next update of the State and MPO transportation improvement program. Staff will participate in the SPOT 5.0 development, including attending meetings to develop project priorities and assign local input points. Town staff will also work to implement projects currently in the STIP, including bike-ped improvements on Old Durham Road, Estes Drive, Estes Drive Extension, and the sidepath on US -15-501.

Objectives

- Prioritize MPO SPOT 5.0 projects for inclusion in the STIP
- Plan and implement projects in current and previous STIPs

Previous Work

- Development of projects for SPOT 4.0 and 5.0
- Review of draft 2018-2027 STIP
- Preparation of 2018-2027 MTIP

Proposed Activities

- Work with MPO and other jurisdictions to assign strategic local input points to SPOT projects
- Review State and MPO point assignments
- Prepare MPO TIP submissions and amendments as necessary
- Review draft STIP
- Plan and implement current and past STIP projects

Products

- Final project submissions for SPOT 5.0
- TIP amendments as necessary
- Budgets and plans for new STIP projects
- Status updates on existing STIP projects

TOWN OF CHAPEL HILL
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

Relationship to Other Plans and MPO Activities
Projects that were submitted to SPOT 5.0 are included in the 2040/2045 MTP and CTP.

Proposed Budget and Level of Effort (Staff or Consulting)
Task will be undertaken by Transportation Planners and Division Manager. 450 hours

Task III-D-3 Special Studies
Participate in ongoing special studies, including multiple US 15-501 Feasibility & Corridor Studies, NC 54 NEPA/Design, Blue Hill TIA, Chapel Hill Mobility and Connectivity Plan, and others.

Objectives
To provide staff support to special studies that impact the DCHC MPO.

Previous Work
- Staff assistance to US 15-501 Feasibility Study
- Fordham Feasibility Study
- I-40 Managed Lane Feasibility Study
- Draft Blue Hill TIA

Proposed activities
- Attend coordination meetings
- Prepare data on request
- Provide updates to elected officials
- Continue work on other studies that impact the DCHC MPO

Products
- Completed special studies

Relationship to Other Plans and MPO Activities
NC 54 and US 15-501 are both in the current CTP, MTP and STIP. The local special studies that staff undertakes provide to MPO efforts, such as the CMP, Mobility Report Card, TRM, and others.

Proposed Budget and Level of Effort (Staff or Consulting)
Task will be undertaken by Transportation Planners and Division Manager. 215 hours

Task III-D-4: Regional or Statewide Planning
The Town will continue to work with GoTriangle to implement specific elements of the regional light rail project and Orange County Transit Plan. The Town will continue to coordinate with GoTriangle and the MPO on the environmental studies required to secure State and federal funding and to develop appropriate station area land use plans to support the implementation of the project. The Town will continue to collaborate on projects with the Town of Carrboro, Durham, UNC and Orange County.

Objectives
- Coordinate with GoTriangle to provide input into ongoing environmental and transportation studies
- Coordinate with UNC Chapel Hill on specific alignment and station development issues
- Prepare Chapel Hill Light Rail Station Area Planning Studies
- Prepare land use plans as necessary at station area sites

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Previous Work
The Town of Chapel Hill coordinated with GoTriangle on the Station Area Grant application and DEIS.

Proposed Activities
- Regular participation at project scoping, environmental study and public meetings conducted by GoTriangle.
- Review and comment on various elements of the light rail design
- Prepare small area plans and other related land use changes at station area locations
- Work with regional partners on plans and projects as needed

Products
- Station area planning documents
- Updated land use plans
- Attendance at light rail entitlement, joint development and design meetings

Relationship to Other Plans and MPO Activities
The activities of this task are directly related to transportation projects in the MTP, the Orange/Durham County Transit Plans, and to projects that are being considered for State and federal funding through the TIP.

Proposed Budget and Level of Effort (Staff or Consulting)
Task will be undertaken by Transportation Planners and Division Manager. 215 hours

Task III-E: Management and Operations
The Town will assist and support the DCHC-MPO efforts in complying with the federal 3-C process. The Town of Chapel Hill staff will attend DCHC-MPO and other regional meetings. The continuing transportation planning process requires considerable administrative time for attending monthly committee meetings, preparing agendas and minutes to these meetings, attending trainings, preparing quarterly progress reports, documenting expenditures for the various planning work items, and performing other administrative duties related to being a MPO member jurisdiction. Town staff also manages meetings for the Transportation and Connectivity Advisory Board and frequently presents MPO-related information and plans to the Town Council.

Objective
To assist, support, and facilitate an open Comprehensive, Cooperative, and Continuing (3C) transportation planning and programming process at all levels of government in conformance with applicable federal and state requirements and guidelines as described in the 3C Memorandum of Understanding.

Previous Work
Management of the 3C process using previous Unified Work Program and prospectus documents, transportation plans, and Memorandum of Understanding. Specifically, previous tasks include but not limited to participation in Technical Coordinating Committee (TCC) and the Transportation Advisory Committee (TAC) meetings, providing technical assistance to the TAC, development of the MTIP, preparation of the annual UPWP, working with other agencies, such as NC Division of Air Quality, etc.

Proposed Activities
- Attend all MPO TC, Board and sub-committee meetings

TOWN OF CHAPEL HILL
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- Provide technical assistance to the MPO
- Staff Town advisory board meetings
- Keep Town Council informed of MPO activities and seek comment when appropriate
- Review and comment on federal and state transportation-related plans, programs, regulations and guidelines pertaining to the Town of Chapel Hill

Products

- Technical assistance memoranda, reports, and public involvement meetings and workshops as needed
- Updates to the planning documents as required.

Relationship to Other Plans and MPO Activities

This task supports all plans and MPO activities.

Proposed Budget and Level of Effort (Staff or Consulting)

Task will be undertaken by Transportation Planners and Division Manager. 175 hours

City of Durham & GoDurham

	Task Description	STBGP 133(b)(3)(7)		Sec. 104(f) PL		Section 5303 Highway/Transit			Section 5307 Transit			Task Funding Summary			
		Local	FHWA	Local	FHWA	Local	NCDOT	FTA	Local		FTA	Local	NCDOT	Federal	Total
		20%	80%	20%	80%	10%	10%	80%	20%		80%				
II-A	**Surveillance of Change**														
1	Traffic Volume Counts	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
2	Vehicle Miles of Travel	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
3	Street System Changes	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
4	Traffic Accidents	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
5	Transit System Data	$0	$0	$0	$0	$8,076	$8,076	$64,608	$10,556		$42,224	$18,632	$8,076	$106,832	$133,540
6	Dwelling Unit, Pop. & Emp. Change	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
7	Air Travel	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
8	Vehicle Occupancy Rates	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
9	Travel Time Studies	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
10	Mapping	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
11	Central Area Parking Inventory	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
12	Bike & Ped. Facilities Inventory	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
13	Bike & Ped. Counts	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
		$0	$0			$0	$0	$0	$0		$0				
II-B	**Long Range Transp. Plan (MTP)**	$0	$0			$0	$0	$0	$0		$0				
1	Collection of Base Year Data	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
2	Collection of Network Data	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
3	Travel Model Updates	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
4	Travel Surveys	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
5	Forecast of Data to Horizon year	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
6	Community Goals & Objectives	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
7	Forecast of Futurel Travel Patterns	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
8	Capacity Deficiency Analysis	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
9	Highway Element of the MTP	$1,141	$4,565	$0	$0	$0	$0	$0	$0		$0	$1,141	$0	$4,565	$5,706
10	Transit Element of the MTP	$2,282	$9,129	$0	$0	$326	$326	$2,608	$966		$3,864	$3,574	$326	$15,601	$19,501
11	Bicycle & Ped. Element of the MTP	$1,141	$4,565	$0	$0	$0	$0	$0	$0		$0	$1,141	$0	$4,565	$5,706
12	Airport/Air Travel Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
13	Collector Street Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
14	Rail, Water or other mode of MTP	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
15	Freight Movement/Mobility Planning	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
16	Financial Planning	$0	$0	$0	$0	$326	$326	$2,608	$18,728		$74,912	$19,054	$326	$77,520	$96,900
17	Congestion Management Strategies	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
18	Air Qual. Planning/Conformity Anal.	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
		$0	$0			$0	$0	$0	$0		$0				
II-C	**Short Range Transit Planning**	$0	$0			$0	$0	$0	$0		$0				
1	Short Range Transit Planning	$0	$0	$0	$0	$2,610	$2,610	$20,880	$20,116		$80,464	$22,726	$2,610	$101,344	$126,680
		$0	$0			$0	$0	$0	$0		$0				
III-A	**Planning Work Program**	$0	$0			$0	$0	$0	$0		$0				
	Planning Work Program	$1,141	$4,565	$0	$0	$0	$0	$0	$0		$0	$1,141	$0	$4,565	$5,706
		$0	$0			$0	$0	$0	$0		$0				
III-B	**Transp. Improvement Plan**	$0	$0			$0	$0	$0	$0		$0				
	TIP	$3,423	$13,694	$0	$0	$653	$653	$5,224	$1,938		$7,752	$6,014	$653	$26,670	$33,337
		$0	$0			$0	$0	$0	$0		$0				
III-C	**Cvl Rgts. Cmp./Otr .Reg. Reqs.**	$0	$0			$0	$0	$0	$0		$0				
1	Title VI	$0	$0	$0	$0	$326	$326	$2,608	$700		$2,800	$1,026	$326	$5,408	$6,760
2	Environmental Justice	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
3	Minority Business Enterprise	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
4	Planning for the Elderly & Disabled	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
5	Safety/Drug Control Planning	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
6	Public Involvement	$1,141	$4,565	$0	$0	$326	$326	$2,608	$1,874		$7,496	$3,341	$326	$14,669	$18,336
7	Private Sector Participation	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
		$0	$0			$0	$0	$0	$0		$0				
III-D	**Incidental Plng./Project Dev.**	$0	$0			$0	$0	$0	$0		$0				
1	Transportation Enhancement Plng.	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
2	Enviro. Analysis & Pre-TIP Plng.	$5,706	$22,823	$0	$0	$0	$0	$0	$0		$0	$5,706	$0	$22,823	$28,529
3	Special Studies	$5,706	$22,823	$0	$0	$0	$0	$0	$0		$0	$5,706	$0	$22,823	$28,529
4	Regional or Statewide Planning	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
		$0	$0			$0	$0	$0	$0		$0				
III-E	**Management & Operations**	$0	$0			$0	$0	$0	$0		$0				
1	Management & Operations	$1,141	$4,565	$0	$0	$5,207	$5,207	$41,656	$4,122		$16,488	$10,470	$5,207	$62,709	$78,386
Totals		$22,823	$91,291	$0	$0	$17,850	$17,850	$142,800	$59,000		$236,000	$99,673	$17,850	$470,091	$587,614

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II-B-9: Highway Element of the MTP

The MPO will continue maintenance of highway elements of the Comprehensive Transportation Plan and Metropolitan Transportation Plan. The City will assist and support the MPO efforts. Specifically, the City will assist in the evaluation of any needed amendments to the plans. Also, the City will identify and evaluate highway facilities to be included as part of the MPO highway component of the CTP and MTP.

Objectives

1. To identify a list of highway projects based on travel demand and deficiencies.
2. To develop a series of highway alternatives (i.e. set of highway projects with a distinct objective).
3. To develop key data for each highway project such as capacity, length, alignment, cost, implementation year, etc.

Previous Work

1. 2045 MTP
2. Congestion Management Process
3. Triangle Regional Model
4. Travel demand forecast
5. Capacity deficiency analysis

Proposed Activities

1. Establish evaluation criteria.
2. Develop key data for highway projects.
3. Re-evaluation of 2045 highway element.
4. Generate highway projects and alternatives.
5. Evaluate highway projects and alternatives.
6. City Council and MPO Board comments on alternatives.

Products/Deliverables

1. Amendments to the CTP and 2045 MTP as needed
2. Preliminary identification of issues/concerns to address in future MTP updates

Relationship to Other Plans and MPO Activities:

Before the highway element can be developed, several other tasks must be successfully completed including: TRM update; travel demand forecasts; capacity deficiency analysis. In addition, the Congestion Management Process will be important to this task.

Proposed Budget and Level of Effort

Senior Transportation Planner, 90 hours

II-B-10: Transit Element of the MTP

The City of Durham will continue maintenance of transit elements of the Comprehensive Transportation Plan and the 2045 MTP. Transit evaluation will include fixed-route bus service, fixed-guideway transit, highway capacity transit and demand responsive transit. Using travel behavior, ridership forecasts and

other analysis, evaluation of transit element will look at unmet needs, new services areas and potential markets. Performance measures will be established for evaluating transit alternatives. An extensive roster of transit routes, projects and services will be identified based on the current routes, 2013 base year, transit feasibility studies, transit 5-year and master plans, travel demand forecast and capacity deficiency analysis. Different combinations of these services will produce a variety of transit alternatives that will be analyzed to find the alternative that best meets the CTP/MTP Goals and Objectives and targets, and meets the fiscal constraint requirement. Each alternative will characterize a one or more emphasis area such as new roadways, transit intensive, etc. The transit element of the Comprehensive Transportation Plan (CTP) will be developed in parallel with the MTP, but will likely have a different set of constraints (e.g., no fiscal constraint).

Objectives

1. To identify a list of transit routes, projects and services based on completed transit studies, travel demand and deficiencies.
2. To develop a series of transit alternatives (i.e., set of transit routes, projects and services with a distinct objective).
3. To develop key data for each transit project such as route, ridership capacity (e.g., load capacity and headway), service hours, cost, implementation year, etc.

Previous Work

1. 2040 MTP
2. Feasibility studies (regional transit plans , STAC, US 15-501 Transit Corridor and I-40/NC 54 Transit Corridor, Chapel Hill Transit Master Plan, etc.)
3. Transit 5-year TDP and master plans
4. Travel demand forecast
5. Capacity deficiency analysis

Proposed Activities

1. Establish evaluation criteria.
2. Develop key data for transit services.
3. Generate transit projects and alternatives.
4. Evaluate transit projects and alternatives.
5. City Council and MPO Board comments on alternatives and draft MTP and CTP.

Products/Deliverables

1. Amendments to the CTP and 2045 MTP as needed
2. Preliminary identification of issues/concerns to address in future MTP updates
3. Commuter Rail Transit MIS study

Relationship to Other Plans and MPO Activities

Before the transit element can be developed, several other tasks must be successfully completed including: TRM update and surveys; travel demand forecasts; capacity deficiency analysis. In addition, transit plans and feasibility studies, the Congestion Management Process and CTP will be

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important input to this task.

Proposed Budget and Level of Effort

Senior Transportation Planner, 180 hours

Task II-B-11: Bicycle and Pedestrian Element of the MTP

The City of Durham will continue maintenance of the bicycle and pedestrian elements of the Comprehensive Transportation Plan and the 2045 MTP. The MPO will continue work on the implementation of the Durham Bike+Walk Implementation Plan.

Objectives

1. Update the MTP/CTP bicycle and pedestrian elements, project descriptions and cost information.
2. Collect public input on bicycle and pedestrian facilities and programs to be included in the CTP/2045 MTP.
3. Update the MTP ancillary planning and program information.
4. Coordinate existing local and regional plans and projects with MTP bicycle and pedestrian element.
5. Update MTP bicycle and pedestrian Element maps.
6. Work with local communities on Regional Priority Lists, in order to implement MTP Bicycle and Pedestrian elements through the TIP.

Previous Work

1. Preparation of the bicycle and pedestrian elements of the 2040 MTP.
2. Durham Bike+Walk Implementation Plan

Proposed Activities

1. Collect planned and proposed bicycle and pedestrian project information from local and regional plans and forums for inclusion in the MTP/CTP.
2. Create and update bicycle and pedestrian facility maps.
3. Create and update bicycle and pedestrian demand analysis.
4. Coordinate planning activities between local and regional agencies for bicycle, and pedestrian, trail/greenway and TDM initiatives.

Products/Deliverables

1. Amendments to the CTP and 2045 MTP as needed
2. Preliminary identification of issues/concerns to address in future MTP updates

Relationship to Other Plans and MPO Activities

Activities for the CTP/MTP Bicycle/Pedestrian Element will be coordinated with local and regional bicycle, pedestrian, greenway and TDM Plans, in order to capture proposed projects within the MPO.

Proposed Budget and Level of Effort

Senior Transportation Planner, 90 hours

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Task III-A: Planning Work Program

Administer the FY 2018-2019 Unified Planning Work Program (UPWP) and prepare and process amendments as needed. Evaluate transportation planning work needs and emphasis areas and prepare the FY 2020 UPWP. Prepare quarterly progress reports, document expenditures for the various planning work items, and file for reimbursement of expenditures from the PL and STP-DA funds account and other federal funds.

Objective

1. To prepare and continually maintain a UPWP that describes all transportation and transportation-related planning activities anticipated within the City of Durham and DCHC MPO planning area for the FY 2018-2019 UPWP.
2. To develop, maintain, and complete the UPWP in conformance with applicable federal, state, and regional guidelines.
3. To prepare UPWP amendments as necessary and requested by member agencies, to reflect any change in programming or focus for the current fiscal year.

Previous Work

1. Previous UPWPs
2. Previous Amendments to the UPWP

Proposed Activities

1. Review and amend relevant portions of the DCHC's UPWP in order to meet new planning requirements and/or circumstances pertinent to the MPO emphasis and transportation planning objectives.
2. Develop a new UPWP for the DCHC planning area covering the next program year. The development of a new UPWP will be prepared in cooperation with NCDOT and subject to the development process and public involvement endorsed by the MPO Board.

Expected Work Products

1. Amendments to the current UPWP as necessary.
2. Development of the FY 2020 UPWP.

Relationship to Other Plans and MPO Activities

The Planning Work Program documents the work conducted for other plans and MPO activities and enables reimbursement for work performed.

Proposed Budget and Level of Effort

Senior Transportation Planner, 90 hours

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III-B-1: Transportation Improvement Plan

Amend TIP/ STIP as needed. Finalize development of the FY 2020-2029 TIP. This includes the refinement of the MPO Priority Needs and the identification of the transportation projects, programs, and services towards which the MPO will direct STPBG, CMAQ, TAP, and other federal/state funds.

Objectives

As the Lead Planning Agency (LPA) of the DCHC MPO, the City of Durham, Transportation Division is responsible for annually developing, amending, adjusting and maintaining the TIP for the metropolitan area. Under this activity, the LPA will update and amend the current, seven-year program of transportation improvement projects that is consistent with the 2045 Metropolitan Transportation Plan, STIP, the State Implementation Plan (SIP), EPA Air Quality Conformity Regulations and FHWA/FTA Planning Regulations.

Previous Work

DCHC MPO Transportation Improvement Programs

Proposed Activities

1. Develop transportation improvement projects for consideration by the City Council.
2. Develop 2020-2029 TIP.
3. Refine project ranking methodology and priority system.
4. Conduct appropriate public participation for the TIP consistent with the MPO Public Involvement Policy.
5. Conduct formal amendments and adjustments as necessary.
6. Produce and distribute TIP documents for local officials.
7. Attend regular meetings with NCDOT to exchange information regarding transportation improvement projects.

Expected Work Product

1. Work with the MPO in the development of STI.
2. Assist and provide support to the LPA regarding STI
3. 2020-2029 Transportation Improvement Program
4. Develop and refine procedures necessary for TIP preparation and amendments as necessary.
5. TIP Amendments and Adjustments as necessary.

Proposed Budget and Level of Effort

Senior Transportation Planner, 270 hours

III-C-6: Public Involvement

The City of Durham will continue to provide an early, proactive and a meaningful public participation and input throughout the transportation planning process, including providing for open exchange of information and ideas between the public and transportation decision-makers.

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Objectives

To provide the public with complete information, timely notice, full access to key decisions and opportunities for early and continuing involvement in the 3C process. To assess the effectiveness of the current Public Involvement Process as required by the MPO, and to develop and enhance the process of public dissemination of information.

Previous Work

1. MPO Public Involvement Process.
2. Newsletters, emails, websites
3. Advertisements.

Proposed Activities

1. Administer the MPO Public Participation Process as needed.
2. Apply the Public Involvement Process to transportation programs and tasks:
3. Public meetings, workshops, and outreach programs to increase public participation, information dissemination, and education.

Expected Work Products

1. Public meetings, website postings, flyers, etc.
2. Support of Citizen Advisory Committee

Relationship to Other Plans and MPO Activities

Public involvement is used throughout the MPO planning process in support of all activities.

Proposed Budget and Level of Effort

Senior Transportation Planner, 90 hours

III-D-2: Environmental Analysis & Pre TIP Planning

The City will continue to participate regularly and consistently in the TIP project planning & development process, including submission of comments, attending public meetings, attending scoping meetings, attending NEPA 404 merger meetings, and participating in field inspections. The City will be involved in TIP project development. The City will continue to support and be involved in NCDOT efforts to link NEPA process in the MPO systems planning process.

Objectives

1. To ensure that the goals, objectives and needs of the DCHC MPO are integrated in the environmental planning process of transportation projects; and,
2. To ensure the needs of the citizens in the City portion of the DCHC MPO planning area are considered in the project planning process.

Previous Work

Regular project scoping, environmental study and public meetings, especially those conducted by the NCDOT and GoTriangle.

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Proposed Activities

1. Regular participation at project scoping, environmental study and public meetings, especially those conducted by the NCDOT and GoTriangle.
2. Review and comment on project scoping and environmental documents.
3. The City participation in NEPA process for TIP projects.

Products/Deliverables

Written comments on project scoping and environmental studies, activities and documents.

Relationship to Other Plans and MPO Activities

The activities of this task are directly related to transportation projects in the long-range transportation plan and to projects that are being considered for TIP funding.

Proposed Budget and Level of Effort

Senior Transportation Planner, 450 hours

III-D-3: Special Studies

The City will participate in MPO special studies including the US 15-501 Corridor Study and the Central Durham Study.

Objectives

1. To develop focused studies for US 15-501 and central Durham.

Previous Work

1. Special studies on various corridors and areas of the MPO.

Proposed Activities

1. Kickoff meeting and participation on steering committees
2. Development of a draft study
3. Final study
4. Website postings and public involvement

Products

1. Study documents

Relationship to Other Plans and MPO Activities

The US 15-501 corridor and central Durham study will include analysis related to the Highway and Bicycle and Pedestrian Elements of the MTP and Congestion Management Strategies.

Proposed Budget and Level of Effort

Senior Transportation Planner, 450 hours

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III-E-1: Management and Operations

The City will assist and support the DCHC MPO efforts in complying with the federal 3-C process. The City of Durham staff will attend both DCHC MPO and regional meetings. The continuing transportation planning process requires considerable administrative time for attending monthly committee meetings, preparing agendas and minutes to these meetings, and attending training.

Objective

To assist, support, and facilitate an open Comprehensive, Cooperative, and Continuing (3C) transportation planning and programming process at all levels of government in conformance with applicable federal and state requirements and guidelines as described in the 3C Memorandum of Understanding.

Previous Work

1. Management of the 3C process using previous Unified Work Program and prospectus documents, transportation plans, and Memorandum of Understanding. Specifically, previous tasks include but not limited to preparation of Technical Committee (TC) and the MPO Board meeting agendas, providing technical assistance to the MPO Board, development of the TIP, preparation of the annual UPWP, working with other agencies, such as NC Division of Air Quality, etc.

Proposed Activities

1. Provide liaisons between DCHC MPO and the City of Durham elected officials and citizens.
2. Provide technical assistance to the MPO.
3. Participate in joint meetings as a means to continually improve the quality and operation of the transportation planning process and decision making within the MPO and in the Triangle Region.
4. Review and comment on federal and state transportation-related plans, programs, regulations and guidelines pertaining to the City of Durham.

Work Product Expected

1. Technical assistance memoranda, reports, and public involvement meetings and workshops as needed.
2. Updates to the planning documents as required.

Relationship to Other Plans and MPO Activities

Participation in MPO meetings is necessary for the function of the MPO and all plans and activities.

Proposed Budget and Level of Effort

Senior Transportation Planner, 90 hours

Durham County

	Task Description	STBGP 133(b)(3)(7)		Sec. 104(f) PL		Section 5303 Highway/Transit			Section 5307 Transit			Task Funding Summary			
		Local	FHWA	Local	FHWA	Local	NCDOT	FTA	Local	NCDOT	FTA	Local	NCDOT	Federal	Total
		20%	80%	20%	80%	10%	10%	80%	10%	10%	80%				
II-A	**Surveillance of Change**														
1	Traffic Volume Counts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Vehicle Miles of Travel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Street System Changes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Traffic Accidents	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Transit System Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Dwelling Unit, Pop. & Emp. Change	$200	$800	$0	$0	$0	$0	$0	$0	$0	$0	$200	$0	$800	$1,000
7	Air Travel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	Vehicle Occupancy Rates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Travel Time Studies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
10	Mapping	$200	$800	$0	$0	$0	$0	$0	$0	$0	$0	$200	$0	$800	$1,000
11	Central Area Parking Inventory	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12	Bike & Ped. Facilities Inventory	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
13	Bike & Ped. Counts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0												
II-B	**Long Range Transp. Plan (MTP)**	$0	$0												
1	Collection of Base Year Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Collection of Network Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Travel Model Updates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Travel Surveys	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Forecast of Data to Horizon year	$2,000	$8,000	$0	$0	$0	$0	$0	$0	$0	$0	$2,000	$0	$8,000	$10,000
6	Community Goals & Objectives	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	Forecast of Futurel Travel Patterns	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	Capacity Deficiency Analysis	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Highway Element of th MTP	$1,600	$6,400	$0	$0	$0	$0	$0	$0	$0	$0	$1,600	$0	$6,400	$8,000
10	Transit Element of the MTP	$3,401	$13,602	$0	$0	$0	$0	$0	$0	$0	$0	$3,401	$0	$13,602	$17,003
11	Bicycle & Ped. Element of the MTP	$600	$2,400	$0	$0	$0	$0	$0	$0	$0	$0	$600	$0	$2,400	$3,000
12	Airport/Air Travel Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
13	Collector Street Element of MTP	$120	$480	$0	$0	$0	$0	$0	$0	$0	$0	$120	$0	$480	$600
14	Rail, Water or other mode of MTP	$100	$400	$0	$0	$0	$0	$0	$0	$0	$0	$100	$0	$400	$500
15	Freight Movement/Mobility Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
16	Financial Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
17	Congestion Management Strategies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
18	Air Qual. Planning/Conformity Anal.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0												
II-C	**Short Range Transit Planning**	$0	$0												
1	Short Range Transit Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0									$0	$0	$0	$0
III-A	**Planning Work Program**	$0	$0												
	Planning Work Program	$380	$1,520	$0	$0	$0	$0	$0	$0	$0	$0	$380	$0	$1,520	$1,900
		$0	$0									$0	$0	$0	$0
III-B	**Transp. Improvement Plan**	$0	$0												
	TIP	$380	$1,520	$0	$0	$0	$0	$0	$0	$0	$0	$380	$0	$1,520	$1,900
		$0	$0									$0	$0		
III-C	**Cvl Rgts. Cmp./Otr .Reg. Reqs.**	$0	$0												
1	Title VI	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Environmental Justice	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Minority Business Enterprise	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Planning for the Elderly & Disabled	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Safety/Drug Control Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Public Involvement	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	Private Sector Participation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0												
III-D	**Incidental Plng./Project Dev.**	$0	$0												
1	Transportation Enhancement Plng.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Enviro. Analysis & Pre-TIP Plng.	$700	$2,800	$0	$0	$0	$0	$0	$0	$0	$0	$700	$0	$2,800	$3,500
3	Special Studies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Regional or Statewide Planning	$700	$2,800	$0	$0	$0	$0	$0	$0	$0	$0	$700	$0	$2,800	$3,500
		$0	$0												
III-E	**Management & Operations**	$0	$0												
1	Management & Operations	$380	$1,520	$0	$0	$0	$0	$0	$0	$0	$0	$380	$0	$1,520	$1,900
Totals		$10,761	$43,042	$0	$0	$0	$0	$0	$0	$0	$0	$10,761	$0	$43,042	$53,803

DURHAM COUNTY
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

II-A-6. Dwelling Unit, Population, & Employment Change

The County will review population and employment change data estimated by the Triangle Regional Model in preparation for the next MTP. The County will also provide data on development review activities, building permits, and certificates of occupancy.

Objective

To review dwelling unit, population, and employment data and provide local development data to LPA.

Previous work

County staff provided projected growth figures for unincorporated parts of Durham County to MPO staff and assisted the TRM process.

Proposed activities

1. Participate in meetings discussing potential improvements to the current estimation methodology
2. Submit data relating to dwelling unit and employment change to MPO staff

Products

1. Input on potential improvements/changes to the current estimation methodology
2. Dwelling unit/employment-related data as needed

Relationship to other plans and MPO activities

MTP and TRM

Proposed budget and level of effort

Majority of work to be performed by a Planner. (20 Hours)

II-A-10. Mapping.

County staff will assist in developing base maps, GIS layers, and databases to serve MPO-wide and local transportation mapping objectives. They will provide, as needed, GIS layers for highway, transit, bike, and pedestrian networks as well as parcel and zonal information. In addition, County staff will provide CommunityViz mapping support.

Objective

Update base maps, including spatial and network data, with new data and ensure high-quality mapping and analysis of transportation facilities and amenities.

Previous Work

Using GIS, provided local socioeconomic data for the 2045 MTP. Reviewed and modified CommunityViz 2045 MTP place type and development status categories.

Proposed Activities

1. Update shapefiles with new features and-or attribute data
2. Provide and-or review GIS maps for MPO projects such as the CMP and the early phases of the 2045 MTP, as needed
3. Conduct GIS network analysis as needed to address transportation issues

Products

1. Up-to-date GIS data
2. Network datasets and studies

DURHAM COUNTY
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

Relationship to other plans and MPO activities
CMP, 2045 MTP

Proposed budget and level of effort
Majority of work to be performed by a Planner. (20 Hours)

II-B-5. Forecast of Data to Horizon Year
County staff will contribute to reviewing the current estimation methodology for forecasting socioeconomic data to the MTP horizon year to determine if any improvements are needed. In addition, County staff will continue the preparation of land use models and plans that will better integrate future rail transit and land use development around those future stations.

Objectives
Improve the process for forecasting socioeconomic data to the MTP horizon year and create land use plans that better integrate future transit options.

Previous work
For the 2045 MTP, the County contributed data and review comments for countywide growth control totals and the CommunityViz allocation of growth estimates within Durham County. County staff has also produced land use plans for selected future rail stations.

Proposed activities
1. Communicate with MPO staff and TCC representatives regarding potential improvements to the growth modeling methodology
2. In conjunction with MPO and local transportation staff, as well as the regional transit authority, create land use plans for future rail station areas

Products
1. Feedback on the growth modeling methodology
2. New land use ordinances for transit-oriented development

Relationship to other plans and MPO activities
2045 MTP, Durham County Bus and Rail Investment Plan, Durham Comprehensive Plan

Proposed budget and level of effort
Majority of work to be performed by a Planner and Senior Planner. (360 Hours)

II-B-9. Highway Element of the MTP
County staff will participate and assist the MPO in evaluating the highway elements of the 2045 MTP. The County will also participate in the Highway 98 Corridor Study and the regional tolling study.

Objectives
Update the MTP highway elements and to participate in the development of other highway-related studies.

Previous work
Preparation of the highway element of the 2045 MTP and the CTP.

DURHAM COUNTY
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

Proposed activities

1. Provide data to the LPA on highway facilities as needed
2. Participate in the development of the Highway 98 Corridor Study
3. Participate in the regional tolling study

Products

1. Preferred highway element option
2. Key data for highway projects

Relationship to other plans and MPO activities

MTP, CTP, TIP

Proposed budget and level of effort

Majority of work to be performed by a Planner. (120 Hours)

II-B-10. Transit Element of the LRTP

County staff is leading the effort for the Station Area Strategic Infrastructure study, which is analyzing the need for infrastructure at the local level, including road, pedestrian, and bicycle infrastructure, around future rail station sites in order to optimize use of the incoming rail system. County staff will also participate in an update of the Durham Bus and Rail Investment Plan, and the Major Investment Study Core Technical Team in conjunction with CAMPO and GoTriangle, for the Durham-Wake Commuter Rail.

Objectives

Develop the Station Area Strategic Infrastructure study and provide data and input for the Durham Bus and Rail Investment Plan.

Previous work

The County has completed existing conditions work for approximately half of the station areas and has completed an assessment of infrastructure needs for the "urban" rail stations sites. County staff has been providing input and data for many years on fixed guideway transit.

Proposed activities

1. Continue work on the Station Area Strategic Infrastructure study and complete work on the suburban rail station sites, as well as develop cost estimates and financing options for the necessary infrastructure improvements
2. Provide data and input for the Durham Bus and Rail Investment Plan
3. Participate in the Major Investment Study Core Technical Team in conjunction with CAMPO and GoTriangle, for the Durham-Wake Commuter Rail

Products

1. Development of the Station Area Strategic Infrastructure study (A1)
2. Demographic and land use data for Durham Bus and Rail Investment Plan

Relationship to other plans and MPO activities

2045 MTP, Durham Bus and Rail Investment Plan, Durham Comprehensive Plan

Proposed budget and level of effort

Majority of work to be performed by a Planner and Senior Planner. (400 Hours)

DURHAM COUNTY
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

II-B-11. Bicycle and Pedestrian Element of the MTP

County staff will participate and assist the MPO in evaluating the bicycle and pedestrian elements of the 2045 MTP. The County will also prepare periodic updates to the Durham Trails and Greenways (DTAG) Master Plan.

Objectives

Update the MTP bicycle and pedestrian elements and the Durham Trails and Greenways Master Plan.

Previous work

Preparation of the bicycle and pedestrian element of the 2045 MTP and the CTP.

Proposed activities

1. Provide data to the LPA on bike and pedestrian facilities as needs
2. Develop updates of the DTAG plan

Products

1. Provide data to the LPA on bike and pedestrian facilities as need.
2. Develop updates of the DTAG plan

Relationship to other plans and MPO activities

MTP, CTP, TIP

Proposed budget and level of effort

Majority of work to be performed by a Planner. (90 Hours)

II-B-13. Collector Street Element of the MTP

County staff will assist the MPO in updating the MPO Collector Street and Connectivity Plan.

Objectives

Assist the MPO in identifying new or amended collector street plans near Light Rail stations.

Previous work

None.

Proposed activities

1. Evaluation of collector street network around light rail stations and corresponding Compact Neighborhoods.

Products

1. New or Amended Collector Street Plans

Relationship to other plans and MPO activities

MTP, CTP, TIP

Proposed budget and level of effort

Majority of work to be performed by a Planner. (15 Hours)

DURHAM COUNTY
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

II-B-14. Rail, Water, or other Mode of the MTP

County staff will participate and assist the MPO in evaluating the rail elements of the 2045 MTP, including but not limited to any grade separation studies.

Objectives

Update the MTP rail element.

Previous work

Preparation of the rail element of the 2045 MTP and the CTP.

Proposed activities

1. Evaluation of the 2045 rail element

Products

1. Preferred rail element option; and

Relationship to other plans and MPO activities

MTP, CTP, TIP

Proposed budget and level of effort

Majority of work to be performed by a Planner. (35 Hours)

III-A-1. Planning Work Program

The County will administer the FY 2018-19 UPWP and prepare and process amendments as needed. It will evaluate transportation planning work needed and emphasis areas and prepare the FY 2019-20 UPWP. County staff will serve on the UPWP oversight committee for the MPO.

Objectives

Process amendments to the UPWP if necessary and provide input on UPWP oversight.

Previous work

County staff have been involved in previous UPWPs, providing oversight and guidance to UPWP management.

Proposed activities

1. Complete amendment spreadsheets as needed
2. Prepare Durham County's 2018-2019 UPWP documents and budget

Products

1. Amendment spreadsheets as needed
2. Durham County's previous fiscal year UPWP activities narrative and budget

Relationship to other plans and MPO activities

Required by federal law, the UPWP is the mechanism for regional transportation planning and coordination within the MPO.

Proposed budget and level of effort

Worked to be performed by a Planning Supervisor (30 Hours)

DURHAM COUNTY
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

III-B-1. TIP

The County will assist the MPO and NCDOT in development of the next STIP and MTIP and participate in the SPOT 5.0 process.

Objectives

To facilitate timely progress on TIP projects and process amendment when necessary. The County will continue to participate in review and coordination regarding the SPOT 5.0 prioritization process for the next TIP.

Previous work

County staff have been involved in previous TIPs and Spot 4.0

Proposed activities

1. Development transportation improvement projects for consideration by the County Commission
2. Develop 2018-2027 TIP
3. Refine project ranking methodology and priority system
4. Conduct appropriate public participation for the TIP consistent with the MPO Public Involvement Policy
5. Conduct formal amendments and adjustments as necessary
6. Produce and distribute TIP document for local officials
7. Attend regular meetings with NCDOT to exchange information regarding transportation improvement projects

Products

1. Assist and provide support to the LPA on SPOT 5.0
2. 2018-2027 Transportation Improvement Program

Relationship to other plans and MPO activities

2045 MTP

Proposed budget and level of effort

Worked to be performed by a Planner (60 Hours)

III-D-2. Environmental Analysis and Pre-TIP Planning

The County will participate regularly in feasibility studies and NEPA-related processes for pre-TIP projects.

Objectives

To participate regularly in feasibility studies and NEPA-related processes for pre-TIP projects.

Previous work

County staff have been involved in previous feasibility studies and NEPA-related processes

Proposed activities

1. Regular participation at project scoping, environmental study, and public meetings, especially those conducted by the NCDOT and GoTriangle
2. Review and comment on project scoping and environmental documents
3. County participation in NEPA process for TIP projects

DURHAM COUNTY
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

Products
Written comments on project scoping and environmental studies, activities and documents.

Relationship to other plans and MPO activities
2045 MTP and TIP

Proposed budget and level of effort
Worked to be performed by a Planner and Planning Supervisor (48 Hours)

III-D-4. Regional or Statewide Planning
County staff will provide input to the regional transit agency and NCDOT regarding transportation issues. Staff will also serve on various regional transportation-related committees and boards.

Objectives
Provide input to the regional transit agency and serve on regional transportation-related boards and committees.

Previous work
County staff has served on various regional committees such the Triangle J Council of Governments CORE committee, which looks at regional transportation issues. County staff also provides input and data to the regional transit agency as requested.

Proposed activities
1. Work with regional planners on transportation planning that crosses jurisdictional borders
2. Provide input and data to the regional transit agency as requested

Products
1. Provide staff to regional committees
2. Provide coordination between local governments as needed

Relationship to other plans and MPO activities
2045 MTP

Proposed budget and level of effort
Work to be performed by a Planner and a Planning Supervisor. (150 Hours)

III-E-1. Management and Operations
Administrative tasks necessary to maintaining the 3C planning process will be completed.

Objectives
- Participate and contribute to MPO-related meetings.
- Adhere to the goals and tasks laid out in the Unified Planning Work Program.
- Ensure that elected officials have adequate information to make informed decisions on local and regional transportation issues.
- Ensure the local transportation advisory board has the information it needs to develop sound recommendations on local and regional transportation issues.
- Improve staff efficiency and knowledge through training sessions and educational materials.

DURHAM COUNTY
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

Previous work
Similar to proposed activities described below

Proposed activities
1. Attend and participate in MPO Board and TC meetings
2. Staff development through professional training courses, seminars, and conferences
3. Prepare materials and present to the local elected officials related to local and regional transportation planning topics
4. Attend and participate in MPO subcommittee meetings

Products
1. Staff reports and communication with other County officials as well as elected officials and members of advisory boards

Relationship to other plans and MPO activities
See objectives and proposed activities.

Proposed budget and level of effort
Work to be performed by a Planner and a Planning Supervisor. (60 Hours)

Triangle J COG

		Task Description	STBGP 133(b)(3)(7)		Sec. 104(f) PL		Section 5303 Highway/Transit			Section 5307 Transit			Task Funding Summary			
			Local 20%	FHWA 80%	Local 20%	FHWA 80%	Local 10%	NCDOT 10%	FTA 80%	Local 10%	NCDOT 10%	FTA 80%	Local	NCDOT	Federal	Total
II A		**Surveillance of Change**														
	1	Traffic Volume Counts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	2	Vehicle Miles of Travel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	3	Street System Changes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	4	Traffic Accidents	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	5	Transit System Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	6	Dwelling Unit, Pop. & Emp. Change	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	7	Air Travel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	8	Vehicle Occupancy Rates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	9	Travel Time Studies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	10	Mapping	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	11	Central Area Parking Inventory	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	12	Bike & Ped. Facilities Inventory	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	13	Bike & Ped. Counts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
			$0	$0												
II B		**Long Range Transp. Plan (MTP)**	$0	$0												
	1	Collection of Base Year Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	2	Collection of Network Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	3	Travel Model Updates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	4	Travel Surveys	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	5	Forecast of Data to Horizon year	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	6	Community Goals & Objectives	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	7	Forecast of Futurel Travel Patterns	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	8	Capacity Deficiency Analysis	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	9	Highway Element of the MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	10	Transit Element of the MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	11	Bicycle & Ped. Element of the MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	12	Airport/Air Travel Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	13	Collector Street Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	14	Rail, Water or other mode of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	15	Freight Movement/Mobility Plannin	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	16	Financial Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	17	Congestion Management Strategies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	18	Air Qual. Planning/Conformity Anal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
			$0	$0												
II C		**Short Range Transit Planning**	**$0**	**$0**												
	1	Short Range Transit Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
			$0	$0												
III-A		**Planning Work Program**	$0	$0												
	1	Planning Work Program	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
			$0	$0												
III-B		**Transp. Improvement Plan**	$0	$0												
	1	TIP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
			$0	$0												
III-C		**Cvl Rgts. Cmp./Otr .Reg. Reqs.**	$0	$0												
	1	Title VI	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	2	Environmental Justice	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	3	Minority Business Enterprise	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	4	Planning for the Elderly & Disabled	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	5	Safety/Drug Control Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	6	Public Involvement	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	7	Private Sector Participation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
			$0	$0												
III-D		**Incidental Plng./Project Dev.**	$0	$0												
	1	Transportation Enhancement Plng.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	2	Enviro. Analysis & Pre-TIP Plng.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	3	Special Studies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	4	Regional or Statewide Planning	$16,250	$65,000	$0	$0	$0	$0	$0	$0	$0	$0	$16,250	$0	$65,000	$81,250
			$0	$0												
III- E		**Management & Operations**	$0	$0												
	1	Management & Operations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals			$16,250	$65,000	$0	$0	$0	$0	$0	$0	$0	$0	$16,250	$0	$65,000	$81,250

TRIANGLE J COUNCIL OF GOVERNMENTS
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

III-D-4. Regional or Statewide Planning.
Facilitate and/or manage joint activities and undertake analysis work in land use, transportation and air quality planning that involve multiple MPO, RPO, local government, transit agency, state and federal agency and private sector partners.

Objectives
To ensure that activities that have a scope or scale that transcend any single MPO are done in a coordinated, timely, effective and cost-efficient way.

Previous work
CommunityViz support and Version 2 development, evaluation and documentation; Joint 2045 MTP technical work; ozone standards and non-attainment education and technical assistance; MTP and TIP conformity coordination, , TRM executive committee support, fiscal constraint management, GoTriangle and county transit plan participation, MPO area plan and project participation.

Proposed activities
Major activities include CommunityViz 2.0 follow-up based on FY18 debrief, improvement and expanded deployment leading to CommunityViz 3.0, 2045 MTP follow-up and amendments; TRM executive committee support; 2045 MTP land use-transit investment implementation refinement, including any small area uses, transportation-air quality issue tracking. Major expanded activity would be: 1) transitioning some socioeconomic data and method responsibilities from ITRE TRM team to TJCOG CommunityViz team; and 2) helping MPOs track land use, socioeconomic and housing related performance metrics in the Metropolitan Transportation Plan

Products
- CommunityViz 3.0 framing document with activities and schedule
- 2045 MTP amendments and joint MPO technical support
- Triangle Regional Model Executive Committee documentation
- CommunityVIZ products, focusing on final preferred scenario documentation and follow-up.
- Transportation-land use-affordable housing data and reports, as appropriate
- (if expanded scope approved by both MPOs) – Employment-related socioeconomic data and methods for use in version 6 of the Triangle Regional Model
- (if expanded scope approved by both MPOs) – Systematic performance metric tracking from 2045 MTP for land use, affordable housing and related socioeconomic characteristics.

Relationship to other plans and MPO activities
This work is most closely tied to the DCHC 2045 MTP implementation and amendment process and refined data and methods related to version 6 of the Triangle Regional Model. Work enables the DCHC MPO to ensure consistent and seamless coordination with CAMPO and other regional transportation partners and local community planning efforts.

Proposed budget and level of effort
Budget largely supports staff work by Planning Director, Senior Planner, Planner II, and GIS Analyst, with some direct costs associated with travel and meeting expenses, and allocated indirect.

Funding Commitments from other Entities:
20% local match to be provided by TJCOG; other funding participation in joint effort from CAMPO and GoTriangle as in previous years.

Town of Chapel Hill

	Task Description	STBGP 133(b)(3)(7)		Sec. 104(f) PL		Section 5303 Highway/Transit			Section 5307 Transit			Task Funding Summary			
		Local 20%	FHWA 80%	Local 20%	FHWA 80%	Local 10%	NCDOT 10%	FTA 80%	Local 10%	NCDOT 10%	FTA 80%	Local	NCDOT	Federal	Total
II-A	**Surveillance of Change**														
1	Traffic Volume Counts	$776	$3,106	$0	$0	$0	$0	$0	$0	$0	$0	$776	$0	$3,106	$3,882
2	Vehicle Miles of Travel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Street System Changes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Traffic Accidents	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Transit System Data	$0	$0	$0	$0	$870	$870	$6,960	$0	$0	$0	$870	$870	$6,960	$8,700
6	Dwelling Unit, Pop. & Emp. Change	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	Air Travel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	Vehicle Occupancy Rates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Travel Time Studies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
10	Mapping	$2,157	$8,628	$0	$0	$3,610	$3,610	$28,880	$0	$0	$0	$5,767	$3,610	$37,508	$46,885
11	Central Area Parking Inventory	$604	$2,416	$0	$0	$0	$0	$0	$0	$0	$0	$604	$0	$2,416	$3,020
12	Bike & Ped. Facilities Inventory	$1,035	$4,142	$0	$0	$952	$952	$7,616	$0	$0	$0	$1,987	$952	$11,758	$14,697
13	Bike & Ped. Counts	$1,035	$4,142	$0	$0	$656	$656	$5,248	$0	$0	$0	$1,691	$656	$9,390	$11,737
		$0	$0			$0	$0	$0							
II-B	**Long Range Transp. Plan (MTP)**	$0	$0			$0	$0	$0							
1	Collection of Base Year Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Collection of Network Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Travel Model Updates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Travel Surveys	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Forecast of Data to Horizon year	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Community Goals & Objectives	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	Forecast of Futurel Travel Patterns	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	Capacity Deficiency Analysis	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Highway Element of the MTP	$1,553	$6,212	$0	$0	$0	$0	$0	$0	$0	$0	$1,553	$0	$6,212	$7,765
10	Transit Element of the MTP	$0	$0	$0	$0	$952	$952	$7,616	$0	$0	$0	$952	$952	$7,616	$9,520
11	Bicycle & Ped. Element of the MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12	Airport/Air Travel Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
13	Collector Street Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
14	Rail, Water or other mode of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15	Freight Movement/Mobility Plannin	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
16	Financial Planning	$1,103	$4,411	$0	$0	$653	$653	$5,224	$0	$0	$0	$1,756	$653	$9,635	$12,044
17	Congestion Management Strategies	$1,380	$5,522	$0	$0	$620	$620	$4,960	$0	$0	$0	$2,000	$620	$10,482	$13,102
18	Air Qual. Planning/Conformity Ana	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0			$0	$0	$0							
II-C	**Short Range Transit Planning**	$0	$0			$0	$0	$0							
	Short Range Transit Planning	$0	$0	$0	$0	$1,080	$1,080	$8,640	$0	$0	$0	$1,080	$1,080	$8,640	$10,800
		$0	$0			$0	$0	$0							
III-A	**Planning Work Program**	$0	$0			$0	$0	$0							
	Planning Work Program	$1,003	$4,010	$0	$0	$860	$860	$6,880	$0	$0	$0	$1,863	$860	$10,890	$13,613
		$0	$0			$0	$0	$0							
III-B	**Transp. Improvement Plan**	$0	$0			$0	$0	$0							
	TIP	$3,900	$15,600	$0	$0	$2,349	$2,349	$18,792	$0	$0	$0	$6,249	$2,349	$34,392	$42,990
		$0	$0			$0	$0	$0							
III-C	**Cvl Rgts. Cmp./Otr .Reg. Reqs.**	$0	$0			$0	$0	$0							
1	Title VI	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Environmental Justice	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Minority Business Enterprise	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Planning for the Elderly & Disabled	$0	$0	$0	$0	$240	$240	$1,920	$0	$0	$0	$240	$240	$1,920	$2,400
5	Safety/Drug Control Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Public Involvement	$0	$0	$0	$0	$488	$488	$3,904	$0	$0	$0	$488	$488	$3,904	$4,880
7	Private Sector Participation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$0	$0			$0	$0	$0							
III-D	**Incidental Plng./Project Dev.**	$0	$0			$0	$0	$0							
1	Transportation Enhancement Plng.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Enviro. Analysis & Pre-TIP Plng.	$0	$0	$0	$0	$336	$336	$2,688	$0	$0	$0	$336	$336	$2,688	$3,360
3	Special Studies	$1,855	$7,420	$0	$0	$620	$620	$4,960	$0	$0	$0	$2,475	$620	$12,380	$15,475
4	Regional or Statewide Planning	$1,855	$7,420	$0	$0	$1,240	$1,240	$9,920	$0	$0	$0	$3,095	$1,240	$17,340	$21,675
		$0	$0			$0	$0	$0							
III-E	**Management & Operations**	$0	$0			$0	$0	$0							
1	Management & Operations	$1,510	$6,040	$0	$0	$1,624	$1,624	$12,992	$0	$0	$0	$3,134	$1,624	$19,032	$23,790
	Totals	$19,767	$79,068	$0	$0	$17,150	$17,150	$137,200	$0	$0	$0	$36,917	$17,150	$216,268	$270,335

Anticipated DBE Contracting Opportunities for 2018-2019

Name of MPO: ___Durham-Chapel Hill-Carrboro MPO_____ __x__ Check here if no anticipated DBE opportunities

Person Completing Form: __Bergen Watterson_____ Telephone Number: ____919-969-5064_____

Prospectus Task Code	Prospectus Description	Name of Agency Contracting Out	Type of Contracting Opportunity (Consultant, etc.)	Federal Funds to be Contracted Out	Total Funds to be Contracted Out
No contracting opportunities					

Sample Entry:

II-C-11	Transit Plan Evaluation	Big City Planning Department	Consultant	$48,000	$60,000

Note: This form <u>must</u> be submitted to NCDOT-PTD <u>even if</u> you anticipate <u>no</u> DBE Contracting Opportunities. Note "No contracting opportunities" on the table if you do not anticipate having any contracting opportunities.

CHAPEL HILL TRANSIT
FTA TASK NARRATIVE TABLE
FY2019 UPWP

1-	MPO	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**
2-	FTA Code	*442400*	*442301*	*442302*	*442302*	*442302*	*442302*	*442302*	*442400*	*442100*	*442500*	*442400*
3-	Task Code	*II-A-5*	*II-A-10*	*II-A-12*	*II-A-13*	*II-B-10*	*II-B-16*	*II-B-17*	*II-C-1*	*III-A-1*	*III-B-1*	*III-C-4*
4-	Title of Planning Task	*Transit System Data*	*Mapping*	*Bicycle and Pedestrian Facility Intentory*	*Bicycle and Pedestrian Counts*	*Transit Element of the MTP*	*Financial Planning*	*Congestion Management Strategies*	*Short Range Transit Planning*	*Planning Work Program*	*Transportation Improvement Program*	*Planning for the Elderly and Disabled*
5-	Task Objective	Review and analyze transit system data to monitor changes in travel behavior, adjust routes/headways as necessary. Identify strengths and weanesses to assess service barriers and future options	Participate with MPO in further development of regional GIS database; prepare mapping to support local and regional activties	Collect data on existing biycle and pedestrian facilities to assess connectivitity and access to transit options	Collect data on existing biycle and pedestrian activity from transportation impact surveys and Towns network of counters as part of transit route assessment.	Support the evaluation of the transit element of the 2045 MTP, including DO-LRT, Commuter Rail, and BRT activities. Develop the Chapel Hill Transit short range transit plan	Monitor implementation of adopted Financial Plan for 2045 MTP, Orange County Transit Plan, and other plans/projects	Support the updates of the MPO CMP and Mobility Report Card activities. Coordinate wth Triangle Regional TDM program to implement regionwide TDM program.	Support the development of a regional LRT/BRT/Commuter rail plan. Continue with CHT short range transit planning to coordinate with regional efforts.	Prepare quarterly reports for the Chapel Hill element of the FY2019 UPWP, prepare amendments as needed, develop the FY2020 UPWP	Finalize submissions for SPOT 5.0, prepare information for the SPOT 6.0 process, monitor and implement the adopted TIP and prepare information for amendments to TIP.	To assess impact of transit service on elderly and handicapped populations. Implement Town's ADA Transition Plan
6-	Tangible Product Expected	Monthly and yearly ridership counts, routes/service assessment, traffic signal assessment	MPO Regional GIS database and CMS database.	Data on existing biycle and pedestrian facilities.	Data on existing biycle and pedestrian activity.	Evaluation of transit preferred options, update 2045 transit tables and attributes, update geodatabase of transit perferred option and final 2045 projects	Refinements to the 2045 MTP financial plan, quarterly reports and annual work plan for the OC Transit Plan, other budgets and workplans for transit projects	Preparation of DCHC MPO CMS and Mobility Report Card. Development of TDM program.	Possible 5-year regional budget and connectivity plan, CHT short-range transit plan, system performance report, GIS shapefiles of routes and proposed changes	Quarterly reports, amendments as necessary, FY2020 UPWP	Final SPOT 5.0 submittals, preliminary SPOT 6.0 projects, budgets and progress reports for ongoing TIP projects, amendments as needed	Annual assessment, updated ADA plan/activities, route maps showing ADA target areas
7-	Expected Completion Date of Product(s)	6/30/2019	6/30/2019	6/30/2019	6/30/2019	6/30/2019	6/30/2019	6/30/2019	6/30/2019	6/30/2019	6/30/2019	6/30/2019
8-	Previous Work	Data Collection	Provided support for development of geo spatial database. Maintained current transit GIS data	Collection of bike and pedestrian facility data	Collection of bike and pedestrian count data	Development of 2045 MTP transit projects, Orange County Transit Plan inputs, BRT alternatives analysis	2040 Financial Plan and CHT's Financial Sustainability Plan	2016 Mobility Report Card, previous years' TDM programs and reports	2040/2045 MTP, Orange County Transit Plan, CHT Financial Sustainability Plan, N-S Corridor Study	Development and management of previous years' UPWPs	SPOT 3.0/4.0 project submissions, current TIP/STIP, monitoring and implementing past TIP projects	Ongoing monitoring, CHT bus stop facility inventory
9-	Prior FTA Funds											
10-	Relationship To Other Activities	Supports implementation of MTP and Orange County Transit Plan	Supports development and implementation of MTP, Orange County Transit Plan, and other MPO-related activities	Supports development and implementation of MTP, Orange County Transit Plan, Mobility and Connectivity Plan, and other MPO-related activities	Supports development and implementation of MTP, Orange County Transit Plan, Mobility and Connectivity Plan, and other MPO-related activities	Supports development and implementation of MTP, Orange County Transit Plan, and other MPO-related activities	Supports development and implementation of MTP, Orange County Transit Plan, and other MPO-related activities	Supports development of 2018 Mobility Report Card and CMS. Supports implementation of regional TDM programs.	Supports development and implementation of MTP, Orange County Transit Plan, and other MPO-related activities	Supports implemenation of annual work program	Supports implementaiton of adopted MTP and TIP	This project supports the MPO ADA Plan
11-	Agency Responsible for Task Completion	Town of Chapel Hill	Town of Chapel Hill	Town of Chapel Hill	Town of Chapel Hill	Town of Chapel Hill	Town of Chapel Hill	Town of Chapel Hill	Town of Chapel Hill	Town of Chapel Hill	Town of Chapel Hill	Town of Chapel Hill
12-	HPR - Highway - NCDOT 20%											
13-	HPR - Highway - FHWA 80%											
14-	Section 104 (f) PL Local 20%											
15-	Section 104 (f) PL FHWA 80%											
16-	Section 5303 Local 10%	$870	$3,610	$952	$656	$952	$653	$620	$1,080	$860	$2,349	$240
17-	Section 5303 NCDOT 10%	$870	$3,610	$952	$656	$952	$653	$620	$1,080	$860	$2,349	$240
18-	Section 5303 FTA 80%	$6,960	$28,880	$7,616	$5,248	$7,616	$5,224	$4,960	$8,640	$6,880	$18,792	$1,920
19-	Section 5307 Transit – Local 10%											
20-	Section 5307 Transit - NCDOT 10%											
21-	Section 5307 Transit - FTA 80%											
22-	Section 5309 Transit - Local 10%											
23-	Section 5309 Transit – NCDOT 10%											
24-	Section 5309 Transit - FTA 80%											
		$8,700	$36,100	$9,520	$6,560	$9,520	$6,530	$6,200	$10,800	$8,600	$23,490	$2,400
		$8,700	$36,100	$9,520	$6,560	$9,520	$6,530	$6,200	$10,800	$8,600	$23,490	$2,400

CHAPEL HILL TRANSIT
FTA TASK NARRATIVE TABLE
FY2019 UPWP

1-	MPO	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	**DCHC-MPO (Chapel Hill)**	
2-	FTA Code	*442400*	*442400*	*442700*	*442200*	*442100*	
3-	Task Code	*III-C-6*	*III-D-2*	*III-D-3*	*III-D-4*	*III-E*	
4-	Title of Planning Task	*Public Involvement*	*Environmental Analysis and Pre TIP Planning*	*Special Studies*	*Regional or Statewide Planning*	*Management and Operations*	*TOTALS*
5-	Task Objective	Ensure public participation and input throughout the transportation planning process	Participate in NCDOT project development, including feasibility studies and environmental studies/NEPA	To prepare special studies to support ongoing transit operations. Participate in design/NEPA studies for BRT and Downtown Circulation Study	To support regional and statewide planning projects, including DO-LRT, 15-501 Corridor Study, 15-501 Feasibility Study, NC 54 corridor design/NEPA	To support various transit planning activities	
6-	Tangible Product Expected	Summary of public involvement activities	Feasibility and environmental studies for STIP and other local transportation projects	Participation in design/NEPA for BRT, final Downtown Circulation Study, work on other special studies as needed	LRT station area plans, participation in NCDOT US 15-501/Fordham Blvd. corridor study, 15-501 Feasibility Study, NC 54 design/NEPA	Ongoing transit activities and reporting requirements.	
7-	Expected Completion Date of Product(s)	6/30/2019	6/30/2019	6/30/2019	6/30/2019	6/30/2019	
8-	Previous Work	Public meetings for 2045 MTP and CTP, meetings and surveys for Mobility and Connectivity Plan	SPOT 4.0/5.0 project submittals, N-S Corridor Study Alternatives Analysis	Mobility and Connectivity Plan, N-S Corridor Study Alternatives Analysis	US 15-501 South Corridor Study, NC 54 Corridor Stuy	Management of transit planning activities	
9-	Prior FTA Funds						
10-	Relationship To Other Activities	Supports all MPO and Town transportation planning activities	Supports all MPO and Town transportation planning activities	Supports implementation of adopted MTP, TIP and other state/federally funded projects	Supports the implementation of the adopted 2045 MTP and the Chapel Hill Long Range Transit Plan.	Supports all other transit planning activities MPO-wide.	
11-	Agency Responsible for Task Completion	Town of Chapel Hill	Town of Chapel Hill	Town of Chapel Hill	Town of Chapel Hill	Town of Chapel Hill	
12-	HPR - Highway - NCDOT 20%						
13-	HPR - Highway - FHWA 80%						
14-	Section 104 (f) PL Local 20%						$0
15-	Section 104 (f) PL FHWA 80%						$0
16-	Section 5303 Local 10%	$488	$336	$620	$1,240	$1,624	$17,150
17-	Section 5303 NCDOT 10%	$488	$336	$620	$1,240	$1,624	$17,150
18-	Section 5303 FTA 80%	$3,904	$2,688	$4,960	$9,920	$12,992	$137,200
19-	Section 5307 Transit – Local 10%						$0
20-	Section 5307 Transit - NCDOT 10%						$0
21-	Section 5307 Transit - FTA 80%						$0
22-	Section 5309 Transit - Local 10%						$0
23-	Section 5309 Transit - NCDOT 10%						$0
24-	Section 5309 Transit - FTA 80%						$0
		$4,880	$3,360	$6,200	$12,400	$16,240	$171,500
							$0
		$4,880	$3,360	$6,200	$12,400	$16,240	

City of Durham & GoDurham

	Task Description	STBGP 133(b)(3)(7)		Sec. 104(f) PL		Section 5303 Highway/Transit			Section 5307 Transit			Task Funding Summary			
		Local	FHWA	Local	FHWA	Local	NCDOT	FTA	Local		FTA	Local	NCDOT	Federal	Total
		20%	80%	20%	80%	10%	10%	80%	20%		80%				
II-A	**Surveillance of Change**														
1	Traffic Volume Counts	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
2	Vehicle Miles of Travel	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
3	Street System Changes	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
4	Traffic Accidents	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
5	Transit System Data	$0	$0	$0	$0	$8,076	$8,076	$64,608	$10,556		$42,224	$18,632	$8,076	$106,832	$133,540
6	Dwelling Unit, Pop. & Emp. Change	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
7	Air Travel	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
8	Vehicle Occupancy Rates	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
9	Travel Time Studies	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
10	Mapping	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
11	Central Area Parking Inventory	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
12	Bike & Ped. Facilities Inventory	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
13	Bike & Ped. Counts	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
		$0	$0			$0	$0	$0	$0		$0				
II-B	**Long Range Transp. Plan (MTP)**	$0	$0			$0	$0	$0	$0		$0				
1	Collection of Base Year Data	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
2	Collection of Network Data	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
3	Travel Model Updates	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
4	Travel Surveys	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
5	Forecast of Data to Horizon year	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
6	Community Goals & Objectives	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
7	Forecast of Futurel Travel Patterns	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
8	Capacity Deficiency Analysis	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
9	Highway Element of the MTP	$1,141	$4,565	$0	$0	$0	$0	$0	$0		$0	$1,141	$0	$4,565	$5,706
10	Transit Element of the MTP	$2,282	$9,129	$0	$0	$326	$326	$2,608	$966		$3,864	$3,574	$326	$15,601	$19,501
11	Bicycle & Ped. Element of the MTP	$1,141	$4,565	$0	$0	$0	$0	$0	$0		$0	$1,141	$0	$4,565	$5,706
12	Airport/Air Travel Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
13	Collector Street Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
14	Rail, Water or other mode of MTP	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
15	Freight Movement/Mobility Planning	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
16	Financial Planning	$0	$0	$0	$0	$326	$326	$2,608	$18,728		$74,912	$19,054	$326	$77,520	$96,900
17	Congestion Management Strategies	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
18	Air Qual. Planning/Conformity Anal.	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
		$0	$0			$0	$0	$0	$0		$0				
II-C	**Short Range Transit Planning**	$0	$0			$0	$0	$0	$0		$0				
1	Short Range Transit Planning	$0	$0	$0	$0	$2,610	$2,610	$20,880	$20,116		$80,464	$22,726	$2,610	$101,344	$126,680
		$0	$0			$0	$0	$0	$0		$0				
III-A	**Planning Work Program**	$0	$0			$0	$0	$0	$0		$0				
	Planning Work Program	$1,141	$4,565	$0	$0	$0	$0	$0	$0		$0	$1,141	$0	$4,565	$5,706
		$0	$0			$0	$0	$0	$0		$0				
III-B	**Transp. Improvement Plan**	$0	$0			$0	$0	$0	$0		$0				
	TIP	$3,423	$13,694	$0	$0	$653	$653	$5,224	$1,938		$7,752	$6,014	$653	$26,670	$33,337
		$0	$0			$0	$0	$0	$0		$0				
III-C	**Cvl Rgts. Cmp./Otr .Reg. Reqs.**	$0	$0			$0	$0	$0	$0		$0				
1	Title VI	$0	$0	$0	$0	$326	$326	$2,608	$700		$2,800	$1,026	$326	$5,408	$6,760
2	Environmental Justice	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
3	Minority Business Enterprise	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
4	Planning for the Elderly & Disabled	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
5	Safety/Drug Control Planning	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
6	Public Involvement	$1,141	$4,565	$0	$0	$326	$326	$2,608	$1,874		$7,496	$3,341	$326	$14,669	$18,336
7	Private Sector Participation	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
		$0	$0			$0	$0	$0	$0		$0				
III-D	**Incidental Plng./Project Dev.**	$0	$0			$0	$0	$0	$0		$0				
1	Transportation Enhancement Plng.	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
2	Enviro. Analysis & Pre-TIP Plng.	$5,706	$22,823	$0	$0	$0	$0	$0	$0		$0	$5,706	$0	$22,823	$28,529
3	Special Studies	$5,706	$22,823	$0	$0	$0	$0	$0	$0		$0	$5,706	$0	$22,823	$28,529
4	Regional or Statewide Planning	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	$0	$0	$0
		$0	$0			$0	$0	$0	$0		$0				
III-E	**Management & Operations**	$0	$0			$0	$0	$0	$0		$0				
1	Management & Operations	$1,141	$4,565	$0	$0	$5,207	$5,207	$41,656	$4,122		$16,488	$10,470	$5,207	$62,709	$78,386
Totals		$22,823	$91,291	$0	$0	$17,850	$17,850	$142,800	$59,000		$236,000	$99,673	$17,850	$470,091	$587,614

Anticipated DBE Contracting Opportunities for 2018-2019

Name of MPO: ___Durham-Chapel Hill-Carrboro__MPO_____ __x___ Check here if no anticipated DBE opportunities

Person Completing Form: __GoDurham_____ Telephone Number: _____

Prospectus Task Code	Prospectus Description	Name of Agency Contracting Out	Type of Contracting Opportunity (Consultant, etc.)	Federal Funds to be Contracted Out	Total Funds to be Contracted Out

Sample Entry:

II-C-11	Transit Plan Evaluation	Big City Planning Department	Consultant	$48,000	$60,000

Note: This form <u>must</u> be submitted to NCDOT-PTD <u>even if</u> you anticipate <u>no</u> DBE Contracting Opportunities. Note "No contracting opportunities" on the table if you do not anticipate having any contracting opportunities.

GoDurham (formerly DATA)
FTA TASK NARRATIVE TABLE
FY2019 UPWP

1-	MPO	**DCHC-MPO (DATA)**	**DCHC-MPO (DATA)**	**DCHC-MPO (DATA)**	**DCHC-MPO (DATA)**	**DCHC-MPO (DATA)**	**DCHC-MPO (DATA)**	**DCHC-MPO (DATA)**	**DCHC-MPO (DATA)**	
2-	FTA Code	442400	442302	442302	442400	442500	442100	442400	442100	
3-	Task Code	*II-A-5*	*II-B-10*	*II-B-16*	*II-C-1*	*III-B-1*	*III-C-1*	*III-C-6*	*III-E-1*	
4-	Title of Planning Task	***Transit System Data***	***Transit Element of the LRTP***	***Financial Planning***	***Short Range Transit Planning***	***Transportation Improvement Program (TIP)***	***Title VI***	***Public Involvement***	***Management and Operations***	*TOTALS*
5-	Task Objective	This element is essenatilly about transit performance mesausres that are obtained through the compilation and analysis of FTA and NCDOT required service data obtained from the fixed route and paratransit systems . Conduct system-wide surveys while, providing on-going montoring of the systems These performance measures are compared with historical values to gauge the overal service delivery and consuption strength. Provide oversight of passenger amenities including AVL and related technologies, Compile daily, weekly and monthly ridership data and reports for all agencies. Provide ongoing support to MPO in long range transit, UPWP and TIP development. Key objectives include: integrating APC data in to the transit GIS system through routes and stops analysis that are segmented at TAZ levels, improving the geodatabase of transit routes and stops and updating the inventory of all such transit amenities.	To proivde on-going support to the MPO's effort toward annual updates of the DCHC -MPO s Long Range Transportation Plan including work on the transit transit of the CTP and Transit elements of the 2045 MTP. The support would be in the form of transit data compllation, including service area maps, schedules and patron information as a component of the socio economic data needed for the regular update of the LRTP. A key objective is updating the transit element of the Coordinated Transportation Plan, CTP and MTP.	To prepare and Monitor the City's Fiscal programs including FTA and NCDOT grants. Apply for and administer grants in TEAM and also in City's Munis system. Monitor and ensure complete compliance with all financial procedures. Track all contracts with third party providers ensuring prompt payment and compliance of all purhcases with state, federal and local laws.	To provide systen-wide planning oversight of both the fixed route and paratransit services including the monitoring of AVL project, Zonar (pre-trip inspection device) Automatic Passenger counters (APC) On-board camera and video systems and GFI farebox input and output. Also, this task would include the conduct of FTA mandated NTD survey for fixed route system. Key objectives include: integrating APC data in to the transit GIS, summarizing and tabulating gathered AVL data,and updating the inventory of transit stops shelters and related amenities and also the development of geo-spatial mapping. Also, this task would prepare and monitor the City's Fiscal programs including FTA and NCDOT grants. Apply for and administer grants in TEAM and also in City's Munis system. Monitor and ensure complete compliance with all financial procedures. Track all contracts with third party providers ensuring prompt payment and compliance of all purhcases with state, federal and local laws	To continue the program of developing transit plans for imporving transit serviceas well as local area transportation as a whole. This would be achieved by identifying area of the City needing transit service and also improving upon the current level of service provided through on-going surveys. Additional tasks would include updating the transit element of the Coordinated Transportation Plan.Key objectives include: integrating APC data in to the transit GIS, summarizing and tabulating gathered AVL data,and updating the inventory of transit stops shelters and related amenities and also the development of geo-spatial mapping.	To provide ongoing education, service monitoring and system analysis and data compilation related to service changes in line with anticipation of Title VI Civil Rights mandates. This review would be done related to the DBBS program for the fixed route service in consultation with the FTA in order to ensure that all service changes over and above 10% are done with Title VI mandates in mind to ensure equity and fairness in the delivery of current fixed route transit service. This task will also include a checklist of certified ADA clientel, ADA service quality provided, ADA certification reviews, ADA service efficiency and effectiveness.	To seek out untapped patrons of the transit service through the use of aggressive public involvement and sustained marketing of the system. Also to enagage the Public in all matters related to proposed service changes, to respond to the concerns of the public and to seek their input as it relates to all Ttle VI matters.	To provide overall transit system management and operations oversight of the fixed route and paratransit services, including service delivery, budgeting,service montoring and reporting, personnel, short and long range system planning and system development as well as capital improvements. A key objective is developing our asset management system, performance measures and targets.Futher, to work with City Transportation and Finance staff to develop federally mandated Asset Management including associated performance measures and targets.	
6-	Tangible Product Expected from the Transit system will include but not limited to the following:	Monthly and annual statistical data compiled as part of the ongoing service data collection. They include such repots as monthly ridership, monthly safety data, monthly service supplied information, AVL and APC data This information is aggregated into OPSTATS report for the state, Monthly and annual NTD reports for the FTA, and monthly Workplan data for City Management staff as well as the MPO staff for use in the LRTP efforts.	Transit Maps, GIS Overlays, Socioeconomic data compilation associated with the transit operations such as OPStATS report, NTD Monthly and Annual reports, Transit Budget summaries, Passenger amenities use and inventory report, vehicle use and operation, short, and long term plans and all others specific reports and analysis that the MPO desires as part of this overall on-going transportation planning program	Grants, budget documents, Purchase orders, Bid documents Ledgers, Fund balances and maintenance of asset and related inventory.	Weekly , Monthly, and annual system-wide ridership monitoring reports, APC and AVL reports, NTD survey outcome, Grants, budget documents, Purchase orders, Bid documents Ledgers, fund balances and maintenance of asset and related inventory including geospatial maps and overlays.	Maps of service changes, Public input process and outcomes, Public hearings, City Council reports, service implementation plans and related processes.	Title VI doucment related to all service changes that require that we provide such analysis for review and approval by the FTA. Mailing list of all ADA clients for the purpose of reviews, approved and denied trips, wait time list, No Show Ist, No Show handling, suspensions and wait-time compilation catalogue.	Public meeting agenda, outcome and reports, Public hearing notices and summary reports, meetig attendance and related Council reports	Budget outlay, monthly and annual operational and ridership reports, service planning information, safety and traning reports, service marketing and outreach programs personnel matters Asset Management and inventory reports.	
7-	Expected Completion Date of Product(s)	6/30/2018	6/30/2018	6/30/2018	6/30/2018	6/30/2018	6/30/2018	6/30/2018	6/30/2018	
8-	Previous Work	These activities are on-going and were completed in previous years as part of 5303 and 5307 funded task element	2016 Planning Work Program	Same as above. This is also an ongoing task element conducted by the fiscal program accountant.	On-going	On-going on an annual basis.	Same as above	On-going	Same as above	
9-	Prior FTA Funds	$52,780	$4,830	$93,640	$100,580	$9,690	$3,500	$9,370	$20,610	$295,000
10-	Relationship To Other Activities	Related to task III-E	This program is intended to support various MPO planning efforts related on the LRTP updates	Related to task III-E	Data retrieved would be used to disserminate service delivery and patronage information to transit management, City Council, FTA, NCDOT	These activities outlined also the MPO;s overall FY18 Unified Work Program.	Related to task III-E	This effort relates to and supports the MPOs overall FY18 unified Work Program of enhancing transportation	Related to task III-E	
11-	Agency Responsible for Task Completion	GoDurham		GoDurham	GoDurham/GoTriangle	GoDurham/GoTriangle	GoDurham/GoTriangle		GoDurham	
12-	HPR - Highway - NCDOT 20%									
13-	HPR - Highway - FHWA 80%									
14-	Section 104 (f) PL Local 20%									
15-	Section 104 (f) PL FHWA 80%									
16-	Section 5303 Local 10%	$8,076	$326	$326	$2,610	$653	$326	$326	$5,207	$17,850
17-	Section 5303 NCDOT 10%	$8,076	$326	$326	$2,610	$653	$326	$326	$5,207	$17,850
18-	Section 5303 FTA 80%	$64,608	$2,608	$2,608	$20,880	$5,224	$2,608	$2,608	$41,656	$142,800
19-	Section 5307 Transit - Local 10%	$5,278	$483	$9,364	$20,116	$969	$350	$937	$2,061	$39,558
20-	Section 5307 Transit - NCDOT 10%	$5,278	$483	$9,364	$0	$969	$350	$937	$2,061	$19,442
21-	Section 5307 Transit - FTA 80%	$42,224	$3,864	$74,912	$80,464	$7,752	$2,800	$7,496	$16,488	$236,000

GoTriangle

	Task Description	Section 5303 Highway/Transit			Section 5307 Transit			Task Funding Summary			
		Local 10%	NCDOT 10%	FTA 80%	Local 20%	NCDOT 0	FTA 80%	Local	NCDOT	Federal	Total
II A	**Surveillance of Change**										
1	Traffic Volume Counts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Vehicle Miles of Travel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Street System Changes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Traffic Accidents	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Transit System Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Dwelling Unit, Pop. & Emp. Change	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	Air Travel	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	Vehicle Occupancy Rates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Travel Time Studies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
10	Mapping	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
11	Central Area Parking Inventory	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12	Bike & Ped. Facilities Inventory	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
13	Bike & Ped. Counts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
II B	**Long Range Transp. Plan (MTP)**										
1	Collection of Base Year Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Collection of Network Data	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Travel Model Updates	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Travel Surveys	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Forecast of Data to Horizon year	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Community Goals & Objectives	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	Forecast of Futurel Travel Patterns	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	Capacity Deficiency Analysis	$0	$0	$0	$0	$0	$0	$0		$0	
9	Highway Element of th MTP	$0	$0	$0	$0	$0	$0	$0		$0	
10	Transit Element of the MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
11	Bicycle & Ped. Element of the MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12	Airport/Air Travel Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
13	Collector Street Element of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
14	Rail, Water or other mode of MTP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15	Freight Movement/Mobility Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
16	Financial Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
17	Congestion Management Strategies	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
18	Air Qual. Planning/Conformity Anal.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
II C	**Short Range Transit Planning**										
1	Short Range Transit Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
III-A	**Planning Work Program**										
	Planning Work Program	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
III-B	**Transp. Improvement Plan**										
	TIP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
III-C	**Cvl Rgts. Cmp./Otr .Reg. Reqs.**										
1	Title VI	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Environmental Justice	$0	$0	$0	$0	$0	$0				
3	Minority Business Enterprise	$0	$0	$0	$0	$0	$0				
4	Planning for the Elderly & Disabled	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Safety/Drug Control Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Public Involvement	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	Private Sector Participation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
III-D	**Incidental Plng./Project Dev.**										
1	Transportation Enhancement Plng.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Enviro. Analysis & Pre-TIP Plng.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	Special Studies	$0	$0	$0	$171,000	$0	$684,000	$171,000	$0	$684,000	$855,000
4	Regional or Statewide Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
III E	**Management & Operations**										
1	Management & Operations	$0	$0	$0	$0	$0	$0				
Totals		**$0**	**$0**	**$0**	**$171,000**	**$0**	**$684,000**	**$171,000**	**$0**	**$684,000**	**$855,000**

GoTriangle
TASK DESCRIPTIONS & NARRATIVES
FY 2019 UPWP

III-D-3 Special Studies

More detailed studies may include evaluations of alternative modes or alignments for cost, feasibility, environmental impact, and design. In a similar manner, special problems may arise in relation to major land use changes when large-scale traffic generators (hospitals, regional malls, etc.) will either be developed or closed. These land use changes could significantly affect the regional distribution and/or amount of traffic generated, which could require changes to the MTP to accommodate the newly forecasted growth. The extent, responsibility, and cost for a corridor or sub-area study, which should be conducted within the work plan of the TC, would be determined prior to its initiation.

Objectives

Support corridor planning functions including alternatives analysis activities, capital cost estimation, financial planning, operating cost estimations, transit expert studies, and bus and rail service plans.

Previous Work

Consultant reports, model runs, financial analysis, value capture reports

Proposed Activities

Studies may be conducted for corridors including alternatives analysis activities, capital cost estimation, operating cost estimations, financial planning, and transit expert studies for corridors, alignments, and bus and rail service plans.

Products

Technical reports on specific topics regarding corridors, routes, stations, stops, and policies.

Relationship to other plans and MPO activities

Advances planning for bus and rail services in major existing and emerging corridors.

Proposed budget and level of effort

Staff will work with contracted consultants in creating documents related to ongoing long range planning activates.

NC Capital Area **Metropolitan Planning Organization**

January 24, 2018

David Wasserman
North Carolina Department of Transportation
Strategic Planning Office
1501 Mail Service Center
Raleigh, NC 27699-1501

Subject: **CAMPO SPOT 5 Public Transportation Project Submittal Modifications**

Dear Mr. Wasserman,

On Wednesday, January 24, 2018, the CAMPO Executive Board voted unanimously to remove several SPOT 5.0 eligible public transportation mobility project submittals. Included with this letter is a list of the projects that the CAMPO Executive Board has removed from consideration for all SPOT 5.0 related activities.

Please feel free to contact me with any questions.

Sincerely,

Chris Lukasina, AICP, GISP
Executive Director
NC Capital Area MPO

Cc:
Joey Hopkins, PE NCDOT Division 5
Felix Nwoko, Ph.D. DCHC MPO

Attachment

421 Fayetteville St., Ste. 203 | Raleigh, NC 27601 | Phone: (919) 996-4400 | Fax: (919) 996-1736 | www.campo-nc.us

CAMPO Transit Projects Removed from SPOT 5.0 Scoring

SPOT ID	Local ID	STI Category	TIP Number	Route / Facility Name	From / Cross Street	To	Description	Specific Improvement Type	Cost to NCDOT
T171901	BRT.30	Regional Impact		BRT 30	RTP	Wake Med (Raleigh East)		1 - Mobility (route-specific) - New Service	$ 100,000,000
T171917	BRT.10	Regional Impact		BRT 10	RTP	North Hills		1 - Mobility (route-specific) - New Service	$ 100,000,000
T171918	BRT.20	Regional Impact		BRT 20	RTP	Triangle Town Center		1 - Mobility (route-specific) - New Service	$ 100,000,000
T171919	BRT.40	Regional Impact		BRT 40	RTP	Garner Station		1 - Mobility (route-specific) - New Service	$ 100,000,000
T171923	BRT.50	Regional Impact		BRT 50	RTP	Raleigh		1 - Mobility (route-specific) - New Service	$ 100,000,000
T171928	BRT.90	Division Needs		BRT 90	Wake Med (Raleigh East)	Garner Station		1 - Mobility (route-specific) - New Service	$ 100,000,000
T171929	BRT.100	Division Needs		BRT 100	Triangle Town Center	Garner Station		1 - Mobility (route-specific) - New Service	$ 100,000,000
T172267	BRT.120	Regional Impact		BRT 120	RTP	Wake Med / Garner Station	BRT Service	1 - Mobility (route-specific) - New Service	$ 100,000,000
T172272	BRT.130	Regional Impact		BRT 130	RTP	Wake Med / Triangle Town Center	BRT Service	1 - Mobility (route-specific) - New Service	$ 100,000,000

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Durham - Chapel Hill - Carrboro
Metropolitan Planning Organization Board
February 14, 2018

FY 2018-2027 TIP Amendment #1 Summary Sheet
See full report for additional information on each project.

- **C-5184 Hillsborough Riverwalk:** Add STBGDA funds and local match for construction.
- **C-5650 South Greensboro Street Sidewalks:** Create a new project number to replace U-4726 Dx. Add CMAQ and STBGDA funds.
- **EB-4707A Old Durham Road Bicycle Lanes:** Add TAP funds and local match for construction.
- **EB-5720 R. Kelly Bryant Bridge Trail South:** Add local planning funds in prior year. Add local ROW funds in FY18.
- **EB-5833 R. Kelly Bryant Bridge Trail North:** Move funds from PE/Design and ROW to Construction. Add TAP funds to Construction in FY21.
- **EB-5837 Third Fork Creek Trail:** Increase overall TAP funding and shift funds from PE/Design and ROW to Construction.
- **R-5785 Upgrade Intersections to ADA Standards:** At the request of NCDOT, add TAP funding for construction in FY 18.
- **R-5787 Upgrade Intersections to ADA Standards:** At the request of NCDOT, add TAP funding for construction in FY 18.
- **R-5788 Upgrade Intersections to ADA Standards:** At the request of NCDOT, add TAP funding for construction in FY 18.
- **TA-5144 GoDurham Vehicle Purchases:** Amend the TIP to better reflect anticipated funding for this project.
- **TA-6695 Chapel Hill Transit Replacement Buses:** Replace three buses for Chapel Hill Transit. New project funded through CMAQ. Flex funds to transit.
- **TA-6696 GoDurham Electric Buses:** Purchase two new all-electric buses for GoDurham. New project funded through CMAQ. Flex funds to transit.
- **TA-6697 Chatham Transit Improvements – Pittsboro to Chapel Hill:** Continue service by Chatham Transit. New project funded through CMAQ. Flex funds to transit.
- **TG-4738A GoDurham Preventive Maintenance:** Amend the TIP to better reflect anticipated funding for this project.
- **TG-4958 GoDurham Passenger Amenities:** Amend the TIP to better reflect anticipated funding for this project.

- **TG-6189 Chatham County Flex to Transit:** New project flexing STBGDA dollars to transit.
- **TG-6785 Chapel Hill Transit Bus Purchase:** Purchase two buses for Chapel Hill Transit. Flex STBG funds to 5307.
- **TO-5203 GoDurham Paratransit Operations:** Amend the TIP to better reflect anticipated funding for this project.
- **TP-5109 GoDurham Planning Assistance:** Amend the TIP to better reflect anticipated funding for this project. Remove state funding from this project as the state will no longer participate.
- **TP-5151 Orange County Flex to Transit:** New project flexing STBGDA dollars to transit.
- **TS-5108 GoDurham Safety and Security:** Redirect funding from this project as GoDurham meets its safety and security requirements through other funding sources.
- **U-0071 East End Connector:** Add $44,548 in STBGDA and local match in FY18 to cover cost increases of bike/ped enhancements.
- **U-3308 NC 55 (Alston Avenue):** Add $49,2996 in STBGDA and local match in FY18 to cover cost increases of bike/ped enhancements.
- **U-4726 DCHC MPO Bicycle and Pedestrian Projects:** Direct STBGDA funding to this project for future use on a bike/ped project.
- **U-4727 DCHC MPO UPWP:** Add STBGDA funds in FY18.
- **U-5543 Variable Message Signs in Chapel Hill:** Add $41,000 in STBGDA and local funds in prior year PE/Design. Add $982,750 in STBGDA and local funds to FY18.
- **U-5549 Churton Street – Downtown Access Improvements:** Add $289,675 in STBGDA and local funds in FY18.

DCHC Metropolitan Planning Organization
Planning Tomorrow Today

TIP Amendment Request - Revise An Existing Project

Amendment Request Details

(●) **TIP Amendment** (*change in funding greater than $1M*)
( ) **TIP Modification** (*change in funding less than $1M*)
[ ] There are previous amendments to this project.

Date: 12-14-17

Amendment Requested By: Town of Hillsborough

Existing Project Details

Project Name: Hillsborough Riverwalk Phase III

STIP/TIP #: C-5184

Jurisdiction/Agency: Hillsborough

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
Prior Yea	PE/Design	CMAQ	$99,200	$0	$24,800	$124,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$99,200	$0	$24,800	$124,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
Prior Yea	PE/Design	CMAQ	$99,200	$0	$24,800	$124,000
Prior Yea	Construction	CMAQ	$388,800	$0	$97,200	$486,000
2018	Construction	STBGDA	$518,850	$0	$129,712	$648,562
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$1,006,850	$0	$251,712	$1,258,562
						Total Project Cost

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Planning Tomorrow Today

TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Add STBGDA funds to cover funding shortfall for construction. Project will use unobligated FY18 funds for project. For local distribution purposes, funds will be covered by local discretionary formula from FY19-FY23. Project qualifies as regional bicycle and pedestrian, and may be included in DCHC call for projects in spring 2018.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

DCHC Metropolitan Planning Organization
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TIP Amendment Request - Add or Create a New Project

Amendment Request Details

Date: 11-9-17 Amendment Requested By: Town of Carrboro

Existing Project Details

Project Name: South Greensboro Street Sidewalks

STIP/TIP #: C-5650 Jurisdiction/Agency: Carrboro

WBS # or Federal Aid #: Munis Grant #:

Proposed Project Schedule and Funding: Enter the full proposed project schedule and funding.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	PE/Design	STBGDA	$84,104	$0	$21,026	$105,130
2018	ROW	STBGDA	$100,000	$0	$25,000	$125,000
2018	Construction	LOCAL	$0	$0	$504,750	$504,750
2018	Construction	CMAQ	$440,000	$0	$110,000	$550,000
2018	Construction	STBGDA	$530,386	$0	$132,596	$662,982
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$1,154,490	$0	$793,372	$1,947,862
						Total Project Cost

Please provide previous STIP/TIP # (if applicable): U-4726 Dx

If this project has been added to the NCDOT STIP, please provide date of STIP action, or Split Letter, etc. and attach supporting information:

Please provide Project Description/Details/Termini/etc.:

Please provide any additional details or explanation related to this project (if applicable):

New stand-alone project created with addition of CMAQ funds; was previously a sub-project under U-4726.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

DCHC Metropolitan Planning Organization
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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

○ **TIP Amendment** (*change in funding greater than $1M*)

◉ **TIP Modification** (*change in funding less than $1M*)

☐ There are previous amendments to this project.

Date: 12-14-17

Amendment Requested By: Town of Chapel Hill

Existing Project Details

Project Name: Old Durham Road Bicycle Lanes

STIP/TIP #: EB-4707A

Jurisdiction/Agency: Chapel Hill

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Construction	STBGDA	$1,925,000	$0	$481,250	$2,406,250
2018	Construction	TAP-DA	$350,000	$0	$87,500	$437,500
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$2,275,000	$0	$568,750	$2,843,750
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Construction	STBGDA	$1,925,000	$0	$481,250	$2,406,250
2018	Construction	TAP-DA	$350,000	$0	$87,500	$437,500
2018	Construction	TAP	$525,000	$0	$131,250	$656,250
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$2,800,000	$0	$700,000	$3,500,000
						Total Project Cost

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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Add $525,000 of TAP-Any Area funds, plus local match, to cover funding shortfall.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

○ **TIP Amendment** (*change in funding greater than $1M*)

◉ **TIP Modification** (*change in funding less than $1M*)

☐ There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: R. Kelly Bryant Bridge Trail South

STIP/TIP #: EB-5720

Jurisdiction/Agency:

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2017	PE/Design	TAP	$233,000	$0	$58,000	$291,000
2019	Construction	TAP	$1,534,000	$0	$383,000	$1,917,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$1,767,000	$0	$441,000	$2,208,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
Prior Yea	Planning	TAP	$0	$0	$50,000	$50,000
2017	PE/Design	TAP	$233,000	$0	$58,000	$291,000
2018	ROW	TAP	$0	$0	$10,000	$10,000
2019	Construction	TAP	$1,534,000	$0	$383,000	$1,917,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$1,767,000	$0	$501,000	$2,268,000
						Total Project Cost

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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Add $10,000 in local funds for ROW in FY18.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

DCHC Metropolitan Planning Organization
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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

○ **TIP Amendment** (*change in funding greater than $1M*)

◉ **TIP Modification** (*change in funding less than $1M*)

☐ There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: R. Kelly Bryant Bridge Trail North

STIP/TIP #: EB-5833

Jurisdiction/Agency: City of Durham

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	PE/Design	TAP	$328,000	$0	$82,000	$410,000
2020	ROW	TAP	$42,000	$0	$10,000	$52,000
2021	Construction	TAP	$1,639,000	$0	$410,000	$2,049,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$2,009,000	$0	$502,000	$2,511,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	PE/Design	TAP	$230,047	$0	$57,512	$287,559
2020	ROW	TAP	$2,800	$0	$700	$3,500
2021	Construction	TAP	$1,989,974	$0	$524,676	$2,514,650
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$2,222,821	$0	$582,888	$2,805,709
						Total Project Cost

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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Shifting funding from PE/Design and ROW to Construction and adding TAP and local funds.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

DCHC Metropolitan Planning Organization
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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

○ **TIP Amendment** (*change in funding greater than $1M*)

◉ **TIP Modification** (*change in funding less than $1M*)

☐ There are previous amendments to this project.

Date: 11-15-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: Third Fork Creek Trail

STIP/TIP #: EB-5837

Jurisdiction/Agency: City of Durham

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	PE/Design	TAP	$407,000	$0	$102,000	$509,000
2020	ROW	TAP	$129,000	$0	$32,000	$161,000
2021	Construction	TAP	$2,037,000	$0	$509,000	$2,546,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$2,573,000	$0	$643,000	$3,216,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	PE/Design	TAP	$295,789	$0	$73,948	$369,737
2020	ROW	TAP	$14,000	$0	$3,500	$17,500
2021	Construction	TAP	$2,543,798	$0	$635,950	$3,179,748
2021	Construction	LOCAL	$0	$0	$34,844	$34,844
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$2,853,587	$0	$748,242	$3,601,829
						Total Project Cost

DCHC
Metropolitan Planning Organization
Planning Tomorrow Today

TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Additional TAP funds for construction are needed due to increased costs. ROW costs have decreased due to use of existing sidewalks and ROW. Local construction funds in 2021 are for public art.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

DCHC Metropolitan Planning Organization
Planning Tomorrow Today

TIP Amendment Request - Revise An Existing Project

Amendment Request Details

(●) **TIP Amendment** (*change in funding greater than $1M*)
( ) **TIP Modification** (*change in funding less than $1M*)
[ ] There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: GoDurham Replacement Vehicle Purchases

STIP/TIP #: TA-5144

Jurisdiction/Agency: GoDurham

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Capital	5309	$640,000	$0	$160,000	$800,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$640,000	$0	$160,000	$800,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2019	Capital	5309	$900,000	$0	$225,000	$1,125,000
2021	Capital	5309	$900,000	$0	$225,000	$1,125,000
2023	Capital	5309	$900,000	$0	$225,000	$1,125,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$2,700,000	$0	$675,000	$3,375,000
						Total Project Cost

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Metropolitan Planning Organization
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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Match future funding with expected grant revenues.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Add or Create a New Project

Amendment Request Details

Date: 11-9-17

Amendment Requested By: Town of Chapel Hill

Existing Project Details

Project Name: Chapel Hill Transit Replacement Buses

STIP/TIP #: TA-6695

Jurisdiction/Agency: Chapel Hill Transit

WBS # or Federal Aid #:

Munis Grant #:

Proposed Project Schedule and Funding: Enter the full proposed project schedule and funding.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Implementation	CMAQ	$1,093,015	$0	$273,254	$1,366,269
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$1,093,015	$0	$273,254	$1,366,269
						Total Project Cost

Please provide previous STIP/TIP # (if applicable):

If this project has been added to the NCDOT STIP, please provide date of STIP action, or Split Letter, etc. and attach supporting information:

Please provide Project Description/Details/Termini/etc.:

Please provide any additional details or explanation related to this project (if applicable):

Purchase three regular diesel buses to replace four 1998 NOVA buses. CMAQ funds awarded June 21, 2017. Formerly TA-6681.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Add or Create a New Project

Amendment Request Details

Date: 11-9-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: GoDurham Electric Buses

STIP/TIP #: TA-6696

Jurisdiction/Agency: GoDurham

WBS # or Federal Aid #:

Munis Grant #:

Proposed Project Schedule and Funding: Enter the full proposed project schedule and funding.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2019	Implementation	CMAQ	$400,000	$0	$100,000	$500,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$400,000	$0	$100,000	$500,000
						Total Project Cost

Please provide previous STIP/TIP # (if applicable):

If this project has been added to the NCDOT STIP, please provide date of STIP action, or Split Letter, etc. and attach supporting information:

Please provide Project Description/Details/Termini/etc.:

Please provide any additional details or explanation related to this project (if applicable):

Purchase two lift equipped total electric buses. CMAQ funds awarded June 21, 2017. Flex to transit. Formerly TA-6682.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

DCHC Metropolitan Planning Organization
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TIP Amendment Request - Add or Create a New Project

Amendment Request Details

Date: 11-9-17 Amendment Requested By: Chatham County

Existing Project Details

Project Name: Chatham Transit Improvements - Pittsboro to Chapel Hill

STIP/TIP #: TA-6697 Jurisdiction/Agency: Chatham County

WBS # or Federal Aid #: Munis Grant #:

Proposed Project Schedule and Funding: Enter the full proposed project schedule and funding.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Implementation	CMAQ	$400,000	$0	$100,000	$500,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$400,000	$0	$100,000	$500,000
						Total Project Cost

Please provide previous STIP/TIP # (if applicable):

If this project has been added to the NCDOT STIP, please provide date of STIP action, or Split Letter, etc. and attach supporting information:

Please provide Project Description/Details/Termini/etc.:

Please provide any additional details or explanation related to this project (if applicable):

Purchase and operate a 30-35 foot HD low floor bus to provide service from Pittsboro to Chapel Hill. Project awarded through TARPO.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

(●) **TIP Amendment** (*change in funding greater than $1M*)
( ) **TIP Modification** (*change in funding less than $1M*)
[ ] There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: GoDurham Preventive Maintenance

STIP/TIP #: TG-4738 A

Jurisdiction/Agency: GoDurham

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Operations	5307	$3,000,000	$0	$750,000	$3,750,000
2019	Operations	5307	$3,000,000	$0	$750,000	$3,750,000
2020	Operations	5307	$3,000,000	$0	$750,000	$3,750,000
2021	Operations	5307	$3,000,000	$0	$750,000	$3,750,000
2022	Operations	5307	$3,000,000	$0	$750,000	$3,750,000
2023	Operations	5307	$3,000,000	$0	$750,000	$3,750,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$18,000,000	$0	$4,500,000	$22,500,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Operations	5307	$3,307,943	$0	$826,986	$4,134,929
2019	Operations	5307	$3,307,943	$0	$826,986	$4,134,929
2020	Operations	5307	$3,307,943	$0	$826,986	$4,134,929
2021	Operations	5307	$3,307,943	$0	$826,986	$4,134,929
						$0
2022	Operations	5307	$3,307,943	$0	$826,986	$4,134,929
2023	Operations	5307	$3,307,943	$0	$826,986	$4,134,929
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$19,847,658	$0	$4,961,916	$24,809,574
						Total Project Cost

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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Match future funding with expected grant revenues.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

○ **TIP Amendment** (*change in funding greater than $1M*)

◉ **TIP Modification** (*change in funding less than $1M*)

☐ There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: GoDurham Passenger Amenities

STIP/TIP #: TG-4958

Jurisdiction/Agency: GoDurham

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
Prior Yea	Other	5307	$342,988	$0	$85,747	$428,735
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$342,988	$0	$85,747	$428,735
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Other	5307	$39,788	$0	$9,947	$49,735
2019	Other	5307	$39,788	$0	$9,947	$49,735
2020	Other	5307	$39,788	$0	$9,947	$49,735
2021	Other	5307	$39,788	$0	$9,947	$49,735
			$0	$0	$0	$0
2022	Other	5307	$39,788	$0	$9,947	$49,735
2023	Other	5307	$39,788	$0	$9,947	$49,735
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$238,728	$0	$59,682	$298,410
						Total Project Cost

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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Match future funding with expected grant revenues.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Add or Create a New Project

Amendment Request Details

Date: 11-9-17

Amendment Requested By: Chatham County

Existing Project Details

Project Name: Chatham County Flex to Transit

STIP/TIP #: TG-6189

Jurisdiction/Agency: Chatham County

WBS # or Federal Aid #:

Munis Grant #:

Proposed Project Schedule and Funding: Enter the full proposed project schedule and funding.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Implementation	STBGDA	$34,996	$0	$8,749	$43,745
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$34,996	$0	$8,749	$43,745
						Total Project Cost

Please provide previous STIP/TIP # (if applicable):

If this project has been added to the NCDOT STIP, please provide date of STIP action, or Split Letter, etc. and attach supporting information:

Please provide Project Description/Details/Termini/etc.:

Please provide any additional details or explanation related to this project (if applicable):

FY18 STBGDA funds directed to Chatham County through DCHC MPO UPWP formula; funds are flexed to transit and assigned to this project.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Add or Create a New Project

Amendment Request Details

Date: 12-5-17

Amendment Requested By: Town of Chapel Hill

Existing Project Details

Project Name: Chapel Hill Transit Bus Purchase

STIP/TIP #: TG-6785

Jurisdiction/Agency: Chapel Hill Transit

WBS # or Federal Aid #:

Munis Grant #:

Proposed Project Schedule and Funding: Enter the full proposed project schedule and funding.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Implementation	STBG	$698,000	$0	$219,000	$917,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$698,000	$0	$219,000	$917,000
						Total Project Cost

Please provide previous STIP/TIP # (if applicable):

If this project has been added to the NCDOT STIP, please provide date of STIP action, or Split Letter, etc. and attach supporting information:

Please provide Project Description/Details/Termini/etc.:

Purchase two buses for Chapel Hill Transit.

Please provide any additional details or explanation related to this project (if applicable):

Flex STBGP funds to 5307.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

(●) **TIP Amendment** (*change in funding greater than $1M*)
( ) **TIP Modification** (*change in funding less than $1M*)
[ ] There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: GoDurham Paratransit Operating Capital

STIP/TIP #: TO-5203

Jurisdiction/Agency: GoDurham

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
Prior Yea	Capital	5307	$399,000	$0	$100,000	$499,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$399,000	$0	$100,000	$499,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Capital	5307	$397,882	$0	$99,740	$497,622
2019	Capital	5307	$397,882	$0	$99,740	$497,622
2020	Capital	5307	$397,882	$0	$99,740	$497,622
2021	Capital	5307	$397,882	$0	$99,740	$497,622
			$0	$0	$0	$0
2022	Capital	5307	$397,882	$0	$99,740	$497,622
2023	Capital	5307	$397,882	$0	$99,740	$497,622
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$2,387,292	$0	$598,440	$2,985,732
						Total Project Cost

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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Match future funding with expected grant revenues.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

(●) **TIP Amendment** (*change in funding greater than $1M*)

( ) **TIP Modification** (*change in funding less than $1M*)

[ ] There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: GoDurham Planning Assistance

STIP/TIP #: TP-5109

Jurisdiction/Agency: GoDurham

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Capital	5307	$384,000	$48,000	$48,000	$480,000
2019	Capital	5307	$384,000	$48,000	$48,000	$480,000
2020	Capital	5307	$384,000	$48,000	$48,000	$480,000
2021	Capital	5307	$384,000	$48,000	$48,000	$480,000
2022	Capital	5307	$384,000	$48,000	$48,000	$480,000
2023	Capital	5307	$384,000	$48,000	$48,000	$480,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$2,304,000	$288,000	$288,000	$2,880,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Capital	5307	$233,203	$0	$58,301	$291,504
2019	Capital	5307	$233,203	$0	$58,301	$291,504
2020	Capital	5307	$233,203	$0	$58,301	$291,504
2021	Capital	5307	$233,203	$0	$58,301	$291,504
			$0	$0	$0	$0
2022	Capital	5307	$233,203	$0	$58,301	$291,504
2023	Capital	5307	$233,203	$0	$58,301	$291,504
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$1,399,218	$288,000	$349,806	$1,749,024
						Total Project Cost

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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Match future funding with expected grant revenues. State of North Carolina no longer contributes financially to this project.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Add or Create a New Project

Amendment Request Details

Date: 11-9-17 Amendment Requested By: Orange County

Existing Project Details

Project Name: Orange County Flex to Transit

STIP/TIP #: TP-5151 Jurisdiction/Agency: Orange County

WBS # or Federal Aid #: Munis Grant #:

Proposed Project Schedule and Funding: Enter the full proposed project schedule and funding.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Implementation	CMAQ	$17,330	$0	$4,333	$21,663
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$17,330	$0	$4,333	$21,663
						Total Project Cost

Please provide previous STIP/TIP # (if applicable):

If this project has been added to the NCDOT STIP, please provide date of STIP action, or Split Letter, etc. and attach supporting information:

Please provide Project Description/Details/Termini/etc.:

Please provide any additional details or explanation related to this project (if applicable):

FY18 STBGDA funds directed to Orange County through DCHC MPO UPWP formula; funds are flexed to transit and assigned to this project.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

○ **TIP Amendment** (*change in funding greater than $1M*)

◉ **TIP Modification** (*change in funding less than $1M*)

☐ There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: GoDurham Safety and Security

STIP/TIP #: TS-5108

Jurisdiction/Agency: GoDurham

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Capital	5307	$39,000	$0	$4,000	$43,000
2019	Capital	5307	$39,000	$0	$4,000	$43,000
2020	Capital	5307	$39,000	$0	$4,000	$43,000
2021	Capital	5307	$39,000	$0	$4,000	$43,000
2022	Capital	5307	$39,000	$0	$4,000	$43,000
2023	Capital	5307	$39,000	$0	$4,000	$43,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$234,000	$0	$24,000	$258,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Capital	5307	$0	$0	$0	$0
2019	Capital	5307	$0	$0	$0	$0
2020	Capital	5307	$0	$0	$0	$0
2021	Capital	5307	$0	$0	$0	$0
2022	Capital	5307	$0	$0	$0	$0
2023	Capital	5307	$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$0	$0	$0	$0
						Total Project Cost

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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

GoDurham does not use 5307 funds for Safety and Security, and meets its 1% obligation through other funding sources.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

DCHC Metropolitan Planning Organization
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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

○ **TIP Amendment** (*change in funding greater than $1M*)

◉ **TIP Modification** (*change in funding less than $1M*)

☐ There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: East End Connector

STIP/TIP #: U-0071

Jurisdiction/Agency: City of Durham

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Construction	T	$0	$35,175,000	$0	$35,175,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$0	$35,175,000	$0	$35,175,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Construction	T	$0	$35,175,000	$0	$35,175,000
2018	Construction	STBGDA	$35,638	$0	$8,910	$44,548
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$35,638	$35,175,000	$8,910	$35,219,548
						Total Project Cost

DCHC Metropolitan Planning Organization
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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Add STBGDA and Local funds to project to fully fund bicycle and pedestrian enhancements on local streets as part of this project.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

DCHC
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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

○ **TIP Amendment** (*change in funding greater than $1M*)

◉ **TIP Modification** (*change in funding less than $1M*)

☐ There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: NC 55 (Alston Avenue)

STIP/TIP #: U-3308

Jurisdiction/Agency: City of Durham

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
Prior Yea	Construction	STP	$124,665,000	$9,954,000	$41,393,000	$176,012,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$124,665,000	$9,954,000	$41,393,000	$176,012,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
Prior Yea	Construction	STP	$124,665,000	$9,954,000	$41,393,000	$176,012,000
2018	Construction	STBGDA	$34,397	$0	$8,599	$42,996
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$124,699,397	$9,954,000	$41,401,599	$176,054,996
						Total Project Cost

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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Add STBGDA and Local funds to project to fully fund bicycle and pedestrian enhancements on local streets as part of this project.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

(●) **TIP Amendment** (*change in funding greater than $1M*)
( ) **TIP Modification** (*change in funding less than $1M*)
[ ] There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: City of Durham

Existing Project Details

Project Name: DCHC MPO Bicycle and Pedestrian Projects

STIP/TIP #: U-4726

Jurisdiction/Agency: City of Durham

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Construction	STBGDA	$5,272,000	$0	$1,838,000	$7,110,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$5,272,000	$0	$1,838,000	$7,110,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2018	Construction	STBGDA	$6,820,219	$0	$2,225,055	$9,045,274
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$6,820,219	$0	$2,225,055	$9,045,274
						Total Project Cost

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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

The City of Durham is programming $1,548,219 of FY18 STBGDA funds, plus the required $387,055 in local match, to U-4726 for later use on non-highway projects. These funds are from the STBGDA funds distributed by the formula adopted by the DCHC MPO Board. TAP-DA funds are not changing and are therefore not shown on this form

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

○ **TIP Amendment** (*change in funding greater than $1M*)

◉ **TIP Modification** (*change in funding less than $1M*)

☐ There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: Town of Chapel Hill

Existing Project Details

Project Name: Variable Message Signs in Chapel Hill

STIP/TIP #: U-5543

Jurisdiction/Agency: Chapel Hill

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2016	PE/Design	STBGDA	$75,200	$0	$18,800	$94,000
2018	Construction	STBGDA	$419,000	$0	$105,000	$524,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$494,200	$0	$123,800	$618,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2016	PE/Design	STBGDA	$75,200	$0	$18,800	$94,000
2017	PE/Design	STBGDA	$32,800	$0	$8,200	$41,000
2018	Construction	STBGDA	$786,200	$0	$196,550	$982,750
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$894,200	$0	$223,550	$1,117,750
						Total Project Cost

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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Add STBGDA funds in FY17 for PE/Design and in FY18 for Construction.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

DCHC Metropolitan Planning Organization
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TIP Amendment Request - Revise An Existing Project

Amendment Request Details

○ **TIP Amendment** (*change in funding greater than $1M*)

◉ **TIP Modification** (*change in funding less than $1M*)

☐ There are previous amendments to this project.

Date: 11-9-17

Amendment Requested By: Town of Hillsborough

Existing Project Details

Project Name: Churton Street - Downtown Access Improvements

STIP/TIP #: U-5549

Jurisdiction/Agency: Hillsborough

WBS or Local ID or Federal Aid #:

MUNIS #:

Existing Project Schedule and Funding: Enter the most current project information.

Use the MPO database: bitly.com/mpoprojects

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2016	Construction	STP-DA	$125,000	$0	$31,000	$156,000
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$125,000	$0	$31,000	$156,000
						Total Project Cost

Proposed Project Schedule and Funding: Enter the full proposed project schedule & funding.

In many cases, the current project information from the above table will be re-entered at the top of the Proposed Table to represent FULL project information.

FY	Phase/Work	Funding Source	Federal Share	State Share	Local Share	Total
2016	Construction	STP-DA	$125,000	$0	$31,000	$156,000
2018	Construction	STBGDA	$231,740	$0	$57,935	$289,675
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
			$0	$0	$0	$0
		Funding Totals:	$356,740	$0	$88,935	$445,675
						Total Project Cost

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TIP Amendment Request - Revise An Existing Project

Project Details - Continued

Please provide previous STIP/TIP # or new STIP/TIP # (if applicable):

If this amendment has already been reflected in the NCDOT STIP,
please provide date of STIP action and attach supporting information:

Project Description/Details/Termini/etc. to be amended (if applicable):

Please provide additional details or explanation related to this amendment request such as explanation for schedule delays, project cost changes, or other supporting information (if applicable). For example, why is this amendment being requested?

Add FY18 STBGDA funds and local match for Construction.

Please email completed form and any supporting documents to DCHC MPO TIP manager. Please follow-up with TIP manager to confirm receipt of form.

REVISIONS TO THE 2016-2025 AND 2018-2027 STIPS

HIGHWAY PROGRAM

STIP MODIFICATIONS

DIVISION 5

* R-5785 DURHAM FRANKLIN GRANVILLE PERSON VANCE WAKE WARREN **PROJ.CATEGORY** DIVISION	VARIOUS, DIVISION 5 PROGRAM TO UPGRADE INTERSECTIONS TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) USING TRANSPORTATION ALTERNATIVES (TA) FUNDS. ***ADD CONSTRUCTION IN FY 18 NOT PREVIOUSLY PROGRAMMED.***	CONSTRUCTION	FY 2018 - FY 2018 -	$800,000 $200,000 $1,000,000	(TAP) (S(E))
* U-4727 CHATHAM DURHAM ORANGE **PROJ.CATEGORY** DIVISION	VARIOUS, DURHAM-CHAPEL HILL-CARRBORO METROPOLITAN PLANNING ORGANIZATION (DCHCMPO) PLANNING ALLOCATION AND UNIFIED WORK PROGRAM. ***ADD STBGDA FUNDS IN FY 18 NOT PREVIOUSLY PROGRAMMED, AT REQUEST OF MPO TO SUPPLEMENT PLANNING ACTIVITIES.***	PLANNING	FY 2018 - FY 2018 -	$1,738,000 $435,000 $2,173,000	(STBGDA) (L)

DIVISION 7

* R-5787 ALAMANCE CASWELL GUILFORD ORANGE ROCKINGHAM **PROJ.CATEGORY** DIVISION	VARIOUS, DIVISION 7 PROGRAM TO UPGRADE INTERSECTIONS TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) USING TRANSPORTATION ALTERNATIVES (TA) FUNDS. ***ADD CONSTRUCTION IN FY 18 NOT PREVIOUSLY PROGRAMMED.***	CONSTRUCTION	FY 2018 - FY 2018 -	$800,000 $200,000 $1,000,000	(TAP) (S(E))

These items are for informational purposes only and subject to future NC Board of Transportation approval.
It is anticipated that these items will be considered for NC Board of Transportation approval in 30 days.

*** INDICATES FEDERAL AMENDMENT**

DURHAM-CHAPEL HILL-CARRBORO METROPOLITAN PLANNING ORGANIZATION

ITEM N

(HANDOUT)

REVISIONS TO THE 2016-2025 AND 2018-2027 STIPS

HIGHWAY PROGRAM

STIP MODIFICATIONS

DIVISION 8

* R-5788 CHATHAM HOKE LEE MONTGOMERY MOORE RANDOLPH RICHMOND SCOTLAND **PROJ.CATEGORY** DIVISION	VARIOUS, DIVISION 8 PROGRAM TO UPGRADE INTERSECTIONS TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) USING TRANSPORTATION ALTERNATIVES (TA) FUNDS. ***ADD CONSTRUCTION IN FY 18 NOT PREVIOUSLY PROGRAMMED.***	CONSTRUCTION	FY 2018 - FY 2018 - $1,000,000	$800,000 $200,000	(TAP) (S(E))

These items are for informational purposes only and subject to future NC Board of Transportation approval. It is anticipated that these items will be considered for NC Board of Transportation approval in 30 days.

*** INDICATES FEDERAL AMENDMENT**

RESOLUTION TO MODIFY THE 2018-2027 TRANSPORTATION IMPROVEMENT PROGRAM FOR THE DURHAM-CHAPEL HILL-CARRBORO METROPOLITAN PLANNING AREA

AMENDMENT #1
February 14, 2018

A motion was made by MPO Board Member _____and seconded by MPO Board Member _____ _____for the adoption of the following resolution, and upon being put to a vote, was duly adopted.

WHEREAS, the Transportation Improvement Program (TIP) is a staged multiple year listing of all federally funded transportation projects scheduled for implementation within the Durham-Chapel Hill-Carrboro Metropolitan Planning Area which have been selected from a priority list of projects; and

WHEREAS, the document provides the mechanism for official endorsement of the program of projects by the MPO Board; and

WHEREAS, the inclusion of the TIP in the transportation planning process was first mandated by regulations issued jointly by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) and no project within the planning area will be approved for funding by these federal agencies unless it appears in the officially adopted TIP; and

WHEREAS, the procedures for developing the TIP have been modified in accordance with certain provisions of the MAP-21 Federal Transportation Act, Fixing America's Surface Transportation (FAST) Act, and guidance provided by the State; and

WHEREAS, projects listed in the TIP are also included in the State TIP (STIP) and balanced against anticipated revenues as identified in both the TIP and the STIP; and

WHEREAS, the North Carolina Department of Transportation and the MPO Board have determined it to be in the best interest of the Urban Area to amend the FY 2018-2027 Transportation Improvement Program as described in the attached sheets; and

WHEREAS, in the summer 2015 the United States Environmental Protection Agency designated the DCHC MPO Urbanized Area as attainment for air quality conformity; and

WHEREAS, the DCHC MPO certifies that this TIP amendment is consistent with the intent of the DCHC MPO 2040 Metropolitan Transportation Plan (MTP); and

BE IT THEREFORE RESOLVED that the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization Board hereby approve the Amendment #1 to the FY 2018-2027 Transportation Improvement Program of the Durham-Chapel Hill-Carrboro Urban Area, as approved by the Board on February 14, 2018, and as described in the "FY 2018-2027 TIP Amendment #1 Summary Sheets" on this, the 14th day of February, 2018.

_____

Damon Seils, MPO Board Chair

Durham County, North Carolina

I certify that Damon Seils personally appeared before me this day acknowledging to me that he signed the forgoing document.

Date: February 14, 2018

_____

Frederick Brian Rhodes, Notary Public
My commission expires: May 10, 2020

DURHAM-CHAPEL HILL-CARRBORO METROPOLITAN PLANNING ORGANIZATION METHODOLOGY FOR IDENTIFYING AND RANKING NEW TRANSPORATION IMPROVEMENT PROGRAM PROJECT REQUESTS

INTRODUCTION

According to U.S. Code 23 Section 134, Metropolitan Planning Organizations (MPOs) are required to develop a Transportation Improvement Program (TIP) in cooperation with the State and public transportation providers through a performance-driven, outcome-based approach to planning. The TIP should contain projects consistent with the Metropolitan Transportation Plan (MTP) and should reflect the investment priorities established in the current MTP. There should be the opportunity for public participation in developing the TIP including consultation, as appropriate, with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation.

Furthermore, as a Transportation Management Area (TMA), according to U.S. Code 23 Section 134, all federally funded projects within the Durham-Chapel Hill-Carrboro (DCHC) MPO (excluding projects carried out on the National Highway System) shall be selected for implementation from the approved TIP by the MPO in consultation with the State and any public transportation provider or operator. Projects on the National Highway System shall be selected for implementation from the TIP by the State in cooperation with the MPO.

North Carolina's Strategic Transportation Investments (STI) legislation, passed in 2013, establishes a formula and process by which transportation funding is distributed across the state and across transportation modes. The outcome of the STI process is the draft State Transportation Improvement Program (STIP). The STI legislation applies uniformly across the state regardless of the boundaries of MPOs. The STI legislation requires the identification and submittal of potential transportation projects by the North Carolina Department of Transportation (NCDOT) and the MPO, the evaluation of projects according to a NCDOT-developed quantitative scoring methodology, and the allocation of ranking points among certain projects by NCDOT and the MPO.

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) *Methodology for Identifying and Ranking TIP Project Requests* describes the processes that the DCHC MPO will follow to identify projects that will be submitted for evaluation to NCDOT during the NCDOT Strategic Prioritization Office of Transportation's (SPOT) Prioritization process. When the results of the SPOT Prioritization process are made available, the DCHC MPO will follow this Methodology to rank projects and assign Local Input Points to high priority projects. This Methodology is designed to address the federal requirement that the TIP be consistent with the projects and investment priorities of the MPO's MTP while being compatible with the state's STI process.

The DCHC MPO retains the authority to develop the TIP for the MPO area as required by federal regulations. Participation in the STI process through submitting projects for evaluation and/or allocating Local Input Points to projects does not require the MPO to include these projects in the TIP.

OBJECTIVE

The Methodology described herein is designed to address multi-modal transportation needs, ensure regional balance, and prioritize projects that are needed based on technical criteria. The goal is to

produce a project priority ranking which satisfies MPO goals, is simple enough for project-level analysis without requiring unnecessary data collection, and is understandable by the general public.

The DCHC MPO's Technical Committee (TC) will use the Methodology to generate a list of priority projects to submit to the NCDOT SPOT for quantitative scoring. While the Methodology is designed to comprehensively address the DCHC MPO's transportation needs, there will always be factors that are not easily measured but should still be considered in the development of the DCHC MPO's priorities. The DCHC MPO TC will make its technical recommendation for the prioritization of projects based on the methodology described in this document, and the DCHC MPO Board will then be afforded the opportunity to make changes with appropriate documentation. All public involvement for this process will be conducted in accordance with the DCHC MPO's adopted Public Involvement Policy.

Steps and schedule for submission of DCHC MPO projects to NCDOT for evaluation:

Spring 2017	DCHC MPO staff work with local jurisdiction staff to develop potential new projects for Prioritization 5.0; DCHC MPO staff review projects to ensure they meet minimum requirements and are in the MTP
June 2017	DCHC MPO staff and Technical Committee reviews existing projects and makes recommendations to the Board to either have those projects scored in Prioritization 5.0 as Carryover projects, propose changes to projects to then be scored in Prioritization 5.0, or remove projects from consideration; DCHC MPO Board reviews and provides input on potential new projects
July 2017	DCHC MPO staff performs analysis on proposed new projects; a Technical Committee sub-committee narrows the number of projects to a final recommended list for submittal
August 2017	DCHC MPO Board votes on any proposed changes and deletions of existing projects for Prioritization 5.0; DCHC MPO Board reviews proposed list of new projects for Prioritization 5.0; new project list is released for public comment
September 2017	Project submission deadline for Prioritization 5.0.

Steps and schedule for updating the DCHC MPO's Methodology for Identifying and Ranking TIP Project Requests:

November 2017	DCHC MPO staff updates *Methodology for Identifying and Ranking TIP Project Requests* document
December 2017	DCHC MPO TC reviews the *Methodology for Identifying and Ranking TIP Project Requests* and forwards Methodology to the DCHC MPO Board for public release
January 2018	DCHC MPO Board releases the *Methodology for Identifying and Ranking TIP Project Requests* for public review and comment period; DCHC MPO TC makes final review and recommendation to DCHC MPO Board
February 2018	DCHC MPO holds public hearing on *Methodology*, forwards for NCDOT Review Committee review
March 2018	DCHC MPO Board approves the *Methodology for Identifying and Ranking TIP Project Requests*

Steps and tentative schedule for the allocation of Local Input Points:

March 2018	DCHC MPO receives results of the NCDOT SPOT scoring process for Statewide, Regional, and Division projects
April 2018	DCHC MPO ranks Regional projects for the assignment of Local Input Points; DCHC MPO Board releases initial assignment of Local Input Points for Regional projects for public comment
May 2018	DCHC MPO Board holds public hearing on initial assignment of Local Input Points for Regional projects
June 2018	DCHC MPO Board approves assignment of Local Input Points to Regional projects
June 2018	**DCHC MPO submits Regional projects, with Local Input Points assigned, to NCDOT**
July 2018	DCHC MPO ranks Division projects for the assignment of Local Input Points
August 2018	DCHC MPO Board releases initial assignment of Division projects and the assignment of Local Input Points for public comment
September 2018	DCHC MPO Board holds public hearing on initial assignment of Local Input Points for Division projects
October 2018	DCHC MPO Board approves assignment of Local Input Points to Division projects
October 2018	**DCHC MPO submits Division projects, with Local Input Points assigned, to NCDOT**

DCHC MPO GOALS FOR THE *METHOLDOGY FOR IDENTIFYING AND RANKING TIP PROJECTS*

The *Methodology for Identifying and Ranking TIP Projects* should result in a list of projects that are a subset of the DCHC MPO Metropolitan Transportation Plan (MTP). For this reason, the goals for the Methodology are the same as the goals of the DCHC MPO, as presented in the adopted 2040 MTP[1]. The goals of the 2040 MTP are as follows:

- A safe, sustainable, efficient, attractive, multi-modal transportation system that: supports local land use; accommodates trip-making choices; maintains mobility and access; protects the environment and neighborhoods; and improves the quality of life for urban area residents.
- An attractive multi-modal street and highway system that allows people and goods to be moved safely, conveniently, and efficiently.
- A convenient, accessible, and affordable public transportation system, provided by public and private operators, that enhances mobility and economic development.
- A pedestrian and bicycle system that: provides a safe alternative means of transportation; allows greater access to public transit; supports recreational opportunities; and includes off-road trails
- A Transportation Plan that is integrated with local land use plans and development policies.
- A multi-modal transportation system which provides access and mobility to all residents, while protecting the public health, natural environment, cultural resources, and social systems.
- An ongoing program to inform and involve citizens throughout all stages of the development, update, and implementation of the Transportation Plan.
- Continue to improve transportation safety and ensure the security of the transportation system.
- Improve mobility and accessibility of freight and urban goods movement.

PROCEDURE FOR IDENTIFYING PROJECTS FOR SUBMISSION TO NCDOT SPOT FOR EVALUATION

1) <u>Submission of Local Priority Lists to the MPO</u>

All MPO member jurisdictions and agencies will submit a local priority list to the MPO. The DCHC MPO requests that the MPO members apply initial screening criteria during the development of their respective lists. The initial screening criteria are listed below in this section. In addition to the initial screening criteria, MPO members may also want to consider reviewing Section 2 of this Methodology for guidance on the NCDOT's SPOT scoring criteria. The DCHC MPO will apply the NCDOT's scoring criteria when considering new project requests from DCHC MPO member jurisdictions and agencies. If a project exists in more than one jurisdiction, all jurisdictions must be in agreement on the proposed scope and details of the project.

Initial Screening Criteria

a) Regional Goals - How well does the project meet the adopted regional goals? Is the project an element of the current MTP? Does it implement community objectives? For the intrastate system, does it meet NCDOT mobility objectives? Does the project have a broad base of local support?

b) Cost Effectiveness - How much benefit does the project offer compared to the estimated cost?

[1] The 2040 MTP was in effect at the time of submission to Prioritization 5.0 and the drafting of this *Methodology*; the 2045 MTP is scheduled to be adopted in February 2018.

c) Timing – Is the project needed within the TIP funding cycle? Is timing a critical element for the project (one-time opportunity)? Will the opportunity to do the project be lost if it is not in the current priority cycle?

DCHC MPO staff, the TC and its subcommittee will review local priority lists for adherence to the initial screening criteria and apply the NCDOT scoring criteria listed in Section 2 of this Methodology, before recommending the submission of these projects to Prioritization 5.0.

2) <u>Submission of Projects to the STI Process</u>

For the 2020-2029 TIP, the DCHC MPO will submit projects to NCDOT's SPOT office by September 2017 for the application of the NCDOT's quantitative ranking methodology. The MPO is limited in the number of new projects that may be submitted for each mode (highway, bicycle and pedestrian, public transportation, aviation, ferry and rail), but can submit an additional project for each existing project removed from the system. NCDOT Division Engineers can also submit projects for each of their Divisions but are also limited in the number of new projects per mode that may be submitted.

DCHC MPO will combine the local priority lists into a list that the MPO will use to prioritize projects for submission. In the event that more highway, bicycle and pedestrian, public transportation, or rail projects are submitted to the MPO than the MPO is allowed submit to NCDOT, the DCHC MPO will work with a TC subcommittee to select projects based the NCDOT scoring criteria for each mode. For Prioritization 5.0 there were no ferry or aviation projects submitted within the DCHC MPO area. DCHC MPO will request that the Division Engineers submit any additional projects that the DCHC MPO may not be able to submit because the MPO is limited in the number of projects that may be submitted.

DCHC MPO Preliminary Project Ranking

Highway Projects
Highway projects may be scored and funded by any of the three funding categories (Statewide, Regional, or Division). NCDOT has developed a different highway project scoring process for each of the three funding categories. The DCHC MPO will utilize the scoring processes developed by NCDOT to preliminarily rank projects to be submitted to NCDOT SPOT for evaluation. A project that is eligible for the Statewide funding category but is not funded under that category can cascade down to the Regional category for evaluation and possible funding. If the project is not funded under the Regional category, the project may cascade down to the Division category for evaluation and possible funding.

The NCDOT SPOT process limits the number of projects that MPOs may submit. In the event that more new project requests are received than the MPO can submit, the DCHC MPO will apply the scoring criteria developed by the NCDOT that reflect the SPOT 5.0 Workgroup recommendations that were submitted to the NCDOT Board of Transportation in June 2017. This will provide a set of preliminary scores that can be used to rank projects.

For Prioritization 5.0, Divisions 5, 7, and 8 each adopted a set of alternate criteria for highway projects (alternate criteria was not an option for non-highway projects). Those alternate criteria are shown below.

NCDOT and DCHC MPO Scoring Criteria for Highway Projects

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Statewide Mobility	**Benefit/Cost = 25%** • Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT. **Congestion = 30%** • Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway, weighted by the total traffic volume along the roadway. • 60% Existing Volume/Capacity Ratio • 40 Existing Volume **Economic Competitiveness = 10%** • Measurement of the estimated number of long-term jobs and the % change in economic activity within the county that the project is expected to provide over 10 years. **Safety = 10%** • Measurement of the number, severity, and density of crashes along the roadway and calculate future safety benefits. **Freight = 25%** • Measurement of existing truck volume and whether or not the roadway is part of a future interstate highway. **Total = 100%**	--	--
Regional Impact	**Benefit/Cost = 20%** • Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT. **Congestion = 20%** • Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway, weighted by the total traffic volume along the roadway. • 80% Existing Volume/Capacity Ratio • 20% Existing Volume **Safety = 10%** • Measurement of the number, severity, and density of crashes along the roadway and calculate future safety benefits. **Accessibility/Connectivity = 10%** • Measurement of county economic distress indicators and whether the project upgrades how the roadway functions. Goal of improving access to opportunity in rural and less-affluent areas and improving interconnectivity of the transportation network. **Freight = 10%** • Measurement of existing truck volume and whether or not the roadway is part of a future interstate highway. **Total = 70%** (Division Engineer and Local Input Points account for remaining 30%)	**15%**	**15%**

NCDOT and DCHC MPO Scoring Criteria for Highway Projects - continued

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Division Needs – Division 5	**Benefit/Cost = 20%** • Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT. **Congestion = 15%** • Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway. 100% of this indicator at the Division **Safety = 15%** • Measurement of the number, severity, and frequency of crashes along the roadway. **Total = 50%** (Division Engineer and Local Input Points account for remaining 50%)	**25%**	**25%**
Division Needs – Divisions 7 & 8	**Benefit/Cost = 15%** • Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT. **Congestion = 15%** • Measurement of the Peak ADT traffic volume on the roadway compared to the existing capacity of the roadway. 100% of this indicator at the Division **Safety = 15%** • Measurement of the number, severity, and frequency of crashes along the roadway. **Accessibility/Connectivity = 5%** • Measurement of county economic distress indicators and whether the project upgrades how the roadway functions. Goal of improving access to opportunity in rural and less-affluent areas and improving interconnectivity of the transportation network. **Total = 50%** (Division Engineer and Local Input Points account for remaining 50%)	**25%**	**25%**

Public Transportation Projects

Public Transportation projects may be scored and funded within the Regional or Division funding categories. Different types of public transportation projects (vehicle, passenger facility, administrative/maintenance/operations facility, and fixed guideway) have different scoring processes for the Regional and Division categories.

Four transit operators within DCHC submitted projects through DCHC MPO for Prioritization 5.0. Though DCHC MPO was allotted 23 submittal projects for Prioritization 5.0, only 20 were projects were submitted by the local transit agencies for scoring (GoTriangle 10, Chapel Hill Transit 5, GoDurham 4, and Orange Public Transit 1).

NCDOT and DCHC MPO Scoring Criteria for Public Transportation Projects

Public Transit Scoring (Demand Response)

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Cost Effectiveness = 25%** • Measurement of the total projected passenger trips compared to the cost of the project to the state and lifespan of the project. **Demand/Density = 20%** • Measurement of the number of service hours devoted to the project compared to the service population. **Efficiency = 15%** • Measurement of the vehicle utilization ratio. **Impact = 10%** • Measurement of the number trips affected by the project. **Total = 70%** (Division Engineer and Local Input Points account for remaining 30%)	**15%**	**15%**
Division Needs	**Cost Effectiveness = 15%** • Measurement of the total projected passenger trips compared to the cost of the project to the state and lifespan of the project. **Demand/Density = 15%** • Measurement of the number of service hours devoted to the project compared to the service population. **Efficiency = 10%** • Measurement of the vehicle utilization ratio. **Impact = 10%** • Measurement of the number trips affected by the project. **Total = 50%** (Division Engineer and Local Input Points account for remaining 50%)	**25%**	**25%**

Public Transit Scoring (Facilities)

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Cost Effectiveness = 25%** • Measurement of the total projected passenger trips compared to the cost of the project to the state and lifespan of the project. **Impact = 20%** • Measurement of the number trips affected by the project. **Efficiency = 15%** • Measurement of efficiency of the project. **Demand/Density = 10%** • Measurement of the ridership growth trend for the previous five years. **Total = 70%** (Division Engineer and Local Input Points account for remaining 30%)	**15%**	**15%**
Division Needs	**Cost Effectiveness = 15%** • Measurement of the total projected passenger trips compared to the cost of the project to the state and lifespan of the project. **Impact = 15%** • Measurement of the number trips affected by the project. **Demand/Density = 10%** • Measurement of the ridership growth trend for the previous five years. **Efficiency = 10%** • Measurement of efficiency of the project. **Total = 50%** (Division Engineer and Local Input Points account for remaining 50%)	**25%**	**25%**

Public Transit Scoring (Mobility)

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Cost Effectiveness = 25%** • Measurement of the total projected passenger trips compared to the cost of the project to the state and lifespan of the project. **Demand/Density = 20%** • Measurement of the number of total trips as a percentage of the service population. **Impact = 15%** • Number of trips affected by the project. **Efficiency = 10%** • Total number of trips as a ratio of the total revenue seat hours. **Total = 70%** (Division Engineer and Local Input Points account for remaining 30%)	**15%**	**15%**
Division Needs	**Cost Effectiveness = 20%** • Measurement of the total projected passenger trips compared to the cost of the project to the state and lifespan of the project. **Demand/Density = 10%** • Measurement of the number of total trips as a percentage of the service population. **Impact = 10%** • Number of trips affected by the project. **Efficiency = 10%** • Total number of trips as a ratio of the total revenue seat hours. **Total = 50%** (Division Engineer and Local Input Points account for remaining 50%)	**25%**	**25%**

Bicycle and Pedestrian Projects
Bicycle and pedestrian projects are scored and funded within the Division Needs funding category; therefore NCDOT utilizes only one scoring process for bicycle and pedestrian projects. DCHC MPO will utilize the scoring processes developed by NCDOT to preliminarily rank projects to be submitted to NCDOT SPOT for evaluation.

The NCDOT SPOT process limits the number of projects that MPOs may submit. In the event that more new project requests are received than the MPO can submit, the DCHC MPO will apply the scoring criteria developed by the NCDOT that reflect the SPOT 5.0 Workgroup recommendations that were submitted to the NCDOT Board of Transportation in June 2017. This will provide a set of preliminary scores that can be used to rank projects.

NCDOT and DCHC MPO Scoring Criteria for Bicycle and Pedestrian Projects

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Division Needs	**Safety = 15%** • Measurement of number of bicycle and/or pedestrian crashes, speed limit, and safety benefits to determine adequacy of safety for users of the project. **Access = 10%** • Measurement of the quantity and significance of destinations associated with the project as well as the distance to the primary destination. **Demand = 10%** • Measurement of the density of population and employment within a walkable or bike-able distance of the project. **Connectivity = 10%** • Measurement of the degree of bike/ped separation from the roadway, whether or not the project is part of or a connection to a national, state, or regional bike route, and connectivity to a similar or better project type. **Cost Effectiveness = 5%** • Measurement of combined user benefits of Safety, Access, Demand, and Connectivity criteria compared to the cost of the project to NCDOT. **Total = 50%** (Division Engineer and Local Input Points account for remaining 50%)	**25%**	**25%**

Rail Projects

Rail projects may be scored and funded within any of the three funding categories (Statewide, Regional, or Division). The MPO will coordinate closely with the NCDOT Rail Division on the identification, prioritization, and submission of rail projects. DCHC MPO will follow the criteria developed by the SPOT 5.0 Workgroup that were submitted to the NCDOT Board of Transportation in June 2017.

NCDOT and DCHC MPO Scoring Criteria for Rail Projects

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Statewide Mobility (Class I Freight Only)	**Benefit-Cost = 35%** • Measurement of monetized benefits compared to the project cost to NCDOT. **Safety = 30%** • Measurement of potentially hazardous rail crossings and other safety benefits. **System Opportunities = 15%** • Measurement of accessibility and connectivity provided by the project, and connections to multimodal opportunities. **Capacity and Diversion = 10%** • Volume/Capacity = 75% • Highway Diversion = 25% **Economic Competitiveness = 10%** • Measurement of economic benefits of the project. **Total = 100%**	--	--
Regional Impact	**Benefit-Cost = 25%** • Measurement of monetized benefits compared to the project cost to NCDOT. **Safety = 15%** • Measurement of potentially hazardous rail crossings and other safety benefits. **System Opportunities = 10%** • Measurement of accessibility and connectivity provided by the project, and connections to multimodal opportunities. **Capacity and Diversion = 10%** • Volume/Capacity = 75% • Highway Diversion = 25% **Economic Competitiveness = 10%** • Measurement of economic benefits of the project. **Total = 70%** (Division Engineer and Local Input Points account for remaining 30%) **Total = 100%**	**15%**	**15%**

NCDOT and DCHC MPO Scoring Criteria for Rail Projects - continued

Funding Category	Quantitative Data	Local Input	
Division Needs	**System Opportunities = 15%** • Measurement of accessibility and connectivity provided by the project, and connections to multimodal opportunities. **Benefit-Cost = 10%** • Measurement of monetized benefits compared to the project cost to NCDOT. **Safety = 10%** • Measurement of potentially hazardous rail crossings and other safety benefits. **Capacity and Diversion = 10%** • Volume/Capacity = 75% • Highway Diversion = 25% **Economic Competitiveness = 5%** Measurement of economic benefits of the project **Total = 50%** (Division Engineer and Local Input Points account for remaining 50%)	**25%**	**25%**

RECOMMENDED ALLOCATION OF THE MPO'S LOCAL INPUT POINTS

Overview

As previously explained in this *Methodology*, DCHC MPO will utilize the NCDOT Prioritization 5.0 scoring criteria to preliminarily rank MPO projects for submission to NCDOT for quantitative evaluation. Upon submission to NCDOT, projects within the MPO will be evaluated according to NCDOT's quantitative ranking methodology.

DCHC MPO will receive the results of the NCDOT quantitative evaluation scoring process and the project data used by NCDOT to develop the scores. NCDOT's raw quantitative scores will be reviewed by the DCHC MPO and staff of MPO member jurisdictions and agencies. The NCDOT's raw quantitative scores serve as the quantitative basis for the MPO's prioritization of projects.

The allocation of the DCHC MPO's Local Input Points to high priority projects serves as the qualitative component of the prioritization process. The DCHC MPO's Local Input Points will be allocated to projects that aim to achieve the goals of the adopted Metropolitan Transportation Plan (MTP) and align with the priorities of the DCHC MPO.

The DCHC MPO's project ranking process and subsequent allocation of Local Input Points must capture the goals of DCHC MPO and not just be purely based on the results of data-driven processes. The process and results should also capture input received from citizens, elected officials, and stakeholders in the DCHC MPO area. It is important to consider the needs of all communities that are located in the DCHC MPO area in the allocation of Local Input Points to priority projects.

Collaboration with NCDOT Divisions is also an important component of DCHC MPO's allocation of Local Input Points. Projects that receive the MPO's Local Input Points ***and*** Division Engineer Points will have an overall better score than projects that don't receive points from both the MPO and a Division Engineer. Coordinating with NCDOT Division Engineers will ensure that priority projects in the DCHC MPO area have the best possible chance to be funded in the next NCDOT STIP and MPO TIP.

It should be noted that projects in the Statewide Mobility category are not eligible for DCHC MPO Local Input Points, and therefore will not be reviewed and prioritized by DCHC MPO as part of the process for allocation of Local Input Points. DCHC MPO will prioritize and allocate Local Input Points to eligible projects in the Regional Impact and Division Needs funding categories.

Ranking Processes for the Allocation of Local Input Points

Per the guidance that was provided by the NCDOT SPOT Office, at least two qualitative criteria will be used for the purpose of allocation of local points. The table below shows the criteria to be used to rank projects for assignment of local points. Projects will be ranked based on a six-point scale.

Criteria	Maximum Points (Highway)	Maximum Points (Non-Highway)
MTP Prioritization[2]		
Project planned for near-term (by MTP 2025 Threshold)	2	
Project planned for mid-term (by MTP 2035 Threshold)	1	
Project planned for long-term (by MTP 2045 Threshold)	0	
Consistent with Adopted Regional or Local Plan		2
Preliminary Engineering or Engineering Study Completed or Underway		1
Allocation of local tax revenues through a DCHC-member jurisdiction voter supported referendum	1	1
DCHC-member jurisdiction demonstrates local funding towards progress in project	1	
Project complements non-highway transportation facility	1	1
Project supports Environmental Justice Community of Concern[3]	1	1
TOTAL MAXIMUM	**6**	**6**

All projects will be ranked based on their score using the rubric above. The rankings will be used to inform TC and Board members regarding allocation points using the method described in the next section.

Allocation of Local Input Points

Projects deemed to be of top priority to the MPO will be assigned the requisite amount of points necessary in order to maximize the project's chances of receiving funding through the SPOT process. NCDOT assigns the number of local prioritization points for each MPO, RPO, and Division based on the area's population. DCHC MPO has been allocated 1,800 points for both the Regional Impacts (Regional) and Division Needs (Division) categories for Prioritization 5.0. Each MPO, RPO, and Division can assign a maximum of 100 points and a minimum of 4 points to each project.

For the MPO's 1,800 Regional Local Input Points, DCHC MPO will assign points to Regional projects among modes and project types according to the distribution below. The distribution below has been structured to reflect the funding goals of the MPO's adopted MTP and the number of eligible Regional category projects in each mode. Statewide projects that cascade down to the Regional category will generally not be assigned Regional Local Input Points unless the project cost is less than $5 million. The MPO Board and TC may deviate from this policy on a case-by-case basis.

- 800 points to Highway
- 500 points to Public Transit
- 500 points could be assigned to any mode and project type

For the MPO's 1,800 Division Local Input Points, DCHC MPO will assign points among modes and project types according to the distribution below. The distribution below has been structured to reflect the funding goals of the MPO's adopted MTP and the number of eligible Division category projects in each mode. Statewide and Regional projects that cascade down to the Division category will generally not be assigned Division Local Input Points unless the project cost is less than $5 million. The MPO Board and TC may deviate from this policy on a case-by-case basis.

[2] Use designations in 2045 MTP as it will be adopted by the time local allocation points are assigned.
[3] For the purposes of this Methodology, an Environmental Justice Community of Concern is an Overlapping Community of Concern as identified in the 2014 DCHC MPO Environmental Justice Report.

- 300 points to Highway
- 500 points to Public Transit
- 500 points to Bicycle and Pedestrian
- 500 points could be assigned to any mode and project type

Deviations from this methodology may be made if any of the following occur:

- A project costs more than the funding available in that category
- A project will not be competitive within its Region or Division even with the application of Local Input Points
- Coordination with the Division Engineer or a neighboring MPO or RPO deems a project should not receive points, or will receive points from another MPO, RPO, or Division
- The DCHC MPO Board, based on a recommendation from the Technical Committee (TC), determines that a lower ranking project is of greater priority and therefore should be assigned points (or more points than assigned through application of the Methodology)
- The DCHC MPO Board determines that a higher ranking project is of lesser priority and therefore should be assigned fewer, or no, points than assigned through application of the Methodology
- The DCHC MPO Board determines that projects in another mode are of higher priority
- The DCHC MPO Board determines that points should be awarded to a particular project to support geographic equity
- Based on public input, the DCHC MPO Board decides to deviate from the project rankings

Should a project receive Local Input Points through a deviation, the Board will note the reason for the deviation and that reason shall be published after final adoption.

Approval of the Allocation of Local Input Points
The DCHC MPO Board will release the draft Project Priority Ranking and application of Local Input Points for public comment and hold a public hearing at an MPO Board meeting. The initial list of projects proposed to receive Local Input Points will be based on the process described above. After review and public comment, the MPO Board will approve the final application of Local Input Points. The MPO Board's approval will be informed by the following:

- The final score and list of initial projects using the process described above;
- The likelihood of receiving funding through STI considering the amount of funding available within each Division or Region, historical funding levels for the mode, and the normalization limitations that NCDOT has adopted;
- The number of eligible projects within the MPO within each funding mode /project type/category;
- The priorities of the current MTP including the adopted distribution of funding between modes and the air quality horizon year of projects;
- The effect that receiving funding for a project may have on the likelihood of other projects being funded in the Division or Region considering the limitations set by the STI legislation;
- If the project is located within an area of overlapping Environmental Justice Communities of Concern identified in the MPO's 2014 Environmental Justice Report;
- Geographic and jurisdictional balance;

- Coordination with the Division Engineers and neighboring MPOs and RPOs on the assignment of points;
- Public input and support as evidenced through public comments submitted to the MPO, the MPO's public hearing, public involvement efforts of local governments, and local referenda;
- The MPO Board members' knowledge of the urban area and the policies of their communities; and
- Other factors as identified. If the MPO Board varies from the recommended allocation of points, MPO staff will document the rationale and will post the documentation on the MPO's website.

After the DCHC MPO Board approves the allocation of Local Input Points to projects in the DCHC MPO area, MPO staff will submit the projects with the Local Input Points applied to NCDOT for use in Prioritization 5.0.

Public Involvement

All public involvement for this process will be conducted in accordance with the DCHC MPO's Public Involvement Policy. As is the MPO's standard practice for all DCHC MPO Board and TC agenda items, all relevant materials, documentation of this process, and TC and MPO Board meeting materials and minutes will be posted on the DCHC MPO's website, www.dchcmpo.org.

The DCHC MPO Public Involvement Policy sets a minimum 21-day public comment period for this process and requires a public hearing at an MPO Board meeting. This public comment period and public hearing will be advertised in accordance with the Public Involvement Policy. Public comments will be documented, summarized, and responses will be provided. In addition, all DCHC MPO Board and TC meetings are public meetings and include the opportunity for public comment. Comments provided at any meeting will be considered.

The DCHC MPO web site will include the following on its Local Methodology tab for the FY2020-2029 TIP web page:

- Link to the NCDOT STI Prioritization Resources web site
- Updated drafts of the Methodology as they are available
- Schedule for adoption of the Methodology and Local Points
- Schedule of milestones in the Methodology and Local Input Points adoption process
- Preliminary and final local input point assignment sheets

DCHC MPO will follow the schedule below for public comment and adoption of this Methodology:

December 2017 – Draft Methodology reviewed by the DCHC MPO TC (materials published online for public review); TC recommends that DCHC MPO Board release *Draft Methodology* for public comment

January 2018 – DCHC MPO Board reviews Draft Methodology and releases for 21-day public comment period; TC has second review and makes recommendation to the Board

February 2018 – Board holds public hearing, reviews public comments, and adopts Methodology (including any changes based on public comment); DCHC MPO staff submits the Methodology to NCDOT

Review Committee; TC reviews comments from NCDOT Review Committee and recommends changes to Methodology, if necessary

March 2018 – Board adopts revised Methodology, if necessary

Comments on the DCHC MPO's *Methodology for Identifying and Ranking TIP Project Requests* or any information contained within may be submitted in writing to the DCHC MPO using the contact information below. Comments may also be offered during any DCHC MPO Board or DCHC MPO TC meeting. All meetings are open to the public and meeting schedules are available on the DCHC MPO's website www.dchcmpo.org.

Aaron Cain, AICP
Senior Transportation Planner
DCHC MPO
City of Durham DOT
101 City Hall Plaza
Durham, NC 27701
(919) 560-4366 x36443
email: aaron.cain@durhamnc.gov

MEMORANDUM

To: DCHC MPO Board

From: DCHC MPO Lead Planning Agency

Date: February 14, 2018

Subject: **Lead Planning Agency (LPA) Synopsis of Staff Report**

This memorandum provides a summary status of tasks for major DCHC MPO projects in the Unified Planning Work Program (UPWP).

- • Indicates that task is ongoing and not complete.
- ✓ Indicates that task is complete.

Major UPWP – Projects

Comprehensive Transportation Plan (CTP)

- ✓ Completed

2045 Metropolitan Transportation Plan (MTP)

- ✓ MTP Schedule/Timeline & development process Approval – January 2016
- ✓ MTP Public Involvement plan – January 2016
- ✓ MTP Goals, Objectives and Performance Measures – In progress
- ✓ Deficiency Analysis & Needs Assessment– May 2017
- ✓ Socioeconomic Forecasts – May 2017
- ✓ Land use Scenarios – May 2017
- ✓ Alternative Analysis – August 2017
- ✓ Preferred Option – October 2017
- ✓ Air Quality analysis and Conformity (not required)
- • Adopt 2045 MTP – March 2018
- ✓ Technical report and implementation – December 2017

MPO Community Viz. Scenarios Planning and Visualization -2.0 (Connect 2025)

- ✓ Field verification – Complete
- ✓ Focus Groups/Delphi Process – FY 2015
- ✓ Model update and testing – September 2016
- ✓ Model/Scenario Building – May 2017
- ✓ Adopted SE Data – December 2017

2016/2017 MPO Data Collection & Surveillance of Change (Traffic/Travel Time/Crash/Transit)

- ✓ Data collection (Volume/Trucks/Travel Time/Speed/Bike/Ped) – ongoing –continuous data collection
- ✓ Data collection (AirSage, INRIX, HERE data)
- ✓ Transit data collection – ongoing –continuous data collection

GIS Online (AGOL)/Data Management

- ✓ MPO Interactive GIS/Mapping – Continuous/On-going
- ✓ Development of public portals for MPO applications – Continuous/On-going
- ✓ Maintenance and updates – Continuous/On-going
- ✓ Development of open data – Continuous/On-going

MPO Website Update and Maintenance

- ✓ Post Launch Services – Continuous/On-going
- ✓ Interactive GIS – Continuous/On-going
- ✓ Facebook/Twitter management – Continuous/On-going
- ✓ Enhancement of Portals – Continuous/On-going

Triangle Regional Model Update

- ✓ Completed
- Work Commences on the Rolling Household Survey

Prioritization 5.0/STI

- ✓ Summarize MPO P4 projects not funded ("Holding Tank" for P5) –February 2017
- ✓ Board approves existing projects revisions/modifications projects to be submitted for SPOT-5 – May 10, 2017 (deadline July 30, 2017)
- ✓ Preparation and ranking of new projects (23 for each mode) –February to June 2017
- ✓ Existing project revision/modification/deletion due to NCDOT for receiving extra new submittals (one out, one in) – July 30, 2017
- ✓ SPOT-5 Online opens for entering new P5 projects July 5 (deadline September 29, 2017)
- ✓ Board approves new projects to be submitted for SPOT-5 – September 13, 2017
- ✓ MPO submits new SPOT-5 projects to NCDOT – September 29, 2017
- ✓ LPA updates local ranking methodology – December 2017
- ✓ TCC makes recommendation on local ranking methodology – January 2018
- Board approves local ranking methodology – March 2018
- Deadline for approval of Local Input Points Assignment Methodologies – April 1, 2018
- MPO applies local ranking methodology (points) – April - June 2018
- Board releases MPO assigned points for local input/public comments – May 9, 2018
- Board holds public hearing on locally assigned points – June 2018
- LPA addresses public comments and makes draft recommendation on local points for Regional category – June 2018
- Approval of Regional Impact points – June 2018
- Submission of Regional Impact points to NCDOT – June 2018
- Assignment of Division Needs points (begins August 2018)

2018-2027 TIP

- ✓ LPA Staff releases call for projects for inclusion into 2018-27 MTIP – February 22, 2017
- ✓ MPO Board releases Draft STIP for public comment – March 8, 2017
- ✓ MPO Board holds public hearing on Draft STIP – April 12, 2017
- ✓ Local projects due to LPA staff for inclusion in MTIP – April 17, 2017
- ✓ Final amendments to FY16-25 STIP due to LPA staff – May 10, 2017
- ✓ TC reviews final FY16-25 STIP Amendment – May 24, 2017
- ✓ Draft MTIP prepared by LPA staff – July 14, 2017
- ✓ TC reviews Draft MTIP – July 26, 2017
- ✓ MPO Board reviews Draft MTIP –August 9, 2017

- ✓ State Board of Transportation approves FY18-27 STIP – August 2017
- ✓ TC approval of the 2018-27 MTIP – October 25, 2017
- ✓ MPO Board Approval of the 2018-2027 MTIP – November 8, 2017

Regional Freight Plan

- ✓ Consultant Selection/Contract Approval Complete
- ✓ Kick-Off Meeting – Conducted in July 2015
- ✓ Stakeholder outreach and engagement – October 2015
- ✓ Formation of the freight advisory committee – October 2015
- ✓ Data collection, analysis and assessment – November 2015
- ✓ Freight goals & objectives and performance measures – February 2016
- ✓ Analysis of freight existing conditions and trends – TBD
- ✓ Forecasts of future demands (2035 and 2045) – TBD
- ✓ Evaluation of future conditions – TBD
- ✓ Strategic freight corridors and zones – TBD
- ✓ Recommendation & implementation strategies – TBD
- Final report and presentation – TBD

MPO ADA Transition Plan

- ✓ Update self-assessment – Underway
- ✓ Draft MPO Transition Plan – August 2015
- ✓ Local reviews – September 2015
- ✓ FHWA review – September 2015
- ✓ Public comments – October-December 2015
- ✓ Stakeholder outreach – February 2017
- ✓ Roundtable discussion – May 11, 2017
- ✓ Self-assessment Data Analysis – July 2017-December 2017
- FHWA/NCDOT Final Review – February 2018
- ✓ Final approval – December 2017

NC 98 Corridor Study

- ✓ Project kick-off and initial public engagement – February 2017
- ✓ Transportation analysis (and public engagement) – June 2017
- ✓ Conceptual designs and options (and public engagement) – September/October 2017
- Final plan – February 2018

NC 54 West Corridor Study

- ✓ Select consultant – February 2017
- ✓ Project kick-off and initial public engagement – September 2017
- ✓ Inventory and Existing Conditions – November 2017
- ✓ Transportation analysis (and public engagement) – January 2018
- Conceptual designs and options (and public engagement) – April 2018
- Final plan – August 2018

US 15-501 Corridor Study

- ✓ Funding approved by NCDOT
- Project Management Plan
- Public engagement plan
- Technical Kick-off meeting

- Development of corridor vision goals and performance measures
- Development of corridor profile
- Prepare summary of existing plans
- Prepare community profile report
- Develop and forecast travel profile/multi modal analysis
- ITS Screening
- Accessibility evaluation
- Evaluation of alternative strategies
- Implementation plan and final report
- Plan adoption
- SPOT submittal

Regional Intelligent Transportation System

- ✓ Project management plan
- Development of public involvement strategy and communication plan
- Conduct stakeholder workshops
- Analysis of existing conditions
- Assessment of need and gaps
- Review existing deployments and evaluate technologies
- Identification of ITS strategies
- Update Triangle Regional Architecture
- Develop Regional Architecture Use and maintenance
- Develop project prioritization methodology
- Prepare Regional ITS Deployment Plan and Recommendation
-

Regional Toll Study

- ✓ Prepare project management and coordination plan
- ✓ Project initiation
- Survey and questionnaire/education
- Data preparation /data collection/screening
- Review state of the practice
- Analysis of market characteristics
- Screening
- Tolling and managed lane strategies
- Recommendations
- Project prioritization

Project Development/NEPA

- US 70 Freeway Conversion
- NC 54 Widening
- NC 147 Interchange Reconstruction
- I-85
- I-40

DOLRT-Engineering

- Administration of the Staff Working Group
- Review of engineering plans
- Stakeholder participation

Safety Performance Measures Target Setting

- ✓ Data mining and analysis
- ✓ Development of rolling averages and baseline
- ✓ Development of targets setting framework
- ✓ Estimates of achievements
- Forecast of data and measures

Up Coming Projects

- Mobility Report Card
- Congestion Management Process (CMP)
- State of Systems Report

Contract Number: C203394
Route: I-885, NC-147, NC-98 US-70
Division: 5
County: Durham
TIP Number: U-0071
Length: 4.009 miles
Federal Aid Number:
NCDOT Contact: Cameron D. Richards
NCDOT Contact No: (919)835-8200
Location Description: EAST END CONNECTOR FROM NORTH OF NC-98 TO NC-147 (BUCK DEAN FREEWAY) IN DURHAM.
Contractor Name: DRAGADOS USA INC
Contract Amount: $141,949,500.00
Cost Overrun/Underrun: 6.15%
Work Began: 02/26/2015
Letting Date: 11/18/2014
Original Completion Date: 05/10/2020
Revised Completion Date:
Latest Payment Thru: 01/22/2018
Scheduled Progress: 57.48%
Latest Payment Date: 01/30/2018
Actual Progress: 61.22%

Contract Number: C203492
Route: SR-2220
Division: 5
County: Durham
TIP Number: EB-4707B
Length: 1.756 miles
Federal Aid Number: STPDA-0505(64)
NCDOT Contact: Troy B. Brooks, PE
NCDOT Contact No: (919)707-2400
Location Description: SR-2220 (OLD CHAPEL HILL ROAD) FROM SR-1113 (POPE ROAD) TO SR-1116 (GARRETT ROAD).
Contractor Name: FSC II LLC DBA FRED SMITH COMPANY
Contract Amount: $7,295,544.75
Cost Overrun/Underrun: 1.09%
Work Began: 06/26/2017
Letting Date: 05/16/2017
Original Completion Date: 05/14/2019
Revised Completion Date:
Latest Payment Thru: 12/31/2017
Scheduled Progress: 28.61%
Latest Payment Date: 01/09/2018
Actual Progress: 31.1%

Contract Number: C203567
Route: NC-55
Division: 5
County: Durham
TIP Number: U-3308
Length: 1.134 miles
Federal Aid Number: STP-55(20)
NCDOT Contact: Troy B. Brooks, PE
NCDOT Contact No: (919)707-2400
Location Description: NC-55 (ALSTON AVE) FROM NC-147 (BUCK DEAN FREEWAY) TO NORTH OF US-70BUS/NC-98 (HOLLOWAY ST).
Contractor Name: ZACHRY CONSTRUCTION CORPORATION
Contract Amount: $39,756,916.81
Cost Overrun/Underrun: 1.98%
Work Began: 10/05/2016
Letting Date: 07/19/2016
Original Completion Date: 03/30/2020
Revised Completion Date: 07/16/2020
Latest Payment Thru: 01/15/2018
Scheduled Progress: 17%
Latest Payment Date: 01/24/2018
Actual Progress: 21.8%

Contract Number: C204087
Route: US-70
Division: 5
County: Durham
TIP Number:
Length: 44.124 miles
Federal Aid Number:
NCDOT Contact: Cameron D. Richards
NCDOT Contact No: (919)835-8200
Location Description: 1 SECTION OF US-70 AND 106 SECTIONS OF SECONDARY ROADS.
Contractor Name: CAROLINA SUNROCK LLC
Contract Amount: $0.00
Cost Overrun/Underrun: 0%
Work Began: 01/16/2018
Letting Date: 09/19/2017
Original Completion Date: 11/15/2018
Revised Completion Date:
Latest Payment Thru:
Scheduled Progress: 0%
Latest Payment Date:
Actual Progress: 0%

Contract Number: DE00173
Route: SR-1104
Division: 5
County: Durham
TIP Number: W-5205V
Length: 0 miles
Federal Aid Number: HSIP-1104(19)
NCDOT Contact: Troy B. Brooks, PE
NCDOT Contact No: (919)707-2400
Location Description: SR 1104/SR 1105 (HERNDON RD) AT SR 1106 (MASSEY CHAPEL/ BARBEE RD) IN DURHAM COUNTY
Contractor Name: TRIANGLE GRADING & PAVING INC
Contract Amount: $1,046,988.75
Cost Overrun/Underrun: 8.98%
Work Began: 05/01/2017
Letting Date: 11/09/2016
Original Completion Date: 08/18/2017
Revised Completion Date: 10/31/2017
Latest Payment Thru: 01/15/2018
Scheduled Progress: 100%

Latest Payment Date: 01/24/2018 **Actual Progress:** 64.41%

Contract Number: DE00195 **Route:** I-85
Division: 5 **County:** Durham
TIP Number: I-5729A
Length: 0 miles **Federal Aid Number:** NHPP-0085(027)
NCDOT Contact: Troy B. Brooks, PE **NCDOT Contact No:** (919)707-2400
Location Description: I-85 FROM 0.5 MILES W OF US 501 TO 0.1 MILES EAST OF SR 1827 IN DURHAM COUNTY
Contractor Name: FSC II LLC DBA FRED SMITH COMPANY
Contract Amount: $3,797,637.47 **Cost Overrun/Underrun:** -3.99%
Work Began: 07/22/2017 **Letting Date:** 03/08/2017
Original Completion Date: 10/31/2017 **Revised Completion Date:** 12/15/2017
Latest Payment Thru: 01/07/2018 **Scheduled Progress:** 100%
Latest Payment Date: 01/22/2018 **Actual Progress:** 94.06%

Contract Number: DE00206 **Route:** -
Division: 5 **County:** Durham
TIP Number:
Length: 0.23 miles **Federal Aid Number:**
NCDOT Contact: Cameron D. Richards **NCDOT Contact No:** (919)835-8200
Location Description: BRIDGE #117 OVER MUD CREEK SR 1308 (CORNWALLIS ROAD)
Contractor Name: DANE CONSTRUCTION INC
Contract Amount: $0.00 **Cost Overrun/Underrun:** 0%
Work Began: **Letting Date:** 12/13/2017
Original Completion Date: **Revised Completion Date:**
Latest Payment Thru: **Scheduled Progress:** 0%
Latest Payment Date: **Actual Progress:** 0%

Contract Number: DE00211 **Route:** SR-VARY
Division: 5 **County:** Durham
TIP Number: R-5785B
Length: 0 miles **Federal Aid Number:** TAP-0505(079)
NCDOT Contact: Cameron D. Richards **NCDOT Contact No:** (919)835-8200
Location Description: MUNICIPALITIES OVER 5,000 POPULATION VARIOUS ROUTES DIVISIONWIDE
Contractor Name: CAROLINA EARTH MOVERS INC
Contract Amount: $0.00 **Cost Overrun/Underrun:** 0%
Work Began: 05/30/2017 **Letting Date:** 03/20/2017
Original Completion Date: 08/31/2017 **Revised Completion Date:** 05/09/2018
Latest Payment Thru: **Scheduled Progress:** 0%
Latest Payment Date: **Actual Progress:** 0%

Contract Number: DE00212 **Route:** SR-VARY
Division: 5 **County:** Durham
TIP Number: R-5785A
Length: 0 miles **Federal Aid Number:** TAP-0505(078)
NCDOT Contact: Cameron D. Richards **NCDOT Contact No:** (919)835-8200
Location Description: MUNICIPALITIES LESS THAN 5,000 POPULATION VARIOUS ROUTES DIVISIONWIDE
Contractor Name: CAROLINA EARTH MOVERS INC
Contract Amount: $54,250.00 **Cost Overrun/Underrun:** 90.7%
Work Began: 11/01/2017 **Letting Date:** 10/12/2016
Original Completion Date: 08/31/2017 **Revised Completion Date:** 05/09/2018
Latest Payment Thru: 12/31/2017 **Scheduled Progress:** 20%
Latest Payment Date: 01/10/2018 **Actual Progress:** 53.77%

Contract Number: DE00213 **Route:** NC-55
Division: 5 **County:** Durham
TIP Number:
Length: 0 miles **Federal Aid Number:**
NCDOT Contact: Cameron D. Richards **NCDOT Contact No:** (919)835-8200
Location Description: VARIOUS PRIMARY AND SECONDARY ROUTES IN DURHAM COUNTY
Contractor Name: CAROLINA SUNROCK LLC
Contract Amount: $4,169,878.04 **Cost Overrun/Underrun:** 3.65%
Work Began: 10/18/2017 **Letting Date:** 06/28/2017
Original Completion Date: 06/01/2018 **Revised Completion Date:**
Latest Payment Thru: 01/31/2018 **Scheduled Progress:** 38%
Latest Payment Date: **Actual Progress:** 28.01%

Contract Number: DE00214 **Route:** SR-XXX

Division: 5 **County:** Durham
TIP Number:
Length: 0 miles **Federal Aid Number:**
NCDOT Contact: Troy B. Brooks, PE **NCDOT Contact No:** (919)707-2400
Location Description: VARIOUS SECONDARY ROUTES IN DURHAM AND PERSON COUNTIES
Contractor Name: WHITEHURST PAVING CO INC
Contract Amount: $0.00 **Cost Overrun/Underrun:** 0%
Work Began: **Letting Date:** 06/14/2017
Original Completion Date: 07/01/2018 **Revised Completion Date:**
Latest Payment Thru: **Scheduled Progress:** 0%
Latest Payment Date: **Actual Progress:** 0%

Contract Number: DE00216 **Route:** SR-1361
Division: 5 **County:** Durham
TIP Number: W-5601GD, W-5601GG, W-5601HX W-5601HY
Length: 0 miles **Federal Aid Number:** HSIP-1361(010)
NCDOT Contact: Troy B. Brooks, PE **NCDOT Contact No:** (919)707-2400
Location Description: SR 1361 (VICKERS AVE) AT LAKEWOOD AVENUE IN DURHAM COUNTY
Contractor Name: BRENTWOOD DISPLAY SERVICES INC.
Contract Amount: $211,982.82 **Cost Overrun/Underrun:** 8.23%
Work Began: 07/05/2017 **Letting Date:** 05/24/2017
Original Completion Date: 12/05/2017 **Revised Completion Date:**
Latest Payment Thru: 12/31/2017 **Scheduled Progress:** 100%
Latest Payment Date: 01/11/2018 **Actual Progress:** 68.27%

Contract Number: DE00228 **Route:** I-85
Division: 5 **County:** Durham
TIP Number: I-5729
Length: 5.61 miles **Federal Aid Number:** NHPP-0085(013)
NCDOT Contact: Troy B. Brooks, PE **NCDOT Contact No:** (919)707-2400
Location Description: I-85 FROM US-15/501 TO EAST OF SR-1827 (MIDLAND TERRACE RD) IN DURHAM
Contractor Name: INTERSTATE IMPROVEMENT INC
Contract Amount: $0.00 **Cost Overrun/Underrun:** 0%
Work Began: 03/01/2018 **Letting Date:** 10/11/2017
Original Completion Date: 11/01/2018 **Revised Completion Date:**
Latest Payment Thru: **Scheduled Progress:** 0%
Latest Payment Date: **Actual Progress:** 0%

Contract Number: DE00230 **Route:** -
Division: 5 **County:** Durham
TIP Number: W-5601EH
Length: 0 miles **Federal Aid Number:** HSIP-1118(007)
NCDOT Contact: **NCDOT Contact No:**
Location Description: SR 1118 (FAYETTEVILLE ROAD) AT COOK ROAD (SOUTHERN INTERSECTION) IN DURHAM
Contractor Name: FULCHER ELECTRIC OF FAYETTEVILLE INC
Contract Amount: $0.00 **Cost Overrun/Underrun:** 0%
Work Began: 02/15/2018 **Letting Date:** 12/13/2017
Original Completion Date: 04/15/2018 **Revised Completion Date:**
Latest Payment Thru: **Scheduled Progress:** 0%
Latest Payment Date: **Actual Progress:** 0%

NCDOT Division 5 Contract Status

Let Est	TIP Sub No.	Let Type	Description	R/W (B)	Con Est	ROW Est	Comments
10/17	C-5178	NON - DOT LET (LAP)	DURHAM - CAMPUS WALK AVENUE, MORREENE ROAD TO LASALLE STREET AND LASALLE STREET, KANGAROO DRIVE TO ERWIN ROAD CONSTRUCTSIDEWALKS		$336,000		
10/17	U-4726HM	NON - DOT LET (LAP)	DURHAM - SIDEWALK ON AVONDALE DRIVE				
11/17	W-5707C	On Call Contract (OCC)	I-40 WESTBOUND AT US 15-501 SOUTH OF DURHAM IN ORANGE AND DURHAM COUNTIES. REVISE PAVEMENT MARKINGS AND OVERHEAD LANE USE SIGNS ON I-40 WESTBOUND IN VICINITY OF US 15-501.	06/17	$145,000		Division 7 Design
11/17	SR-5001C	NON - DOT LET (LAP)	SAFE ROUTES TO SCHOOLS DURHAM - FAYETTEVILLE STREET ELEMENTARY SCHOOL	07/16			
12/17	W-5601EM	Division POC Let (DPOC)	SR 1118 (FAYETTEVILLE ROAD) AT PILOT STREET AND CECIL STREET. SAFETY IMPROVEMENTS.		$14,000		waiting on Durham to complete road diet project related to SR-5001C
12/17	U-4726HJ	NON - DOT LET (LAP)	CONSTRUCTION OF SIDEWALKS ON NC 751 BETWEEN GARRETT RD AND NC 54, AND ON NC 54 BETWEEN NC 751 AND DRESDEN DRIVE				
01/18	B-4943	Raleigh Letting (LET)	REPLACE BRIDGE 20 OVER DIAL CREEK ON SR 1616	12/16	$1,450,000	$92,000	
01/18	W-5705C	Division POC Let (DPOC)	US 501 AT GARRETT ROAD, US 501 BUSINESS AT WESTGATE DRIVE,US 501 BUSINESS AT TOWER BOULEVARD, AND US 501 BUSINESS AT SHANNON ROAD SAFETY IMPROVEMENTS		$375,000		plans received, need environmental documents and R/W certification
05/18	15005.1032011	Division POC Let (DPOC)	REDWOOD ROAD BRIDGE				
06/18	EB-4707A	Division POC Let (DPOC)	SR 1838/ SR 2220 FROM US 15/501 IN ORANGE COUNTY TO SR 1113(POPE ROAD) IN DURHAM COUNTY BICYCLE, PEDESTRIAN AND TRANSIT IMPROVEMENTS	08/15	$3,500,000	$1,534,000	
06/18	W-5705K	Division POC Let (DPOC)	SR 1327(GREGSON STREET)AT LAMOND AVENUE(MP:0.386-0.386); AND SR 1445(DUKE STREET)AT WEST CORPORATION STREET (MP:1.230-1.230) SAFETY IMPROVEMENTS	06/17	$65,000	$5,000	Gregson/Lamond under design, Duke/Corporation under construction by city forces
06/18	U-5745	Division POC Let (DPOC)	NC 751 (HOPE VALLEY ROAD) AT SR 1183 (UNIVERSITY DRIVE) INTERSECTION IN DURHAM. CONSTRUCT ROUNDABOUT.	10/17	$1,300,000	$150,000	Public meeting held. R/W acquisition underway.
07/18	EB-5514	NON - DOT LET (LAP)	UNIVERSITY DRIVE (SR 2220, NC 751, SR 1183) FROM SR 2220 OLD CHAPEL HILL ROAD) TO SR 1158 (WEST CORNWALLIS ROAD)		$1,025,000		
09/18	C-5183B	NON - DOT LET (LAP)	SR 1945 (S ALSTON AVENUE) FROM SR 1171 (RIDDLE ROAD) TO CAPPS STREET. CONSTRUCT SIDEWALKS IN DURHAM		$706,000	$99,000	
09/18	U-4724	NON - DOT LET (LAP)	SR 1158 (CORNWALLIS RD) FROM SOUTH ROXBORO RD TO SR 1183 (UNIVERSITY DR) IN DURHAM, BIKE AND PEDESTRIAN FEATURES.		$4,978,000		
04/19	U-5968	Raleigh Letting (LET)	CITY OF DURHAM UPGRADE ITS / SIGNAL SYSTEM				
07/19	SS-4905EZ	On Call Contract (OCC)	NC 98 at Adams St. and NC 98 at Woodcrest St. - signal at Adams and channelization at Woodcrest	06/18	$160,000	$40,000	Surveys completed.
08/19	U-5516	Raleigh Letting (LET)	FROM US 501 (ROXBORO ROAD) TO SR 1448 (LATTA ROAD) / SR 1639 (INFINITY ROAD) IN DURHAM	08/18	$5,500,000	$2,000,000	Second public meeting held in September.
09/19	EB-5703	NON - DOT LET (LAP)	DURHAM - LASALLE STREET FROM KANGAROO DRIVE TO SPRUNT AVENUE		$525,000		

NCDOT Division 5 Contract Status

Let Est	TIP Sub No.	Let Type	Description	R/W (B)	Con Est	ROW Est	Comments
09/19	EB-5704	NON - DOT LET (LAP)	DURHAM - RAYNOR STREET FROM NORTH MIAMI BOULEVARD TO NORTH HARDEE STREET		$250,000		
09/19	EB-5708	NON - DOT LET (LAP)	NC 54 FROM NC 55 TO RESEARCH TRIANGLE PARK WESTERN LIMIT INDURHAM CONSTRUCT SECTIONS OF SIDEWALK ON SOUTH SIDE		$250,000		
09/19	EB-5715	NON - DOT LET (LAP)	US 501 BYPASS (NORTH DUKE STREET) FROM MURRAY AVENUE TO US 501 BUSINESS (NORTH ROXBORO ROAD) IN DURHAM CONSTRUCT SIDEWALK ON EAST SIDE TO FILL IN EXISTING GAPS		$1,269,000		
09/19	EB-5720	NON - DOT LET (LAP)	BRYANT BRIDGE TRAIL - NC 55 TO KELLY BRYANT BRIDGE IN DURHAM		$1,061,000		
10/19	17BP.5.R.97	Division POC Let (DPOC)	REPLACE BRIDGE 89 OVER LICK CREEK ON SR 1902 DURHAM COUNTY		$1,250,000		
10/19	SM-5705I	Division POC Let (DPOC)	US 70B AT US 15/501 SB RAMP		$350,000	$5,000	
01/20	U-4726HN	NON - DOT LET (LAP)	CONSTRUCT BIKE LANES/SIDEWALKS IN DURHAM - HILLANDALE ROAD	09/17			
02/20	C-4928	NON - DOT LET (LAP)	CONSTRUCT BIKE LANES AND SIDEWALKS ON SR 1317 (MORREENE RD)IN DURHAM FROM NEAL ROAD TO ERWIN ROAD	09/17	$5,783,000	$7,000	
04/20	U-5717	Raleigh Letting (LET)	US 15 / US 501 - SR 1116 (GARRETT ROAD) IN DURHAM. CONVERT AT-GRADE INTERSECTION TO INTERCHANGE.	04/19	$18,000,000	$53,000,000	Public meeting held October 9th.
04/20	17BP.5.R.83	Division POC Let (DPOC)	BRIDGE 84 OVER CHUNKY PIE CREEK ON SR 1815		$445,678		
08/21	U-5823	NON - DOT LET (LAP)	WOODCROFT PARKWAY EXTENSION. FROM SR 1116 (GARRETT ROAD) TONC 751 (HOPE VALLEY ROAD) IN DURHAM. CONSTRUCT ROADWAY ON NEW ALIGNMENT.	05/20	$1,798,000	$421,000	
02/22	U-5934	Raleigh Letting (LET)	NC 147 FROM I-40 TO FUTURE I-885(EAST END CONNECTOR)IN DURHAM ADD LANES AND REHABILITATE PAVEMENT				
03/22	U-5720A	Design Build Let (DBL)	US 70 (MIAMI BLVD) FROM LYNN ROAD TO SR 1959 (SOUTH MIAMI BOULEVARD/SR 1811 (SHERRON ROAD)		$78,705,000	$30,315,000	Concurrence received on purpose & need
03/22	U-5720B	Design Build Let (DBL)	US 70 (MIAMI BLVD) FROM LYNN ROAD TO SR 1959 (SOUTH MIAMI BOULEVARD/SR 1811 (SHERRON ROAD)		$22,914,000	$2,190,000	Concurrence received on purpose & need
06/22	I-5707	Raleigh Letting (LET)	I-40 - FROM NC 55 (ALSTON AVENUE) TO NC 147 (DURHAM FREEWAY/TRIANGLE EXPRESSWAY) IN DURHAM	06/20	$3,550,000	$300,000	

NCDOT DIV 7 PROJECTS LOCATED IN DCHCMPO - UNDER DEVELOPMENT

TIP/WBS #	Description	Let/Start Date	Completion Date	Cost	Status
B-4962 40174.1.1 40174.2.1 40174.3.1	Replace Bridge #46 over Eno river on US 70 Bypass	2/19/2019	FY 2021	$3,812,000	Planning and Design activities underway
I-3306AC 34178.1.6 34178.2.5 434178.3.9	Interchange improvements at I-40 and NC86 in Chapel Hill	3/21/2023	FY 2025	$16,500,000	Planning and Design activities underway
SS-4907BS 44894.2.1 44894.3.1	Installation of traffic signal at the intersection of US70 and SR 1114 (Buckhorn Road) East of **Mebane.**	5/31/2017	Jan. 2018	$40,500 R/W $43,200 CON	Signal design complete, R/W acquisition complete and certified, utility relocations pending
SS-4907BW 47356.1.1 47356.3.1	Intersection improvements at SR 1114 (Buckhorn Road) and SR 1146 (West Ten Road) east of Mebane. Convert two way stop to ALL WAY STOP. Construct radius improvements to accommodate turning traffic	9/1/2017	Dec. 2017	$3000 PE $55,000 CON	Installation 4-way stop complete, radius improvements pending
U-5549/SS-4907AZ 50153.3.F1 44227 44247	Churton Street Access Improvements - Traffic signal and curb ramp revisions on east side of NC 86 (Churton Street) at SR 1150/SR 1002 (King Street), and NC 86 (Churton Street) at Margaret Street. Grading, curb & gutter, crosswalks and signal modifications on the west side of NC 86 /US 70 Bus.(Churton Street) from Tryon Street to just south of Margaret Street. Grading, curb & gutter, crosswalk and bus pull-out on NC 86 / US 70 Bus. (Churton Street) from south of Margaret Street to just south of Nash and Koolock Street in **Hillsborough.**	11/1/2016	Fall 2017	$156,000 CON $245,000 CON $120,000 CON	Construction 100% complete, final acceptance pending from Town
U-5846 50236.1.1 50236.2.1 50236.3.1	Construct a Roundabout at SR 1772 (Greensboro Street) and SR 1780 (Estes Drive) in **Carrboro.**	4/19/2018	Mar. 2019	$775,000	Planning and design activities underway, R/W acquisition - 20% complete

NCDOT DIV 7 PROJECTS LOCATED IN DCHCMPO - UNDER DEVELOPMENT

TIP/WBS #	Description	Let/Start Date	Completion Date	Cost	Status
U-5847 50238.1.1 50238.2.1 50238.3.1	Intersection improvements at SR 1010 (West Franklin St.) and SR 1771 (Merritt Mill Rd)/SR1927 (Brewer Lane) in **Chapel Hill / Carrboro.**	Jan. 2019	Mar. 2019	$775,000	Planning and design activities underway
U-5854 46382.1.1 46328.2.1 46382.3.1	Construct a roundabout at SR 1008 (Mt. Carmel Church Road) and SR 1913 (Bennett Road) in **Chapel Hill**	Jun. 2018	FY 2019	$775,000	Planning and design activities underway, Utility coordination underway, R/W acquisition - 35% complete
W-5707A 44853.1.1	Curb ramp improvements at the following intersections: SR 2048 (South Road) at Raleigh Street; SR 2048 (South Road) at Country Club Road, SR 1902 (Manning Drive) at Paul Hardin Drive, and SR 1902 (Manning Drive) at Ridge Road / Skipper Bowles Road in **Chapel Hill**	Mar. 2018	Aug. 2018	$80,000	Planning and design activities underway. Signal pedestrian improvements complete. Project let, Bid exceeded engineer's estimate, Re-let with upcoming TAP contract
W-5707C 44853.1.3 44853.3.3 47490	Revise pavement markings and overhead lane use signs for removal of inside lane drop configuration on I-40 Westbound in vicinity of US 15-501 interchange. Resurfacing I-40 WB by use of contingency funds	Mar. 2018	Aug. 2018	$395,000	Planning and design activities underway, re-let due to bids exceeded engineers estimate, new let date pending - tentative Mar. 2018
47418	Install chain link fence on both sides of SR1006 (Orange Grove Rd.) bridge over I-40 in Orange Co.	10/19/17	4/1/18	$100,000	Project let, Bids exceeded Engineers estimate, Re-let 12/7/17 - Project awarded

North Carolina Department of Transportation

Active Projects Under Construction - Orange Co.

Contract Number	TIP Number	Location Description	Contractor Name	Resident Engineer	Contract Bid Amount	Availability Date	Work Start Date	Completion Date	Progress Schedule	Completion Percent
C203274		REPLACEMENT OF 11 BRIDGES IN ALAMANCE CO AND 3 BRIDGES IN ORANGE CO.	HAYMES BROTHERS, INC.	Kirkman, PE, Christopher D	$6,356,520.00	04/29/2013	05/23/2013	12/13/2016	99.99	99.91
C203640		REPLACEMENT OF 4 BRIDGES IN GUILFORD COUNTY AND 3 BRIDGES IN ORANGE COUNTY.	HAYMES BROTHERS, INC.	Lorenz, PE, Kris	$3,124,500.00	06/01/2015	09/02/2015	11/01/2017	93.20	86.93
C203641		REPLACEMENT OF 5 BRIDGES IN GUILFORD COUNTY AND 5 BRIDGES IN ORANGE COUNTY.	R.E. BURNS & SONS CO., INC.	Kirkman, PE, Christopher D	$5,940,323.00	06/01/2015	06/01/2015	11/01/2018	73.90	93.56
C203946	B-5348	REPLACE BRIDGE #85 OVER PHIL'S CRK ON SR-1005 (OLD G'BORO RD)	DANE CONSTRUCTION INC	Kirkman, PE, Christopher D	$984,596.98					
C204025	I-5954	PAVEMENT REHAB ON I-40/I-85 FROM EAST OF NC-54 IN GRAHAM IN ALAMANCE COUNTY TO WEST OF SR-1114 (BUCKHORN RD) IN ORANGE COUNTY.	APAC - ATLANTIC INC THOMPSON ARTHUR DIVISION	Kirkman, PE, Christopher D	$9,699,053.68					
DG00302	P-4405K	EXTEND BRYDSVILLE ROAD TO NC 86 AND REMOVE RAIL CROSSING	TRIANGLE GRADING & PAVING INC	Kirkman, PE, Christopher D	$1,683,900.00	07/01/2016	09/29/2016	12/30/2017	100.00	73.75
DG00321		GRADE IMPROVEMENTS ON SR 1004 (EFLAND-CEDAR GROVE RD)	CAROLINA SUNROCK LLC	Kirkman, PE, Christopher D	$1,711,133.05	04/02/2018		04/02/2019		
DG00323	C-5600F	INSTALLATION OF FIBER-OPTIC COMMUNICATION NETWORK AND RELATED WORK FOR CENTER TO CENTER CONNECTION	ALS OF NORTH CAROLINA LLC	Kirkman, PE, Christopher D	$885,605.60	11/14/2016	02/27/2017	09/09/2017	100.00	99.87
DG00332	W-5601 IF	GUARDRAIL END TERMINAL UPGRADES ON I-85	NICKELSTON INDUSTRIES INC	Kirkman, PE, Christopher D	$494,243.00	12/05/2016	05/01/2017	09/05/2017		
DG00340		REPLACE BRIDGE NO. 137 ON SR 1550 (EDMUND LATTA RD) OVER FORESET CREEK	SMITH-ROWE, LLC	Kirkman, PE, Christopher D	$389,523.35	03/15/2017	04/26/2017	12/15/2017	100.00	97.74
DG00341		REPLACE BRIDGE NO. 18 ON SR 1421 (LIB ROAD) EAST BACK CREEK TRIBUTARY WITH CULVERT	SMITH-ROWE, LLC	Kirkman, PE, Christopher D	$310,294.00	03/15/2017	04/17/2017	01/15/2018	100.00	98.60
DG00345	U-3306(L)	LANDSCAPING ON SR 1733 (WEAVER DAIRY ROAD)	MOTS LANDSCAPING & LAWNS LLC	Kirkman, PE, Christopher D	$73,101.80	01/23/2017	04/05/2017	06/15/2018	89.58	84.83
DG00346		REPLACE BRIDGE #209 OVER FRANK CREEK ON SR 1366 (ATKINS ROAD)	APPLE TUCK & ASSOCIATES INC	Kirkman, PE, Christopher D	$363,834.19	05/01/2017	05/24/2017	02/07/2018	100.00	96.39
DG00371		RESURFACE 9 SECONDARY ROADS IN ORANGE CO.	CAROLINA SUNROCK LLC	Kirkman, PE, Christopher D	$1,688,750.33	07/05/2017	08/30/2017	11/01/2018	13.30	21.76
DG00372	R-5787B	ADA CURB RAMPS AT INTERSECTIONS IN BURL., GIBSONVILLE, GRAHAM, MEBANE CARRBORO & CHAPEL HILL	ATLANTIC CONTRACTING COMPANY, INC.	Kirkman, PE, Christopher D	$128,910.00	07/24/2017		03/28/2019		
DG00383		REPLACE BRIDGE #84 OVER COLLINS CRK ON SR 1005 (OLD GREENSBORO RD)	DANE CONSTRUCTION INC	Kirkman, PE, Christopher D	$1,290,279.37	07/24/2017	07/24/2017	05/15/2018	99.00	99.92
DG00391		REPLACE BRIDGE # 104 OVER STONEY CRK ON SR 1712 (UNIV. STATION RD)	R.E. BURNS & SONS CO., INC.	Kirkman, PE, Christopher D	$561,562.02					
DG00393		RESURFACING ON SR 1101, SR 1118, SR 1119, SR 1124, SR 1125, SR 1127,SR 1128 SR 1130, SR 1134, SR 1135, ETC.	RILEY PAVING INC	Kirkman, PE, Christopher D	$1,084,520.40	04/02/2018		10/12/2018		

North Carolina Department of Transportation

Active Projects Under Construction - Orange Co.

Contract Number	TIP Number	Location Description	Contractor Name	Resident Engineer	Contract Bid Amount	Availability Date	Work Start Date	Completion Date	Progress Schedule	Completion Percent
DG00395		REPLACE BRIDGE #189 ON SR 1114 (BUCKHORN ROAD) OVER CANE CREEK	S T WOOTEN CORPORATION	Kirkman, PE, Christopher D	$723,924.13	04/01/2018		01/01/2019		

NCDOT DIVISION 8 PROJECTS IN DCHC MPO - CHATHAM COUNTY

ACTIVE PROJECTS - June 2017

TIP/WBS # or Contract #	Project Description	Length (mi)	Let Date	Completion Date	Cost	Contractor	Comments
44195.3.1 DH00212	Construct a southbound left turn lane on NC 751 at New Hope Church Road & at NC 751 at SR 1617 Big Woods Road	1.74	9/27/2016	2/27/2018	$1,489,500.00	FSC II, LLC, DBA Fred Smith Company	80% Completion
DH00211, 44807.3.1, SS-4908BB	Improve edgeline and centerline markings on SR 1731 O'Kelly Chapel Rd from NC 751 to beginning of three lane section west of Pittard Sears Rd. Work includes adding 6" Thermoplastic w/Highly Reflective Elements (Edgelines) and 4" Thermoplastic Standard Bead (centerline)	2.2	9/13/2016	7/30/2017	TBD	Clark Pavement Marking, Inc	Contract covers other various counties.

UPCOMING PROJECTS

TIP/WBS # or Contract #	Project Description	Let Date	Cost	Comments

Wake County does the Durham-Orange Light Rail plan a big favor

The Herald-Sun By Zachery Eanes February 7, 2018

Durham Mayor Steve Schewel is feeling confident about the Durham-Orange Light Rail project.

“This is actually going to happen, yo,” he said at a transportation summit Tuesday at the Durham Performing Arts Center.

“I really believe it now.”

One particular reason the first-term mayor was feeling confident was because Wake County officials recently did the $3.3 billion light-rail plan a big favor.

Two weeks ago, in an under-the-radar move, Schewel said, the Capital Area Metropolitan Planning Organization (CAMPO) removed its bus rapid transit project from the current round of state funding competition – a pot of state money that projects must compete for.

“In order for us to get enough funding from the state we need very little competition in the regional pot,” Schewel said. “We asked them to withdraw those projects for now to give the Durham-Orange Light Rail a clearer path to funding, and they did. … It would’ve been a big hit if they hadn’t.”

CAMPO is responsible for the planning of Wake County and several surrounding counties’ transportation systems. It is the eastern Triangle counterpart of the Durham-Chapel-Hill-Carrboro Metropolitan Planning Organization.

“It was a very generous move on their behalf,” said Patrick McDonough, manager of planning at GoTriangle, who said this will allow the light rail to maximize its amount of state funding.

The light-rail project, which is in the federal engineering phase currently, is continent on federal money to pay half of the light-rail construction cost and state money to pay up to 10 percent. The counties would share the remaining $1.8 billion local cost and interest on debt that will bridge the years until state and federal money is available.

Schewel’s comments came at the “Connecting to Opportunity,” which was organized by GoTriangle, Triangle J Council of Governments and Gateway Planning. The summit brought together experts and local leaders to discuss how to best take advantage of a massive new transit system.

Schewel spoke alongside Chapel Hill Mayor Pam Hemminger. Both mayors touted the light rail plan as essential to their cities’ growth.

“No offense to our neighbors … but we don’t want to become north Raleigh,” Schewel said, adding that Durham is adding about 20 new residents a day.

“We are filling up one of those four-story apartment developments every month ... and if we want to avoid north-Raleigh-like sprawl, we got to have light rail to help us steer that growth. The light rail will be the organizing mechanism for growth by its very existence.”

Growth and development is going to revolve around the 18 light-rail stations between N.C. Central University and the UNC Hospitals in Chapel Hill. Both mayors said it would be absolutely necessary to make sure that development would be equitable to all citizens, not just wealthy ones.

Chapel Hill is hampered on what it can do with its six stations, since half the sites are owned by the university and another one around the Glenn Lenox area is already heavily developed, Hemminger said. (CONTINUED…)

But, Schewel said, Durham is committed to making sure all Durhamites, especially people of color, will be able to take advantage of the growth the transit line brings. The city and county are currently hoping to use four public properties – one on Jackson Street downtown, two on East Main Street and Fayette Place – to create affordable housing near light-rail stops.

However one of Durham's main strategies for ensuring poor Durhamites are not crowded out from the growth was dealt a blow by the federal tax cuts enacted by the Trump administration last year.

"The new tax law has cut the value of the Low-Income Housing Tax Credit," Schewel said.

The Low-Income Housing Tax Credit has been responsible for 90 percent of affordable rental units across the country. But because the tax credit is tied to the corporate tax rate, which was lowered, the credits are worth less money now.

Schewel said that because of the tax cuts, the number of affordable units created by the tax credit will be reduced by 250,000 nationally over the next 10 years.

"We are all working in partnerships (to build affordable housing)," Hemminger said. "When one half of the partnership gets cut to the bone it makes it really impossible."

Schewel added that it could hurt the city's ability to build 80 affordable rental units at its planned Jackson Street project.

"It hurts our ability, and every city's ability, to build affordable housing for people," he said. "We are relying on being able to get a tax credit for (Jackson Street), but that tax credit is going to produce less equity now. ... That means funding will have to come from more local funding or cuts in the project.

"Somehow that gap will have to be covered, or less affordable housing gets built."

Durham County leaders to hear public input tonight on development of 2 downtown areas

WNCN By Lauren Haviland February 7, 2018

DURHAM, N.C. (WNCN) — Durham County leaders want your input when it comes to developing two areas of downtown.

Currently the two locations, which are owned by the county, are parking lots in the 300 and 500 blocks of E. Main Street.

The plan is to redevelop the spaces into one of four options: parking, affordable housing, retail and commercial space, or attract a private investor.

Durham County is giving the public multiple opportunities to voice their opinion.

Some Durham residents CBS North Carolina spoke to were split on what they thought should be done with the areas.

"More parking — lots of people come downtown, just more parking," said Mevlin Payne Jr.

Karen Lynn said the area really needs more than just one of the options. (CONTINUED…)

“I think they’re in a pickle, because we need affordable housing, but we also need more parking,” she said. “…we need housing desperately in Durham, we are desperate for housing in Durham. But I also work here, so I need parking. So I am hoping they do either or.”

Dezrick Dixson was also split like Lynn was.

“I would go with parking, because the employees need parking and the people that they serve need parking, as well,” he said. “It could be considered like a retail space — it would be good for retail, too, considering all the revitalization.”

The first of three public input sessions is tonight at 6:30 at the Human Services Building.

Here’s what they’re tearing up at RDU now

The News and Observer By Richard Stradling January 31, 2018

MORRISVILLE – If you glance outside Terminal 2 at Raleigh-Durham International Airport, you may notice workers with machines tearing up the concrete.

It’s the first stage of a two-year effort to replace most of the taxiway that planes use to get to and from RDU’s main runway. The $26.5 million project involves digging up 17 inches of concrete and another 23 inches of gravel and replacing them.

The work is hard to miss.

“It’s very loud and very visible,” said airport spokesman Andrew Sawyer. “They’re hammering apart the pavement.”

About 65 percent of the 10,000-foot-long taxiway will be replaced because it has reached the end of its useful life of about 30 years, Sawyer said. The other sections of the taxiway were replaced just before the opening of Terminal 2 in 2011, he said.

The work in front of the terminal will be done in stages that will require closing three gates at a time; there are enough open gates at any one time that passengers won’t be affected, Sawyer said. The ramps, where planes park at the gates, are not being replaced.

The taxiway concrete will be recycled on site. The contractor, Anthony Allega Cement Contractor Inc. of Cleveland, has built a plant on the west side of the airport that will allow it to reprocess the material it removes and use it to make new concrete.

RDU is also replacing the taxiway in front of Terminal 1 on the east side of the airport. That taxiway is made of asphalt, and the replacement work that began last fall had to be suspended because of the cold weather, Sawyer said. It should be finished by the end of the year.

More buses, sidewalks and housing: what Durham residents want

The Herald-Sun By Dawn Baumgartner Vaughan January 31, 2018

DURHAM – Durham Mayor Pro Tem Jillian Johnson says budgets are moral documents that show a city's values by what they spend money on.

Judging from public input at a "Community Conversation" this week, the people want some of that money spent on buses.

More bus routes. Free bus fare. Bus shelters. Faster bus routes.

New this year, the city and county governments are holding community conversations on a variety of topics as they start planning the next fiscal year budget that starts July 1.

More than 100 people came out on a cold Tuesday night to the Durham County Human Services building downtown. City and county leaders gave a brief overview of government services before small groups discussed what they want for Durham's housing, health and transit future.

What the people said they want most:

Transportation

- Bus shelters.
- More sidewalks.
- More bus services.
- Better customer service on buses.
- Shorter bus routes.
- Rapid bus transit.
- More affordable buses.
- Light rail sooner rather than later.
- Free bus service.
- Fill in ditches.
- Safety for bikes and pedestrians.
- Safety for children riding buses.
- Make more bus routes.
- Decrease transit time.
- Expand the Bull City Connector.
- Multiple bus hubs with rides at 20-minute intervals.
- More frequent bus stops.
- More bus routes.
- More bike lanes.
- Fix up Alston Avenue.

Housing

- City-supported co-housing, elderly housing and aging in place.
- Raising developer permit fees.
- Higher standards for landlords.
- Raise tax for affordable housing.
- Funds to renovate properties for affordable housing units.
- Help people pay for home repairs and stay in their houses. (CONTINUED…)

- Tiny homes.
- Streamline process for accepting Section 8 vouchers.
- Increase affordable housing stock.
- Understand what affordable housing means to different groups of people.
- More attractive upkeep of affordable housing.
- Help people stay in their homes.
- Include public housing and low income housing when talking about affordable housing.

Access to county health and social services

- Walk-in behavioral health clinics.
- The phone tree prompt for “Spanish” to be in Spanish.
- More protection for children.
- Weekend hours for social services.
- Mobile social services.
- More mental health providers in schools.
- Expand access not just on the internet.
- Access to home delivery of nutritious food.

Each table was led by a government official, from Durham County Commissioner Brenda Howerton to Durham Ciy Council member DeDreana Freeman. City and county staff were spread throughout. After more than an hour of table talk, the groups shared their lists of what they want the city and county to make priorities about each topic.

Mayor Steve Schewel said they would take the comments really seriously and use it for their budget and strategic plan.

The third and final “Community Conversation” is about education and jobs. It will be held at 7 p.m. Feb. 6 at Brogden Middle School.

Duke’s travels are impacting the environment. Here’s what it’s doing about it.

The Herald-Sun By Ray Gronberg January 29, 2018

DURHAM – Every year, students, professors and administrators at Duke University take to the air to get to conferences, research sites and assignments around the country and the world.

Whether or not they like or even think about it, each of their airline trips harms the environment in some way, including when the plane’s engines deposit more carbon dioxide in the atmosphere.

That’s a problem for Duke leaders given that they’re on-record as promising to make the school “carbon neutral” by 2024. So they’ve been looking for a way to offset the effects of university-related air travel, and are now testing one possibility with Delta Air Lines.

Duke and Delta are splitting the cost of a joint project that involves both the purchase of “carbon credits” to compensate for 5,000 metric tons of emissions and the planting of 1,000 trees in Durham and other parts of the Triangle to provide further environmental benefits. The deal’s worth about $60,000. (CONTINUED…)

It's supposed to offset the effects of university-related travel on Delta flights in 2017. For now, it's a one-time thing, an experiment whose effectiveness Duke officials will assess as they get closer to 2024 and the point they have to make decisions about how they'll actually fulfill the carbon-neutrality pledge.

"We're looking at piloting projects like this to see if they're ones we can expand over time," said Tavey Capps, Duke's sustainability director, adding that the experiments the university's undertaken to date have been "implemented at a smaller scale than we'd probably need in the future."

Campus officials think that along on-campus emission reductions, they need to find ways to offset about 185,000 metric tons of Duke-related, off-campus emissions for such things as air travel and employees' car commuting.

Neither the carbon-credit purchase nor the tree plantings are new, as Duke has done both before. It's also tried such things as investing in a Yadkin County hog farm that installed equipment to capture gas from hog-waste storage lagoons and use it to generate electricity.

In the Delta project, the university and the airline agreed to buy carbon credits through a Greensboro-based group called Urban Offsets.

The credits are modeled on the sort of cap-and-trade markets regulators have encouraged to allow the trading of emission rights for other types of closely controlled pollutants. But carbon credits, at least the ones Duke and Delta are dealing with, don't actually work like them because carbon dioxide emissions in this country aren't as yet tightly restricted.

Instead, carbon credits function as a sort of GoFundMe to help finance projects investors hope will ultimately act to reduce carbon emissions.

Rather than putting money into such projects on the front end, credit buyers are essentially paying into ones an assortment of environmental watchdogs think are working as intended.

The prospect of securing such future investment factors "into the financial decisions" and calculations of a project's organizers, giving them an incentive to move forward, said Tani Colbert-Sangree, program coordinator for the Duke Carbon Offsets Initiative.

In this case, Duke and Delta are putting money into emission-reduction projects that are improving the energy efficiency of trucks, encourage industrial composting and cut back on the release of greenhouse gases like methane from landfills, Colbert-Sangree said.

The tree plantings, however, will consume the majority of the joint investment. About half of them will go into "historically disadvantaged" neighborhoods in the Triangle ignored in 20th century street-tree planting efforts that mostly benefited well-to-do white communities.

Concerned about traffic, growth on NC 54 west of Carrboro? Here's your chance to help

The Herald-Sun By Tammy Grubb January 22, 2018

CARRBORO – Three meetings this week will kick off an in-depth look at the future of the N.C. 54 corridor stretching 25 miles from Old Fayetteville Road to Interstate 85/40 in Graham. (CONTINUED…)

At one time, N.C. 54 was a sleepy, scenic road through farmland, forests and crossroads communities between Carrboro and Graham. Now, it's a vital east-west corridor for rural residents, commuters, freight trucks and UNC game day travelers, averaging 6,000 to 15,000 daily trips.

VHB Contributed

While that's not a lot of trips, regional officials say, the highway's inadequate intersections, heavy turning conflicts and the substantial number of trucks using the corridor add to the congestion.

A yearlong NC 54 West Corridor Study – a partnership among the town of Carrboro, city of Graham, Alamance and Orange counties, the Triangle Area Rural and Durham-Chapel Hill-Carrboro planning organizations, and the N.C. Department of Transportation – will plan a vision for N.C. 54 and its surrounding communities.

Information about the project, including the study team's initial findings and existing conditions, will be provided this week at three drop-in public meetings. The public also can submit comments and questions online at www.nc54west.com.

The team wants to hear from the public what it thinks are the unique areas and resources that should be preserved along the highway, its challenges and potential solutions that could be completed in the short term, regional officials said. They are looking for lower-cost, immediate solutions, as well as long-term plans for transportation investments, land use and market development aimed at preserving the highway's environment and its economic vitality.

The plan will account for pedestrians, cyclists, drivers and transit, team officials said. Construction of future projects will be based on local priorities and the availability of local and state dollars to pay for the work.

They've already gathered information about existing conditions and completed market and economic studies, and still are analyzing data about traffic speeds, crashes and how the volume of traffic varies throughout the day. The team also is reviewing a previously planned widening project that raised concerns for Carrboro and Orange County.

While that project is no longer on the NCDOT's 2018-2027 planning list, the agency is planning to spend $820,000 this year on turn lanes and improving the Orange Grove Road intersection with N.C. 54. Another $3.9 million is budgeted for upgrading N.C. 54 by 2022 for cars, bikes and pedestrians, from Orange Grove Road to Old Fayetteville Road in Carrboro.

Additional community meetings about the highway's future will be held this spring, and the team will use the information that is collected to draft a preliminary report with proposed projects by summer. A final report is expected later this year.

NC officials hope new technology can detect wrong-way drivers

WNCN.com By Amy Cutler January 19, 2018

RALEIGH, N.C. (WNCN) – Raleigh police are still investigating a wrong way crash on Interstate 40 that killed two people and sent two others to the hospital late Thursday night.

Officials said the driver of a Honda Civic was headed eastbound in the westbound lanes near Wade Avenue and caused the crash.

According to police, they received two 911 calls.

“It looked like he might have hit someone head-on,” a caller told the dispatcher in the second one.

Police told CBS North Carolina that two people in the Civic died and two others in it were rushed to WakeMed.

The North Carolina Department of Transportation said between 2000 and 2016 there were 507 wrong-way driver crashes statewide with a total of 145 fatalities.

Nearly half of them were alcohol-related.

Drivers are not surprised.

“Not at all,” Will Linthicum of Raleigh said.

“Yeah, I figured that. Yeah, that’s sad though,” Sabrina Toomer of Angier said.

In all, NCDOT said wrong-way crashes account for .2 percent of all crashes,

Still, the North Carolina Turnpike Authority is being proactive. In March, they’ll start testing upgrades on the Triangle Expressway.

They’ll rely on existing sensors on the ramps to determine if a driver is going the wrong way. Then signs will light up to alert that driver. Those sensors will also alert authorities.

“We picked that project — and that location is it’s our most advanced technology facility — to look at other ways that we can respond more rapidly to detecting and actively engaging a wrong way driver,” James Trogdon III, the North Carolina Transportation Secretary said.

The NCDOT said there’s no surefire way to stop drivers who are impaired from going the wrong way, but they’re hoping the new technology will help.

Got ideas for the Durham-Orange light rail system design? Share them with GoTriangle

The Herald-Sun By Tammy Grubb January 16, 2018

DURHAM – Do you have ideas for what visitors and residents should see and experience when they ride on the future Durham-Orange Light Rail Transit line? (CONTINUED…)

The 17.7-mile, $2.47 billion system will link UNC Hospitals in Chapel Hill with Duke and N.C. Central universities in Durham, along with points in between. There will be 19 stations, each of which could have its own unique appearance and feeling.

GoTriangle officials are holding two interactive workshops – today, Jan. 16, in Durham and Thursday, Jan. 18, in Chapel Hill – to hear what the public would like to see.

The workshops will encourage participants to explore how the system should look and feel to riders and passersby. GoTriangle officials want to hear what you think is important about Durham and Orange counties' characters and personalities, culture and history, and the other details that should be celebrated in the future.

GoTriangle has been working since last year with a Federal Transit Administration-appointed project management oversight contractor to complete the system's $70 million engineering phase, which will finalize its design, schedule, costs and funding sources.

The FTA will rate the final plan before awarding any New Starts grant money, expected to pay half of the system's construction cost. GoTriangle could submit the project for a federal budget recommendation this year. The money, if awarded, would be paid in $100 million installments over the next 12 years.

The plan relies on the state to pay up to 10 percent more, leaving Durham and Orange counties responsible for 40 percent of the construction cost, or roughly $990 million. The counties also will be responsible for paying an estimated $913 million in interest on short- and long-term debt through 2062. The local share is being paid for through a half-cent transit sales tax and vehicle registration and car rental fees.

GoTriangle also is working with a public-private Funding and Community Collaborative to drum up donations of cash and land to the project.

Tammy Grubb: 919-829-8926, @TammyGrubb

IF YOU GO

GoTriangle will hold an interactive workshop from 6 to 8 p.m. Tuesday, Jan. 16, at the Hayti Heritage Center, 804 Old Fayetteville St. in Durham, and from 6 to 8 p.m. Thursday, Jan. 18, at the Chapel Hill Public Library, 100 Library Drive.

Members of the public who plan to participate are asked to RSVP at bit.ly/2mNciOv for the Durham meeting and at bit.ly/2FI6NbB for the Chapel Hill meeting. Those who can't make the meeting can contribute through an online workshop at publicinput.com/2239until Feb. 1.

Low downtown railroad bridge (not that one) claims another tractor trailer

The Herald-Sun By Joe Johnson January 10, 2018

DURHAM – Another big rig and trailer lost its top in Durham thanks to a low railroad bridge.

No, not that low bridge.

This truck vs. bridge encounter came near the intersection of Roxboro and Pettigrew streets. It has previously claimed wins over other tractor trailers but not nearly as many as the famously-low 11-foot-8 clearance down the way where Gregson Street goes under the same Norfolk-Southern tracks. (CONTINUED…)

Wednesday's incident happened around noon. Durham police were dispatched to the scene at about 1:15 p.m., according to a department spokeswoman. They directed traffic through the area until the truck was removed. The streets were reopened to traffic by 3:30 p.m.

This bridge does not have webcam coverage like at Gregson Street, nor does it not have a catchy nickname like "The Can Opener." The last truck-bridge incident there occurred on Nov. 2, 2017. A camera owned by Jurgen Henn, who records accidents at the bridge for his website, 11foot8.com, has captured an additional four incidents or close shaves.

Could electric-assisted bicycles be on their way to Durham?

The Herald-Sun By Zachery Eanes January 10, 2018

DURHAM – If pedaling up steep hills or shifting through multiple gears on a bicycle is keeping you from hopping on one of Durham's new dockless and shareable bikes, then a solution might be on the way.

Both LimeBike and Spin, which have been operating on the streets of Durham since late last year, have recently unveiled new electric-assisted bicycles that can travel up to 15 miles per hour.

The electric-assisted LimeBikes will cost $1 per 10 minutes of ride time and will have a 62-mile maximum range. The electric-assisted Spin bikes will cost $1.50 per 15 minutes and will have a range of 50 miles, according to Techcrunch.

The standard fare for both LimeBike and Spin's non-electric bike is $1 per 30 minutes of use.

The electric LimeBikes are launching in existing markets this month – though it is unclear when they would be coming to the Durham area. A spokeswoman for LimeBike didn't have any specifics to share on the roll out of the new bikes.

"If Durham is interested in having e-bikes, we'd be happy to start a conversation with the city to discuss the possibility of bringing them there," said Mary Carolina Pruitt, a spokeswoman for LimeBike. "We see Lime-E, along with our existing fleet, as an integral part in solving that first and last mile transportation challenge."

It is unclear when the release of Spin's electric bikes will be. Efforts to reach the company were unsuccessful.

The Durham Transportation Department said that it would begin conversations about bringing both Spin and LimeBike's electric-assisted bikes to the Bull City.

"We also just recently learned that LimeBike (and Spin) were launching an e-bike option," Bryan Poole, a bicycle and pedestrian planner for Durham, said in an email.

"We will be discussing the possibility of bringing these to Durham with both of the companies. E-bikes have the same rules/rights as other bicycles as long as they are less than 750 watts and cannot go more than 20mph powered solely by the motor."