



U.S. Department  
of Transportation

**Federal Highway  
Administration**

Federal Highway  
Administration

Federal Transit  
Administration

# Program Review

## **Durham, Chapel Hill, Carrboro (DCHC) Metropolitan Planning Organization (MPO)**

**FINAL REPORT**

**July 2013**



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## **Executive Summary**

### **Purpose**

Pursuant to 23 United States Code (USC) (i)(5) and 49 USC 1607, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) must certify jointly the metropolitan transportation planning process in Transportation Management Areas (TMAs) at least once every four years. The Durham – Chapel Hill - Carrboro Metropolitan Planning Organization (DCHC MPO) is a TMA, a Metropolitan Planning Organization (MPO) with a population of at least 200,000 as defined by the United States Census Bureau.

### **Methodology**

The review consisted of a desk audit, a public comment session conducted on Thursday, May 21, 2015, and an on-site review that was conducted on May 21 – 22, 2015. In addition to the formal review, routine oversight, such as attendance at meetings, day-to-day interactions, review of work products, and working with the MPO on past certification review recommendations and corrective actions provide a major source of information upon which to base certification findings. After the on-site review is complete, a report is written to document the findings.

### **Statement of Finding**

The FHWA and the FTA find that the metropolitan transportation planning process substantially meets Federal requirements and jointly certify the planning process. The review identified six commendations and six recommendations. No corrective actions were issued.

### **Findings**

The Federal Review team identified the following commendations and recommendations:

#### **Commendations:**

- **The MPO is commended for the development of an interactive website, which may become the prototype for the North Carolina Department of Transportation (NCDOT's) electronic Statewide Transportation Improvement Program (STIP).**
- **The DCHC website allows easy access to all plans and programs and an associated online funding database is also available. DCHC has started interactive mapping on their website as well. This includes travel time, traffic counts, urban canvas and land use and ARC GIS online.**



- The MPO's coordination with the transit operators is outstanding. The transit operators spoke about how fortunate they are to be in the DCHC MPO. They have staff conversations with the MPO and feel their voices are being heard. The addition of the transit representation on the MPO board did not create a significant difference because the relationship was already good. Overall, the MPO does an excellent job of including the transit operators/providers in all areas of the planning process.
- The Triangle J Council of Governments has done an outstanding job as the regional coordinator for the Triangle Area transportation conformity process. The Triangle Area transportation partners are also to be commended for their communication, responsiveness, and timely completion of projects tasks. The Triangle Area transportation conformity process is a model for how this process should work in North Carolina.
- The recently completed Environmental Justice (EJ) Report is an extremely well-written and comprehensive document that will provide a solid foundation for the MPO as it moves forward with addressing EJ concerns and conducting EJ analyses.
- The MPO and NCDOT are commended on increased cooperation and coordination in project selection.

#### **Recommendations:**

- It is recommended that the Triangle Area continue to consider transportation conformity as they work on upcoming Metropolitan Transportation Plan (MTP) updates and beyond. As the project lists are prepared, they should be grouped by horizon years and projects should be identified as regionally significant, not regionally significant, or exempt. Doing this extra work will help keep the Triangle Area prepared for future conformity work in the event the area is designated under a future new National Ambient Air Quality Standard (NAAQS).
- It is recommended that the MPO consider all modes of transportation in its federal metropolitan transportation planning activities, including highways, especially with regard to the efficient intrastate and interstate movement of people and goods through the MPO.
- It is recommended that the DCHC MPO separately identify African Americans since they are the largest Environmental Justice (EJ) population and racial minority within the MPO boundary. As a best practice, DCHC may also want to present the individual raw data for each racial minority within the MPO boundaries for



information purposes, keeping in mind that the only racial minority to be mapped and analyzed separately would be African Americans, due to their significant size.

- **It is recommended that with regard to public involvement and ensuring participation from all EJ populations of concern, that DCHC be more deliberate in seeking and documenting representatives from all of its EJ populations to include on mailing lists, focus groups, advisory committees, etc.**
- **It is recommended that the MPO include language in its Public Involvement Plan (PIP) objectives that specifically targets EJ populations.**
- **It is recommended that the MPO use measured data such as travel time and travel speeds in place of modeled/estimated measures such as Level of Service (LOS) and Volume to Capacity Ratio (V/C) to measure congestion.**

### **Certification**

The Durham – Chapel Hill - Carrboro Metropolitan Planning Organization's metropolitan transportation planning process is certified for four years from the date of this Report.

## **Introduction**

### **Purpose**

The purpose of the Review is to assess the extent of compliance with the Federal metropolitan transportation planning requirements, to recognize noteworthy practices, to identify problem areas, and to provide assistance and guidance, as appropriate. The Review consisted of a series of discussions on a variety of transportation planning topics with State and local transportation officials directly involved in the highway and transit planning activities of the MPO. The Review, which was held at the City of Durham Department of Transportation in City Hall, included a public involvement meeting on Thursday, May 21, 2013, to provide the public an opportunity to offer comments on the MPO's metropolitan transportation planning process. Several individuals, including two members of the MPO's policy board, attended and provided comments. This report contains the findings of the Review Team.

### **Scope**

Pursuant to 23 U.S.C.(i)(5) and 49 U.S.C.1607, the FHWA and the FTA must certify jointly the Federal metropolitan transportation planning process in Transportation Management Areas (TMAs) at least once every four years. A TMA is an



urbanized area with a population greater than 200,000, as defined by the United States Census Bureau. Certification reviews generally consist of three primary activities: 1) an on-site visit; 2) review of planning products, both prior to, and during the Review; and 3) preparation of a Certification Review Report, which summarizes the review and contains findings, including Commendations, Recommendations, and Corrective Actions. Certification reviews address compliance with Federal regulations; and challenges, successes, and experiences of the cooperative relationship between the MPO, State Department of Transportation (DOT), and Transit Operator in the conduct of the Continuing, Cooperative, and Comprehensive (3C) metropolitan planning process. Joint FHWA/ FTA certification review guidelines afford agency reviewers flexibility in designing the review to reflect local issues and circumstances. Consequently, the scope of the Certification review reports varies from TMA to TMA.

## **Methodology**

The FHWA North Carolina Division Office and the FTA Region 4 Office conducted a joint Certification Review of the Durham – Chapel Hill - Carrboro MPO's metropolitan transportation planning process, which included a site visit on Thursday and Friday, May 21 - 22, 2015. The review was conducted in accordance with 23 Code of Federal Regulations (CFR) Part 450 and 49 CFR Part 613, which require FHWA and FTA to review and assess jointly the metropolitan transportation planning process for all TMAs at least once every four years. According to the 2010 Census, the DCHC MPO contained a population over 200,000, which makes it subject to the TMA transportation planning requirements.

The MPO staff worked with FHWA staff to develop a schedule for the Certification Review process that was compatible with ongoing workloads and the meeting schedules for the MPO's Technical Committee (TC) and Transportation Advisory Committee (TAC). A desk audit of the MPO's planning documents was conducted prior to the on-site review. Responses to pertinent questions were provided and reviewed in advance of the on-site review. Advertisements for the certification review were posted in newspaper and public service announcement outlets (see Attachment C). A public comment period was advertised as a part of the process for FHWA staff to receive comments. The topics addressed in this report document the regulatory basis, current status, and findings. These terms are defined below.

**Regulatory Basis** – Defines where information regarding each planning topic can be found in the Code of Federal Regulations (CFR) and/or the United States Code (USC) – the “Planning Regulations” and background information on the planning topic.

**Current Status** – Defines what the Transportation Management Area (TMA) is currently doing with regard to each planning topic.



**Findings** – Statements of fact that define the conditions found during the review, which provide the primary basis for determining commendations, recommendations, and corrective actions for each planning topic.

**Commendation** – a process or practice that demonstrates innovative, highly effective procedures for implementing the planning requirements. Examples include elements addressing items that have frequently posed problems nationwide, and significant improvements and/or resolution of past findings.

**Recommendation** – Addresses technical improvements to processes and procedures that while somewhat less substantial and not regulatory, are still significant enough that FHWA and FTA are hopeful that State and local officials will take action. The expected outcome is change that would improve the process, though there is no Federal mandate, and failure to respond could, but not necessarily, result in a more restrictive certification.

**Corrective Action** – Indicates a serious situation that fails to meet one or more requirements of the metropolitan transportation planning statutes and regulations, thus seriously impacting the outcome of the overall planning process. The expected outcome is a change that brings the metropolitan planning process into compliance with a planning statute or regulation; failure to respond will likely result in a more restrictive certification.

## Team Members

The Federal Review Team consisted of the following individuals:

- Mr. Bill Marley, Transportation Planner, FHWA, NC Division
- Mr. George Hoops, Planning and Program Director, FHWA, NC Division
- Mr. Donnie Brew, Environmental Program Coordinator, FHWA, NC Division
- Mr. Eddie Dancausse, Air Quality Specialist, FHWA, NC Division
- Ms. Lynise DeVance, Civil Rights Program Manager, FHWA, NC Division
- Mr. Joe Geigle, Congestion Management Engineer, FHWA, NC Division
- Ms. Tajsha LaShore, Community Planner, FTA, Region 4

Other participants consisted of staff from the DCHC MPO, the City of Durham, the Town of Chapel Hill, and the North Carolina Department of Transportation (NCDOT), including:

- Mr. Felix Nwoko, DCHC MPO
- Ms. Lindsay Smart, DCHC MPO
- Ms. Meg Scully, DCHC MPO
- Mr. Kosok Chae, DCHC MPO
- Mr. Andy Henry, DCHC MPO
- Mr. Durmas Cesar, DCHC MPO



- Mr. David Bonk, Town of Chapel Hill
- Ms. Julie Bollinger, NCDOT Transportation Planning Branch
- Mr. Mike Stanley, NCDOT Statewide Transportation Improvement Program (STIP) Unit
- Mr. Ed Lewis, NCDOT Division 7
- Mr. Geoffrey Greer, Go Triangle
- Mr. Tom Altieri, Orange County Planning
- Mr. Mark Ahrendsen, Durham Department of Transportation
- Mr. Dale McKeel, DCHC MPO
- Ms. Ellen Beckman, City of Durham
- Mr. Darius Sturdivant, NCDOT Division 8

## **Findings from Previous Certification Review (2011)**

The previous certification review for the DCHC MPO was issued on July 24, 2011. It contained the recommendations and corrective actions listed below. All have been satisfied and no longer apply.

### **Public Involvement Corrective Action:**

- The DCHC MPO is strongly recommended to expand information to include non-English speaking populations and conduct four-factor analysis for Limited English Proficiency (LEP) as part of the EJ section in the PIP.

### **Consultation and Coordination Recommendations:**

- It is strongly recommended that NCDOT have fuller participation in the certification review process.
- It is recommended that the DCHC MPO incorporate Raleigh-Durham International Airport (RDU) and other inactive Technical Coordinating Committee (TCC) members.
- It is recommended that the DCHC MPO consider getting on the same certification review schedule as the Capital Area Metropolitan Planning Organization (CAMPO).

### **Metropolitan Transportation Plan (MTP) Recommendation:**

- It is recommended that NCDOT provide more transparent and frequent communication on financial matters on subjects such Year of Expenditure (YOE) and State Planning and Research (SPR) funds taken out of the Unified Planning Work Program (UPWP).





### **Transportation Improvement Program (TIP)/Statewide Transportation Improvement Program (STIP) Recommendation:**

- It is recommended that the DCHC MPO explore the potential for an electronic TIP.

### **Air Quality Recommendations:**

- It is recommended that the DCHC MPO complete the transportation conformity process on the 2035 Metropolitan Transportation Plan (MTP) amendments and the FY 2012-2018 TIP by October 1, 2011.
- It is recommended that the DCHC MPO maintain a focus on the work and task deadlines associated with the 2040 MTP update along with the transportation conformity process to ensure completion by June 15, 2013.

### **Transit Recommendations:**

- It is recommended that the DCHC MPO continue to work closely with CAMPO and the Triangle Transit Authority (TTA) to collectively promote regional TTA New Start planning for the Wake County – Durham – Orange and Durham – Wake County transit corridors.
- It is recommended that the DCHC MPO work with NCDOT to improve communication with respect to FTA funds availability and institute efficient and mutually viable STIP modification and amendment processes to streamline the extraordinarily long period currently required to implement programming changes, and to counter the reactionary posture currently experienced by the MPO with respect to TIP/STIP development.
- It is recommended that NCDOT adopt a streamlined process for administrative modifications for transit.

### **Operations and Management Recommendation:**

- It is recommended that the DCHC MPO adopt a Safety Plan within one year of the Certification Review.

## **General Comments**

At the beginning of the review, the review team briefly discussed the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21) legislation to MPO staff, including its themes of job creation, economic growth, safety, reduction in funding categories, and project streamlining. The



requirement for MPOs to conduct performance management through structuring their plans to help support and achieve the seven national goals in MAP-21 was also discussed.

Subsequent to this discussion, there was a question and answer session in which MPO staff asked questions of the review team and offered comments on the Federal metropolitan transportation planning requirements and processes. The MPO staff and NCDOT offered a number of comments and observations during the review, including:

- The NCDOT and the MPO stated that they are working in a more cooperative manner than in previous years in the transportation planning process.
- The MPO staff would like to know as soon as possible what specific performance based planning requirements will be required per the MAP-21 legislation.

## **DCHC Metropolitan Planning Organization (MPO) Background**

### **Current Status**

The DCHC MPO manages the metropolitan transportation planning process required by Federal law. The MPO plans for the area's surface transportation needs, including highways, transit, bicycle, and pedestrian facilities. The priorities of the MPO include: 1) promoting the safe and efficient management, operation, and development of transportation systems; 2) serving the mobility needs of people and freight, 3) fostering economic growth and development; and 4) minimizing the negative effects of transportation, including air pollution.

The MPO serves the City of Durham, Durham County, Town of Chapel Hill, Town of Hillsborough, Town of Carrboro, Orange County, and portions of Chatham County.

The MPO voting structure is highlighted in a Memorandum of Understanding (MOU), documented in its Bylaws, and displayed on the MPO's website, [www.dchcmpo.org](http://www.dchcmpo.org). The DCHC MPO designation has not changed since the initial designation by the Governor. No proposed changes to the MOU are envisioned at this time.

The Durham Department of Transportation is the Lead Planning Agency (LPA) of the MPO. The Transportation Advisory Committee (TAC) is the MPO's Policy Board and is made up of the following officials:

- City of Durham – 2 members, weighted votes = 16
- Durham County – 1 member, weighted votes = 4
- Town of Chapel Hill – 1 member, weighted votes = 6
- Town of Carrboro – 1 member, weighted votes = 2



- Town of Hillsborough – 1 member, weighted votes = 2
- NCDOT – 1 member, weighted vote = 1
- Triangle Transit – 1 member, weighted vote = 1
- FHWA and FTA are ex-officio non-voting members

The TC provides general review, guidance, and coordination of the transportation planning process. The TAC is the MPO's policy board and has a key role in making decisions about public investment in transportation services, infrastructure, and planning within the region, and in communicating those decisions to the policy boards of its member agencies. All TC and TAC meetings are open to the public.

## **Metropolitan Planning Area (MPA) Boundary/Census**

### **Regulation: 23 CFR 450.312(a):**

The boundaries of a metropolitan planning area (MPA) shall be determined by agreement between the MPO and the Governor. At a minimum, the MPO boundaries shall encompass the entire existing urbanized area (as defined by the Bureau of the Census) plus the contiguous area expected to become urbanized within a 20-year forecast period for the metropolitan transportation plan.

### **Regulation: 23 CFR 450.314(a) and (d):**

The MPO, the State, and the public transportation operator(s) shall cooperatively determine their mutual responsibilities in carrying out the metropolitan transportation planning process. The responsibilities shall be clearly identified in a written agreement among the MPO, the State(s) and public transportation operator(s) serving the MPO, and if more than one MPO has been designated to serve an urbanized area, there shall be a written agreement among the MPOs, the State(s), and the public transportation operator(s) describing how the metropolitan transportation planning process will be coordinated to assure development consistent with metropolitan transportation plans and Transportation Improvement Programs (TIPs) across the MPO boundaries, particularly in cases in which a proposed transportation investment extends across the boundaries of more than one MPA. If any part of the urbanized area is a nonattainment or maintenance area, the agreement shall also include State and local air quality agencies.

### **Regulation: 23 CFR 450.321 (a):**

The boundaries of a metropolitan planning area (MPA) shall be determined by agreement between the MPO and the Governor. At a minimum, the MPO boundaries shall encompass the entire existing urbanized area (as defined by the Bureau of the Census) plus the contiguous area



expected to become urbanized within a 20-year forecast period for the metropolitan transportation plan.

### **Current Status**

The MPO's Metropolitan Planning Area boundary (MPA), based on the 2010 United States Census, was adopted by the MPO on December 9, 2009, and signed by the Governor on February 11, 2010. The Triangle Transit Authority (TTA) has been granted voting membership status on the MPO Board.

Geographical portions of the DCHC MPO are shared with the adjacent Capital Area Metropolitan Planning Organization (CAMPO), which is also a TMA. A small portion of the DCHC MPO's Urbanized Area Boundary (UZA) lies within the CAMPO MPA. Similarly, a small portion of CAMPO's UZA lies within the DCHC MPA. By letters of agreement, the two MPOs agreed to be responsible for planning within the UZA in their respective MPO.

Possible future MPA expansions include Pittsboro in Chatham County to the south. Factors in determining future expansions include rapid development and urbanization potential within the next 20 years, population density, and input from local jurisdictions. There are no Federal Lands or Indian Tribal lands within the MPA.

Cooperative agreements have been established between the State DOT, the MPO, public transit operators, and the North Carolina Department of Environment and Natural Resources (DENR). Memorandums of Agreement (MOAs) and Memorandums of Understanding (MOUs) exist between various parties for purposes of Statewide inter-agency consultation, pass-through agreements between NCDOT and the Lead Planning Agency (LPA), and between the LPA and sub-recipients.

## **Unified Planning Work Program (UPWP) Development/Regional Planning Agreements**

### **Regulation: 23 CFR 450.308 and 23 CFR 420.111:**

This sets forth requirements for each MPO, in cooperation with the State and public transportation operators, to develop a Unified Planning Work Program (UPWP) that documents planning activities, products, funding, roles, responsibilities, and a timeline for the completion of each activity.

### **Current Status**

The DCHC MPO's UPWP is a product of a cooperative approach to development of the region's transportation program. Most of the work tasks and products in the UPWP are completed on time, despite the changing schedules and priorities of the various Federal, State, and local



agencies. The UPWP tasks are the vehicle for implementing the MTP goals, policies, and recommendations. Therefore, UPWP emphasis areas include the MPO's vision and goals for a balanced and multi-modal transportation system, including proactive public outreach and dissemination, integration of land use in transportation planning involving low income and minority populations, and consideration of safety and security and environmental and air quality factors, etc.

The UPWP development process usually begins in late fall or early winter each year. The member jurisdictions of the MPO, transit agencies, and NCDOT are encouraged to identify projects, studies, or work tasks that need to be included in the UPWP for the upcoming fiscal year. The NCDOT Transportation Planning Branch (TPB) and Public Transportation Division (PTD) calculate and inform the MPO what Section 104(f) Planning (PL) funds and Section 5303 transit planning funds are available for programming. The total amount of planning funds plus the required 20% local match are then used in developing a budget for the MPO staff to pay staff salaries and benefits, plus operations charges. Reporting and invoicing narratives are submitted to NCDOT by task code. The budget is then utilized to identify in general what types and how much work can be accomplished in the fiscal year. The UPWP contains enhanced funding tables to track obligations in real time. Once the draft UPWP has been reviewed by the member jurisdictions in the MPO, it is sent electronically to NCDOT's Transportation Planning Branch and Public Transportation Division for review and comment. Any comments or changes are then incorporated into the draft UPWP, and a final UPWP is developed, reviewed, and approved by the TC and TAC, usually in May. Prior to Board approval, a public hearing is held. A final letter of approval is then provided to the MPO by NCDOT by July.

UPWP activities are developed, selected, and prioritized with the input of the MPO member jurisdictions. Staff identifies, selects, and prioritizes the work tasks in the UPWP that need to be and can be accomplished. Planning priorities facing the metropolitan area, and all metropolitan transportation and transportation-related air quality planning activities anticipated within the timeframe (one or two years), are typically included in the required narrative text for each work task.

NCDOT and transit operators are involved from the onset of the UPWP development through subcommittee meetings and the MPO Technical Committee meetings. Their involvement in the development of emphasis areas supports and adheres to Federal requirements and meets the MPO's MTP and other planning objectives. UPWP activities are developed, selected, and prioritized through cooperative efforts of the MPO member agencies based on the approved Prospectus. The TC serves as a consultative forum for discussion of responsibilities and the planning work program more generally. The MPO staff usually take the lead in the development of the MTP, TIP, UPWP, etc., and studies and work items on behalf of the MPO.

The UPWP is broken into three major components: 1) routine tasks, 2) major emphasis areas, and 3) regional activities such as maintenance of the Triangle Regional Model (TRM). There is a strategic linkage between the UPWP and the implementation of the required 3C planning



process as well as the MTP, TIP, Environmental Justice (EJ), air quality, etc. The UPWP accounts for performance measures through the execution of MTP and CMP updates, transportation needs studies, and transit and bicycle and pedestrian plans. The MTP describes the MPO's vision while the UPWP identifies proposed activities to help achieve desired outcomes.

UPWP amendments generally follow the same sequence as the development process beginning with subcommittee review, TC and TAC approval, then NCDOT and FHWA approval. Amendments are processed by the LPA on an as needed basis.

### **Commendation:**

- **The MPO is commended for the development of an interactive website, which may become the prototype for the North Carolina Department of Transportation (NCDOT's) electronic Statewide Transportation Improvement Program (STIP).**

## **Public Transit Planning**

### **Regulation: 49 USC 5303:**

It is in the interest of the United States, including its economic interest, to foster the development and revitalization of public transportation systems, in acquiring, constructing, supervising, or inspecting equipment or a facility for use in public transportation, and to encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development within and between States and urbanized areas, while minimizing transportation-related fuel consumption and air pollution through metropolitan and statewide transportation planning processes.

### **Current Status**

The DCHC MPO has four transit operators: 1) Go Triangle (formerly Triangle Transit Authority (TTA)); 2) Go Durham (formerly Durham Area Transit Authority (DATA)); 3) Chapel Hill Transit (CHT); and 4) Orange Public Transportation (OPT), which is new to the MPO. GoDurham provides transit service throughout the City of Durham. Like GoTriangle, work trips are the largest trip purpose on the GoDurham system, although other purposes such as shopping, medical, and recreational are also heavily utilized. The markets served are diverse, ranging from major employers in urban environments to low-density retail and social services. The current ridership is majority lower-income and African-American, though these demographics have become more diverse in the past three years. GoTriangle provides regional transit connections





between origins and destinations in Durham, Orange, and Wake Counties. Most current bus routes provide peak-hour commuter connections to large employment destinations such as UNC-Chapel Hill, Duke University, downtown Durham, Research Triangle Park (RTP), NC State University, and downtown Raleigh. All-day services are also provided seven days a week to connect the largest municipalities in the Triangle including Chapel Hill, Durham, Cary, and Raleigh. Most trips are for work or university-related purposes. The current ridership is diverse in terms of income and ethnicity.

GoTriangle ridership is heaviest in the heavily-traveled corridors that connect to major employers. Routes between Chapel Hill (fare free), Durham, and Raleigh are the most productive routes in the system. There are also a number of routes between lower-density suburbs and major employers. Ridership varies widely on these routes depending on the strength of the destination(s), density of the origins, and distance to the destination(s). Ridership is heaviest during peak commute times, though off-peak ridership has also grown substantially as more options have been offered.

GoDurham ridership is strongest in the middle of the day, and Monday through Saturday, though the productivity of the system remains strong at other times. Routes that serve several key destinations in a single corridor have the highest ridership, including routes along Holloway Street, Fayetteville Street, and Chapel Hill Road/University Drive. Major destinations such as Duke University, North Carolina Central University, Durham Tech, Northgate Mall, The Village Shopping Center, and the Streets at Southpoint also generate high ridership. Ridership tends to be lower as routes move farther from the urban core.

GoTriangle has a total of 229 full-time employees and 30 part-time employees. GoTriangle operates 27 routes, 20 of which are directly operated by GoTriangle and the remainder of which are operated by their local partner agencies – Chapel Hill Transit in Chapel Hill, GoDurham in Durham, GoRaleigh in Raleigh, and C-Tran in Cary. GoTriangle's administrative offices are located in southeast Durham at 4600 Emperor Blvd, and the bus operations and maintenance facility is located several miles away at 5201 Nelson Road in Durham.

GoTriangle is governed by a thirteen-member Board of Trustees. Ten members are appointed by the region's municipalities and counties, and three members are appointed by the NC Secretary of Transportation.

The DCHC MPO goal for the Transportation Improvement Program notes the MPO's commitment to a "balanced transportation system" that "will provide opportunities for greater use of alternative modes of transportation, including public transit, bicycling, and pedestrian movement." This policy goal is reflected in the DCHC MPO's longstanding policy to direct Surface Transportation Program – Direct Allocation (STP-DA) and Transportation Alternatives Program (TAP) funds to non-highway projects, such as transit. Congestion Mitigation and Air Quality (CMAQ) funding is also made available to transit on equal terms with other modes. In addition, the DCHC MPO has worked closely to develop performance metrics for the region's



transportation system that emphasize the importance of person-throughput, as opposed to vehicle Level of Service (LOS), and other measures that prioritize personal mobility over vehicular mobility. For example, the MPO's Mobility Report Card, currently in draft form, provides measures of the number of passengers carried by different modes on certain key roadways in the region.

The MPO also has a strong record on emphasizing Environmental Justice (EJ) issues and prepares regular reports on EJ issues, including identifying areas where higher levels of transit service to serve transit-dependent populations may be appropriate. The MPO and GoTriangle planning staff have collaborated closely on major corridor projects as well as local and state funding for other transit projects. In addition, MPO staff have helped coordinate major transit initiatives such as the region wide, multi-agency procurement of fare boxes.

The MPO, through its policies and programs, is well equipped to think about planning factors for any type of project that comes in the door, including GoTriangle's transit projects. MPO coordination with NCDOT has improved significantly since the last certification review. The transit operators and the MPO have a great relationship; they involve them on all planning levels including the TIP and STIP, UPWP, MTP, etc.

GoDurham is a division of Durham City and County Government, and is represented on the MPO Policy Board by the elected representatives. Beginning in 2014, per the MPO membership requirements established by section 1201(a) of MAP-21, GoTriangle is represented by a voting representative on the MPO Policy Board.

The DCHC boundary expanded to include sections of Orange County. Orange Public Transportation has started the new grantee process with FTA to become a direct recipient of FTA funding. An MOA exists between the MPO and the transit operators that states the transit operators can make motions, even though they cannot vote. North Carolina state law limits the amount of state and federal transportation funds that can be used for purposes other than roadway construction and widening purposes, such as building bikeways, transit shelters, fixed-guideway transit systems, and park-and-ride facilities. The MPO is an excellent partner in helping find funding for transit projects, but these restrictions make funding for transit projects a challenge.

Bus capital replacement under MAP-21 is a central challenge to GoTriangle's maintenance of current service and plans for future service. MAP-21 reduced the formula funds dedicated to transit vehicle capital replacement. Despite the reduction in formula funds, the agency's needs are unchanged. Therefore, GoTriangle is faced with the potential need to take funds intended to be spent on service expansions in this growing region, including dedicated sales tax revenues recently approved by local voters, and instead re-appropriate them to support capital replacement.





### **Commendations:**

- **The DCHC allows easy access to all plans and programs and an associated online funding database is also available. DCHC has started interactive mapping on their website as well. This includes travel time, traffic counts, urban canvas and land use and ARC GIS online.**
- **The MPO's coordination with the transit operators is outstanding. The transit operators spoke about how fortunate they are to be in the DCHC MPO. They have staff conversations with the MPO and feel their voices are being heard. The addition of the transit representation on the MPO board did not create a significant difference because the relationship was already good. Overall, the MPO does an excellent job of including the transit operators/providers in all areas of the planning process.**

## **Air Quality**

### **Regulation: 23 CFR 450.322(l):**

In nonattainment and maintenance areas for transportation-related pollutants, the MPO, as well as the FHWA and the FTA, must make a conformity determination on any updated or amended transportation plan in accordance with the Clean Air Act and the Environmental Protection Agency (EPA) transportation conformity regulations (40 CFR Part 93).

### **Regulation: 23 CFR 450.322(e):**

The MPO, the State(s), and the public transportation operator(s) shall validate data utilized in preparing other existing modal plans for providing input to the transportation plan.

### **Current Status**

The DCHC MPO currently has a conforming 2040 MTP and a FY 2012 – 2016 TIP. The current United States Department of Transportation (USDOT) transportation conformity determinations were made on the DCHC 2040 MTP and the 2012 – 2018 TIP on July 14, 2013.

The transportation conformity work for the DCHC 2040 MTP amendment and the Fiscal Year (FY) 2016 – 2020 TIP is currently underway. The Triangle Area had an Interagency Consultation (IC) meeting that focused on the 2040 MTP amendments, the FY 2016 – 2020 TIP, the transportation conformity schedule, and tasks to be performed by Triangle Area MPOs and the IC agency partners. The DCHC TAC is expected to endorse the 2040 MTP amendments, the FY 2016 – 2020 TIP, and the associated transportation conformity determination on September 9, 2015.



The Triangle Area (Durham and Wake County) is under a limited maintenance plan for Carbon Monoxide (CO). CO is currently the only National Ambient Air Quality Standard (NAAQS) that is applicable to this area. The CO maintenance plan for the Triangle Area ends on September 18, 2015. The Triangle Area will become attainment for the CO standard and transportation conformity will no longer be required unless the area is designated in the future for a new NAAQS.

**Commendation:**

- **The Triangle J Council of Governments has done an outstanding job as the regional coordinator for the Triangle Area transportation conformity process. The Triangle Area transportation partners are also to be commended for their communication, responsiveness, and timely completion of projects tasks. The Triangle Area transportation conformity process is a model for how this process should work in North Carolina.**

**Recommendation:**

- **It is recommended that the Triangle Area continue to consider transportation conformity as they work on upcoming Metropolitan Transportation Plan (MTP) updates and beyond. As the project lists are prepared, they should be grouped by horizon years and projects should be identified as regionally significant, not regionally significant, or exempt. Doing this extra work will help keep the Triangle Area prepared for future conformity work in the event the area is designated under a future new National Ambient Air Quality Standard (NAAQS).**

## **Metropolitan Transportation Plan (MTP)/Planning Factors**

**Regulation: 23 CFR 450.322 and 306:**

This regulation requires development of a transportation plan addressing no less than a 20-year planning horizon. The transportation plan shall include both long-range and short-range strategies/actions that lead to the development of an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand. The metropolitan transportation planning process shall be continuous, cooperative, and comprehensive, and provide for consideration and implementation of projects, strategies, and services that will address the eight (8) planning factors.



## **Current Status**

The planning factors are addressed explicitly and implicitly in the MPO's MTP, TIP, and UPWP. Coordination of statewide and metropolitan planning occurs through regular subcommittee meetings, collaborative planning for MTP and Comprehensive Transportation Plan (CTP) projects, inter-agency air quality meetings on the Triangle Regional Model (TRM), regional freight, regional incident management initiatives, etc. Regional Intelligent Transportation System (ITS) Architecture recommendations are reflected in the MPO planning process and the MTP. MTP and TIP ITS projects are derived from the Regional ITS Architecture and Deployment Plan. The Regional ITS Architecture tool is used for the evaluation of MTP and TIP ITS projects. The MPO, NCDOT, and transit operators practice a very participatory and cooperative 3C planning process and the MPO actually won an award for modeling regional and state cooperation and coordination.

Over 25% of MTP highway investment is for maintenance and upgrading facilities. The highway element of the MTP includes few new facilities, but focuses more on widenings, intersection improvements, and wide outside lanes. A significant amount of non-highway investment is earmarked for bus maintenance, bicycle facilities, and sidewalk maintenance and resurfacing. Pedestrian walkways and bicycle facilities are major components of the MTP. One of the notable features of the regional model is inclusion of a non-motorized trip element. Pedestrian and bicycle facilities are an integral part of the MPO's goal of linking transportation and health issues. Due to the demographic statistics of the MPO's population, with relatively large numbers of students and persons over 65 years of age, sidewalk, bicycle, and transit projects figure prominently in the MPO's overall transportation initiatives and investment.

Consultation is carried out with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation through the establishment of a demographic forecasting group and the development of a regional land use scenario tool. The MPO participates in the monthly Statewide Interagency Consultation Meetings (SICM) air quality coordinating meetings, and the MPO meets with resource agencies to apprise them of assumptions and alternatives being evaluated in the MTP process.

The MPO developed a financial plan that demonstrates how the adopted MTP can be implemented. It contains cost estimates, analysis of cost components, both traditional and non-traditional revenue forecasts, prioritization, and fiscal constraint.

The MPO identifies transportation and services to determine which projects should be included in the MTP through evaluating deficiencies in the transportation system, gathering project specific studies, reviewing community needs, and requesting and determining the feasibility of obtaining funding for them over the horizon year timeframe.

The metropolitan transportation planning factors are incorporated into the products of the process, and serve as a basis for criterion used for identifying projects in the MTP and TIP. The UPWP contains tasks that include collection of data and analysis.

The MTP is supported by a comprehensive and inclusive public involvement effort. The public involvement process complies with Title VI and the Executive Order on Environmental Justice.

The MTP is coordinated with the Triangle Regional Model for purposes of Air Quality Conformity. Demographic, socioeconomic, and land use data are inputted into the Triangle Regional Model, a travel demand forecasting tool for the region. These data are also useful in assessing trip generation and modal choice models.

TIP projects are ranked and prioritized by the MPO using an established methodology, and Surface Transportation Program – Direct Allocation (STP-DA) and Transportation Alternatives Program (TAP) project ranking and selection criteria. Projects are then submitted to the NCDOT for inclusion in the Strategic Prioritization on Transportation (SPOT) for the 5 and 10 year Work Program, which includes the TIP.

With the adoption of the Complete Streets policy by the North Carolina Board of Transportation (BOT) and the incorporation of bicycle and pedestrian accommodations in the road cross-sections, all projects other than freeways now have a multi-modal cross-section.

Public involvement is incorporated in the development of the MTP via the following means: 1) implementation of the Public Involvement Plan; 2) public notices via email, posters at public sites and on buses, and the MPO website; 3) public meetings at transit accessible sites; and 4) documents available at public sites. The MPO provides early, proactive, and meaningful public engagement during various stages of the MTP development.

NCDOT's Transportation Planning Branch; its Division 5,7, and 8 Offices; and the Durham Area Transit Authority are involved in the evaluation of the existing MTP, and in updating the plans and projects.

Distribution of impacts to different socioeconomic and ethnic minorities is identified and measured through various means. Block group data from the 2010 United States Census was used to establish areas of low-income and minority population concentration.

MPO staff coordinates closely with their NCDOT Transportation Planning Branch (TPB) coordinator, and communicates with other NCDOT departments including Program Development and the Public Transportation Division.

### **Land Use and Livability**

The MPO strives to integrate land use and transportation planning in a variety of ways. Projects already in the MTP and CTP are mapped and factored into land use recommendations. New transportation improvements are identified and incorporated into future transportation plan updates.

The MTP includes an extensive Bicycle and Pedestrian section. The MPO also designates a percentage of federal funding at the MPO level for bicycle and pedestrian projects. They submit



bicycle/pedestrian projects through the Strategic Prioritization on Transportation (SPOT) process for inclusion in the STIP, and set aside a certain amount of federal funding at the MPO level for stand-alone bicycle/pedestrian projects. The MPO requests bicycle and pedestrian accommodations for all roadway projects where feasible. Non-motorized modes of travel such as bicycle, pedestrian movements, and transit are analyzed and addressed in the MTP and throughout the transportation planning process to a very great extent.

The MPO compares the consistency of proposed transportation improvements with State and local planned growth and economic development through land use analysis, a Community VIZ tool, and demographic and socioeconomic projections.

To reduce congestion and Vehicle Miles Traveled (VMT) growth rates, the MPO funds portions of the Regional Travel Demand model. Transportation Demand Management (TDM) strategies are a factor in the MPO's project ranking methodology. The MPO also has a Greenhouse Gas (GHG) reduction goal that is reflected in a GHG Plan and in the MTP.

The MPO considers affordable housing plans and needs through coordination with its member jurisdictions, especially the Durham City and County Planning Departments and the Town of Chapel Hill.

## **Freight**

The MPO considers and evaluates land use and freight-oriented developments within its metropolitan planning boundary. The involvement of the freight community is an ongoing and collaborative process. The work of local chambers of commerce and the MPO input into the activities of the Regional Transportation Alliance (RTA) highlight the MPO's coordination with freight interests. The MPO collects and utilizes freight-related data through the use of truck count data, air cargo statistics, commodity flow data, land use data, the North Carolina Railroad (NCR), and a Freight Analysis Framework (FAF).

The Regional Transportation Alliance serves as the recognized regional business voice for transportation initiatives and policy across the Triangle area, which includes the Durham – Chapel Hill and Raleigh – Cary Standard Metropolitan Statistical Areas (SMSAs). RTA was founded by the Cary, Chapel Hill - Carrboro, Durham, and Raleigh Chambers of Commerce in 1999 and formalized in 2001 as a regional program of the Greater Raleigh Chamber of Commerce with a separate, dues-paying membership. Today, the RTA counts as members more than 100 leading businesses and 23 member chambers, along with the DCHC MPO and adjoining Capital Area Metropolitan Planning Organization (CAMPO), Triangle Transit Authority (TTA), and the Raleigh Durham International Airport (RDU) Airport Authority. The RTA leverages the strength of its membership, which spans nine counties, to galvanize the broad-based regional support needed to accelerate critical mobility investments. The RTA business leadership focuses on relieving traffic congestion and enhancing mobility in the region. The Alliance identifies, promotes, and accelerates transportation policies and solutions to ensure economic vitality and preserve quality of life.



## **Financial Planning**

The MTP is based on reasonably expected financial resources over the life of the MTP, and identifies other funding mechanisms where a shortfall exists. The MTP uses the best available data provided by NCDOT projections based on the Statewide Transportation Improvement Program (STIP) and other State funding sources. For MTP updates, trend analysis is used, project costs are updated, and available State and Federal revenues are estimated.

Financial information is developed in cooperation with NCDOT and DATA. Each source is defined, including level of funding per source along with a chart showing the various funding sources by horizon year. Revenues are forecast by source, and the MTP document provides the assumptions for each. The current MTP was developed using the new funding sources available in MAP-21.

Where appropriate, new revenue sources are identified in consultation with the MPO partners. Typically, such sources are identified in a plan, a policy, a forecast, or a proposal from a member agency. For example, the MTP financial plan involves a review and consideration of the NCDOT's current long range revenue forecast. However, this forecast mainly concerns extrapolating existing revenue streams into the future. The MTP documents the current assumptions for each revenue source. To ensure the TIP financial plans are consistent with the STIP, the MPO requests the most recent version of the STIP when updating the TIP.

The MTP process typically includes a review of project cost estimates obtained from NCDOT. MTP projects that are not yet in the TIP have their project cost estimates updated. Such estimates are revised in connection with any scope changes. MTP projects that are in the TIP have their costs reviewed and updated based on TIP cost changes. Where warranted and in consultation with NCDOT, TIP cost assumptions may be revised for projects where the TIP estimate appears outdated.

Project consistency between the TIP and MTP is established at the outset. The consistency of the financial plan is a function of that. The MTP is developed based on a close review of assumed TIP reviews, projects, and program details.

The MPO follows NCDOT's thresholds for determining an amendment versus an administrative modification.

The MTP is made available to the public through the MPO's public involvement plan, its web site, and via printed material in the MPO's office.

The MPO's financial plan is included as an element in the overall MTP. Available financial resources are listed and described in the TIP, and are incorporated into the MTP. New revenue sources for the MTP and TIP are also noted and described.





Assumptions and data sources for each revenue source are documented in the financial plan. A set of financial assumptions and calculations are established that guide the general approach to forecasting future revenues, and are included in the plan.

The MPO consults with NCDOT to generate the latest project cost estimates, and to ensure that the TIP financial plan is consistent with the STIP. The TIP and STIP are required to match, so they must be consistent with each other. NCDOT has provided tables of expenditures by funding categories for the past 20 years or more, which assist in preparing conceptual project estimates. Data are adjusted for time (schedule), location, and other project specific conditions on an as needed basis. Generally, an amount of 10-20% is used for contingencies when estimating a project cost. Usually, when the TIP is being generated, there are comparisons of older estimated figures with current ones. Estimates are sometimes updated when the scope of the project changes significantly, or a significant change in the delivery of the project is anticipated. When new estimates are known, they are updated on an ongoing basis as project development progresses.

NCDOT provides the MPO trend analysis data when working in cooperation with the MPO to develop its TIP. Ratios and percentages are applied to base numbers and balanced against project cost estimates.

Financial analysis for roadways, transit, rail, bicycle, and pedestrian investments are included in the financial plan chapter of the MTP. Both existing and forecasted numbers for costs and revenues are evaluated.

NCDOT Powell Bill funds have been used for operations and maintenance of the transportation system, and are distributed twice a year.

### **Environmental Mitigation**

The MPO's process for estimating potential environmental mitigation activities builds upon the existing consultation process through coordination with the NCDOT Leadership Team and State resource agencies, including the North Carolina Department of Environment and Natural Resources (NCDENR). Federal, State, and local agencies are consulted via regularly held interagency consultation meetings. Minutes are prepared following each meeting and serve to document the consultation and coordination.

Geographic Information System (GIS) environmental overlays and shape files, screening maps, etc. are used to identify the location and condition of environmental features that might be impacted by proposals outlined in the TIP. Such features include hazardous waste sites, endangered species, 303D listed streams, wetland inventories, historic properties, and farmlands.

For the latest MTP update, the MPO used a resource agency contact list that includes agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation. The resource agencies were contacted during development of the plan and later when a draft plan was available.



A better understanding of resources that need to be avoided or impacts minimized has resulted from better estimating potential environmental mitigation activities, and from building upon the existing consultation process.

The Plan includes mapping with projects and environmental factors and a table with impact areas and potential mitigation measures. As part of the consultation process, resource agencies can review the proposed mitigation measures in the MTP and recommend additional mitigation measures that may be needed.

The Environmental Mitigation Section of the MTP focuses on linking the environment with planning. GIS layers were analyzed using data from the NC One mapping resource. The MPO assigns staff to a Merger Team to review project scoping.

### **Safety and Security**

The safety planning factor is an important factor in NCDOT's project prioritization process, and in the MPO's Transportation Alternatives Program (TAP) project selection and ranking methodology. The safety factor is weighted high when compared to the other planning factors. The DCHC MPO and NCDOT work collaboratively in developing safety goals, objectives, performance measures, and strategies for the urban area. Partners in safety planning include local traffic engineers, transit operators, NCDOT, and emergency management providers.

The MPO follows the Strategic Highway Safety Plan (SHSP) process as funding can be provided through the TIP. Goals and objectives are taken from the SHSP to reduce the number of fatalities, and to decrease the economic impact from highway-related accidents. As projects are developed, elements of the SHSP are incorporated. Coordination between the MPO and NCDOT ensures consistency between the SHSP and the MPO's safety projects.

Safety is interwoven into the modal chapters of the MTP, and is assigned an above average priority in project ranking criteria. Safety partners involved include the NCDOT Divisions 5, 7, and 8 Traffic Engineers, law enforcement, and other departments within the City of Durham.

Safety performance measures are incorporated in the planning process mainly from traffic accident reports. Metrics may include: 1) fatalities, 2) serious injuries, 3) crash rates, 4) crash hot spots, 5) collision inventories, and 6) pedestrian injuries. Roadway design plans take into account accident patterns and how to reduce conflicts.

Safety is considered in determining which projects will be included in the MTP and TIP. NCDOT has funds specifically set aside for making safety improvements along roadways such as guardrails, rumble strips, enhanced lighting, turn lanes, better pavement marking and signs, etc. Highway Safety Improvement Program (HSIP) projects located within the MPO are included in the TIP. Most of these projects come from NCDOT and are routinely included in the TIP when project requests are taken.





Security is defined in the region as increasing the security of the transportation system for motorized and non-motorized users. Natural emergencies such as hurricanes and flooding are accounted for by the MPO. The MPO collaborates with local traffic engineers, emergency management providers, police, fire, and sheriff's departments, NCDOT, the Highway Patrol, Information Technology (IT), and GIS departments.

**Recommendation:**

- **It is recommended that the MPO consider all modes of transportation in its federal metropolitan transportation planning activities, including highways, especially with regard to the efficient intrastate and interstate movement of people and goods through the MPO.**

## **STIP/TIP – Development/Approval/Amendment/Project Selection**

**Regulation: 23 CFR 450.324:**

The MPO shall cooperatively develop a TIP that is consistent with the MTP and is financially constrained. The TIP must cover at least a four-year horizon and be updated at least every four years. Additionally, the TIP must list all projects in sufficient detail outlined in the regulations, reflect public involvement, and identify the criteria for prioritizing projects.

**Regulation: 23 CFR 450.332:**

No later than 90 calendar days following the end of the program year, the State, public transportation operator(s), and the MPO shall cooperatively develop and publish a listing of projects (including investments in pedestrian walkways and bicycle transportation facilities) for which funds under 23 USC or 49 USC Chapter 53 were obligated in the preceding program year.

**Regulation: 23 CFR 450.334:**

Self-certifications and Federal certifications are required for all Metropolitan Planning Areas (MPAs), concurrent with the submittal of the entire proposed TIP to the FHWA and the FTA as part of the STIP approval. The State and TMAs shall certify at least every four years that the metropolitan transportation planning process is being carried out in accordance with all applicable Federal requirements.

**Current Status**

Project prioritization and selection is developed in conjunction with the TIP cycle, generally centered on the development of the MPO's Priority Needs List. This process involves staff analysis of project status (based on specified criteria), anticipated funding availability by source, consultation with the Program Development Branch and Public Transportation Division of the



NCDOT, with DATA, and with TTA. It continues with review and input from the TC and the TAC, typically over a series of two or three meetings.

The MPO has developed criteria that closely mirror that of NCDOT's criteria used for prioritization. Transit Section 5307 funds are not sub-allocated, and STP funds are allocated to projects identified by the TC and the TAC.

The TIP serves as a management tool for implementing the MTP by including the policies, investment choices, and priorities identified in the MTP. The MTP's transportation investments between highway and non-highway projects are split about 50%/50%, whereas the State's Strategic Transportation Investments (STI) (and draft STIP) mode investment split is 75% highway and 25% non-highway. The MPO will continue to have dialogue with NCDOT on this matter. The MPO believes that the TIP and STIP should reflect the MPO's MTP priorities.

The DCHC MPO TIP is typically developed every two years on a schedule that is compatible with STIP development. The MPO, NCDOT, and transit operators cooperatively develop the TIP through subcommittee meetings and technical meetings. The MPO works with the NCDOT STIP Unit, Public Transportation Division (PTD), and Bicycle and Pedestrian Unit during the preparation of the draft TIP and STIP. The MPO provides a prioritized list of projects to the NCDOT with relevant local data for inclusion in the Strategic Prioritization on Transportation (SPOT) process. The SPOT process involves a data driven quantitative scoring of projects based on project need, an MPO priority score, and an NCDOT Division priority score. The process focuses on three transportation project types: 1) mobility projects, 2) modernization projects, and 3) safety projects. The North Carolina State Legislature passed a law requiring each MPO to develop and approve a local prioritization process. The NCDOT SPOT Office is providing oversight of this legislation. The draft STIP is released and the MPO provides a local version of the document for the public's review. Both the NCDOT and the MPO provide opportunities for the public to make comments on the draft STIP and TIP, and public hearings are held.

The MPO's TIP development process has improved significantly primarily due to the SPOT process and administrative modification procedures. The TC and TAC appreciate this because they are more involved than in the past. The TIP amendment process is also working better now that NCDOT submits their proposed amendments with the MPO prior to taking their official action. Conversely, if the MPO wishes to modify or amend the TIP, it contacts NCDOT to discuss the proposal. The MPO provides background information on amendments to the TC and TAC, and approval by resolution is requested. This documentation is forwarded to NCDOT for final approval. The MPO has had success with their current project ranking and selection methodologies.

The MPO's project selection process begins with a call for projects from member jurisdictions. The MPO's project ranking process closely mirrors that used by NCDOT. The MPO developed an STI and TIP prioritization methodology, which was subsequently endorsed by the TAC and approved by NCDOT. It focuses on congestion, safety, feasibility, intermodal and multimodal considerations, local funding, and land use compatibility. An initial list of projects is then



evaluated for need, readiness, and funding feasibility. They are then ranked using the MPO's prioritization process.

When the final STIP is released, the TIP must match it. Prior to release of the final STIP, if the TIP does not match the STIP, adjustments to funding and minor time changes may be required. The MPO follows the guidelines of the SPOT process and submits projects that are within the MTP for funding. Point assignments are based on joint consideration of the MPO and Divisions 5, 7, and 8 to maximize the potential for projects to be included in the TIP. The TIP contains all regionally significant transportation projects regardless of funding source within the five-year STIP Work Plan.

The allocation of STP-DA funds occurs as needed for different project types such as greenways, bicycle and pedestrian facilities, intersections, small roadway projects, transit, and enhancement projects. Ideally, the STIP matches the time horizons established by the MPO; however, funding priorities of the NCDOT are subject to change such as with the new emphasis on bridge and pavement rehabilitation, and the allocation of urban loop funds at the State level. Also, the general lack of funds for sub-regional projects means that many local projects slip into later horizon years with each successive STIP. There is a new commitment by NCDOT to provide a higher degree of certainty on project delivery within the first five years of the STIP. The State DOT and public transit operators provide the MPO with estimates of Federal and State funds available for the metropolitan area.

The NCDOT may ask the MPO to modify and/or amend the TIP based on project scope or time changes, and the MPO may modify or amend the TIP for time, project scope, and/or funding changes. The MPO's TIP amendment procedures define major and minor amendments, what triggers an amendment, and public involvement requirements. The amendment is presented at one meeting of the TAC for information purposes, and is generally brought back for approval at the following meeting. Resolutions and action items are sent to the NCDOT for final approval by the North Carolina Board of Transportation, or vice-versa.

Demonstrating fiscal constraint of the TIP has been difficult for the MPO at times. The NCDOT develops the STIP and provides the MPOs with their relevant TIP. With the exception of the STP-DA funds, the NCDOT controls the STIP/TIP program.

## **Public Involvement/Visualization**

### **Regulation: 23 CFR 450.316(a):**

The MPO shall develop and use a documented participation plan that defines a process for providing citizens, affected public agencies, representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways



and bicycle transportation facilities, representatives of the disabled, and other interested parties with reasonable opportunities to be involved in the metropolitan transportation planning process.

### **Current Status**

The MPO's Public Involvement Plan (PIP) conforms to Federal regulations. The goals of the PIP are to provide timely notice, education, and information to the public regarding planning activities, and to provide the public reasonable opportunity to share views with decision-makers. It also affords citizens the opportunity to have their views considered and receive responses where appropriate.

Traditionally underserved communities are provided for in the MPO's public involvement plan through newspaper advertisements in minority targeted newspapers. Special strategies such as providing food or child care during meetings are also considered.

The MPO records public comments received when appropriate. The comments are also shared with the TC and TAC members.

The MPO coordinates with NCDOT and with Divisions 5, 7, and 8 on specific projects. MPO staff also attends the project meetings. MPO staff provides local concerns or information during merger and project review meetings.

The MPO works closely with the NCDOT when public involvement events are held within the MPO to schedule convenient and appropriate venues. The MPO assists in advertising the meetings and attends all events sponsored by NCDOT. The MPO documents its consideration and response to public input.

Some public participation items are performed administratively with limited public involvement. Such items do not require a formal public involvement process outside the regular meeting structure of the MPO. Residents may attend and speak at each TAC meeting upon recognition by the TAC Chair, who may impose a reasonable time limit for speakers.

Methods and venues that are successful continue to be a part of the MPO's ongoing public outreach, while activities that generate low turnouts have been minimized. The MPO staff works to make the language and concepts in all of its documents more understandable and accessible to the public. Piggybacking on other meetings yields successful public input and interaction.

The public involvement process demonstrates explicit consideration and responsiveness to public input received during the planning and program development process through receipt of both written and oral comments.

The MPO's public involvement process is coordinated with that of NCDOT. The MPO highlights any statewide plans, programs, and workshops that are available for the public. The MPO staff attends all statewide events held within a reasonable distance.



The MPO's public involvement is extensive, proactive, and early. Public involvement and outreach for the MPO's TIP is coordinated with NCDOT's STIP public involvement and outreach. The MPO routinely evaluates the effectiveness of its public involvement procedures. Some evaluation metrics used include number of email and mail responses received compared to that sent, workshop attendance, Twitter and Facebook comments, number of calls, and feedback, etc. The MPO considers and responds to public input by providing direct responses, providing summaries of responses posted to the MPO's website, and providing responses to the MPO Boards in the agenda packets. One example of a situation where public involvement contributed to debate and resolution of a transportation issue involved the Eno Drive project. The MPO seeks out and considers the needs of people traditionally underserved by existing transportation systems by holding meetings with Citizen Advisory Committees (CACs), holding workshops in areas of high minority and low income populations, and placing newspaper advertisements in minority newspapers such as the "Carolina Times."

### **Visualization**

The MPO employs visualization techniques in its public involvement process to reinforce its planning process. A website, local agencies, public libraries, social media, brochures, and newsletters are used. Efforts to move beyond traditional tables and listings to visually display information include the use of an interactive website, visualization in both 3D and 2D, mapping, and GIS. The MPO uses Structured Query Language (SQL), postscripts, ACCESS, and geo-databases to collect and store data. Input from travel demand models is converted into graphics, maps, and other visual displays through deficiency analyses demand flow diagrams, select links, travel time sheds, demand maps, and charts. The MPO's website contains projects, maps, reports, publications, interactive maps, and news items. Information and other visual material can be downloaded via portals. The public can access searchable data through public portals such as urban canvas, MS2, etc.

### **Recommendation:**

- **It is recommended that performance measures be included in the Public Involvement Policy (PIP) to help determine its effectiveness.**

## **Title VI and Environmental Justice**

### **Regulation: 23 CFR 450.316(a)(1)(vii):**

Seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services.



### **Title VI of the Civil Rights Act of 1964:**

No person in the United State shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

### **Environmental Justice Executive Order 12898:**

Each Federal agency shall make achieving environment justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

### **Current Status**

Based on its recently developed “Environmental Justice Report,” the DCHC MPO has done an excellent job establishing a foundation for ensuring that Environmental Justice (EJ) is considered in all of its activities. The report contains a thorough and well mapped demographic profile depicting racial minority, Hispanic, low-income, Limited English Proficiency (LEP), elderly, and zero-car household populations. Using census block groups, the MPO did a commendable job establishing thresholds to identify and map its EJ populations. MPO staff also indicated that the next update of the report will include minority business communities as well as areas of congregation, which is also commendable. The review team did identify one area for improvement, which is to separately identify and map African Americans since they are by far the largest EJ population within the MPO boundaries.

MPOs must ensure that both benefits and burdens of their transportation plans are equitably distributed when comparing EJ populations to non-EJ populations. In order to achieve this, MPOs must conduct both *qualitative* analyses as well as *quantitative* analyses to identify potential transportation impacts. Qualitative analyses usually focus on the results of public involvement efforts. DCHC’s Public Involvement Plan (PIP) uses a variety of techniques to engage citizens. MPO staff reported that one of its most successful techniques is its partnership with the Durham Police Department’s “Partners Against Crime” program, which has a large minority presence. With regard to ensuring the engagement of EJ populations, the review team noted a couple of areas for improvement. MPO staff indicated that its citizen advisory committees, focus groups, mailing lists, etc. have representation from EJ populations; however, they were unsure as to the amount and diversity of that representation. Additionally, the MPO’s current PIP objectives do not contain language specifically targeting EJ populations.

As stated above, the MPO must also conduct quantitative analyses of its plan to ensure the equitable distribution of transportation impacts at a system-wide level. DCHC conducted one such analysis, which compared transportation investment and funding in EJ areas with that in non-EJ areas. This one analysis, however does not provide a complete picture. Additional quantitative analyses need to be conducted using other measures so that a comprehensive picture





of benefits and burdens is presented. The MPO has already identified potential performance measures such as accessibility, mobility, congestion, safety, etc. DCHC now needs to take the next step and use those measures to conduct analyses to compare the benefits and burdens to EJ populations as compared to non-EJ populations. Examples of the types of questions the analyses should answer include:

1. Where does congestion exist with respect to EJ populations versus non-EJ populations? Based on the MTP, who will benefit from improvements in congestion when comparing EJ populations to non-EJ populations?
2. How do EJ areas and non-EJ areas compare with regard to the best and worst levels of service?
3. Where are the safety issues (vehicle crashes, pedestrian injuries/fatalities, bicycle crashes, etc.) with regard to EJ populations versus non-EJ populations? Does the plan provide for equitably distributed improvements?
4. Regarding improved accessibility to jobs, shopping, etc., how do EJ populations compare to non-EJ populations?
5. How do commute times compare regarding EJ populations versus non-EJ populations?

Again, the above questions provide only a few examples. DCHC will need to decide the types of analyses to conduct based on things such as the availability of data and the measures it determines are most suitable for comparison purposes.

#### **Commendation:**

- **The recently completed Environmental Justice (EJ) Report is an extremely well-written and comprehensive document that will provide a solid foundation for the MPO as it moves forward with addressing EJ concerns and conducting EJ analyses.**

#### **Recommendations:**

- **It is recommended that the DCHC MPO separately identify African Americans since they are the largest (Environmental Justice (EJ) population and racial minority within the MPO boundary. As a best practice, DCHC may also want to present the individual raw data for each racial minority within the MPO boundaries for information purposes, keeping in mind that the only racial minority to be mapped and analyzed separately would be African Americans, due to their significant size.**
- **It is recommended that with regard to public involvement and ensuring participation from all EJ populations of concern, that DCHC be more**

**deliberate in seeking and documenting representatives from all of its EJ populations to include on mailing lists, focus groups, advisory committees, etc.**

- **It is recommended that the MPO include language in its Public Involvement Plan (PIP) objectives that specifically targets EJ populations.**

## **Congestion Management Program (CMP)/Management and Operations (M&O)**

### **Regulation: 23 CFR 320:**

TMAAs shall develop a CMP to address congestion through a process that provides for safe and effective integrated management and operation of the multimodal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy of new and existing transportation facilities.

### **Current Status**

The DCHC MPO's CMP contains a network that was identified via the travel demand management. INRX data and shape files data for corridor analysis are included. Bottlenecks have been identified and projects designed to alleviate congestion at these points.

The effectiveness of the CMP is evaluated during each biennial report as the progress toward goals is measured, deficient segment data is updated with the latest information, the effectiveness of proposed projects and congestion management strategies is reviewed, and future initiatives are pursued. The CMP is also reevaluated during the MTP update process.

Consideration is given to examining traffic congestion conditions and problems on a regional basis since construction work, crashes, and other incidents along the Interstate highways, other freeways and expressways, and other major roads linking the entire Triangle area (Raleigh-Cary and Durham-Chapel Hill) may have impacts on congestion levels within the DCHC MPO boundary, and vice versa.

The current performance measures in the CMP are Volume to Capacity Ratio (V/C) and Level of Service (LOS). These performance measures provide a generalized analysis of the urban area's roadway segments and allow for further data collection and analysis if needed. The goals and objectives of the CMP were derived from the goals within the MTP to effectively move vehicular traffic, expand public transportation, and reduce travel demand.

The major congestion issue in the DCHC Urban Area is vehicular; therefore, the main data source for the CMP is traffic counts. The first step in data collection is the Average Annual Daily Traffic (AADT) values provided by NCDOT. If the AADT value and the corresponding V/C ratio show a segment or corridor is congested, additional data collection is called for in the





CMP if the segment or corridor contains signalized intersections. In this case, turning movement counts at signalized intersections and travel time/speed studies would be conducted to verify if there is an issue on the segment, or to show that level of service values and travel times and speeds are acceptable. This data collection and analysis allows for the evaluation of projects and proposed improvements as they are completed during the biennial report process.

The congested locations are all along NCDOT roadways such as I-40, I-85, and the Durham Freeway (NC 147). Proposed improvements incorporate additional Intelligent Transportation System (ITS) Architecture.

The CMP has influenced the construction and implementation of non-Single Occupancy Vehicle (SOV) projects by engaging the regional and local transit providers in goal-setting and planning in an effort to both expand public transportation options and services, and to reduce travel demand (the intent of expanding public transportation).

### **Management and Operations**

The MPO's MTP includes Management and Operations (M&O) strategies proposed for Federal funding supported by specific goals and measurable objectives. Mechanisms for measuring performance of O&M goals and objectives are being developed.

Management and operations strategies are included in the CMP. The operations community has reviewed the goals, objectives, and strategies. The CMP is the mechanism by which they will be evaluated. The MPO also uses a Mobility Report Card and a surveillance of change analysis to measure performance of M&O goals and objectives.

The Intelligent Transportation Systems (ITS) Regional Architecture contains projects that are consistent with the MTP and are included in the overall planning process. Multimodal approaches such as coordinated signal/bus pre-emption systems, dedicated bus way considerations, and Bus on Shoulder (BOSS) projects are being studied. The ITS Regional Architecture is linked to the planning process through the CMP.

Transit operations are routinely discussed with DATA and TTA during MPO meetings.

The CMP network covers the MPO area and includes a modeled network of roads. Modes include roadway, bicycle, pedestrian, and public transportation. The MPO may expand the network with the collection of data for the evaluation of performance measures and seek out better sources of data.

The MTP and TIP do not currently include a documented methodology for assessing the costs associated with maintaining and operating the existing Federal-aid transportation system. The MPO works with NCDOT and the City of Durham's Engineering Department to assess the costs associated with maintaining and operating the existing Federal-aid transportation system.



The MPO needs to identify a process for adding local ITS projects to the Regional ITS Architecture. In order for FHWA to authorize an ITS project, it must first be identified in the Regional ITS Architecture. While NCDOT has a process for adding or ensuring that projects are in the architecture, a federal funded locally administered ITS project may not have a similar process.

### **Recommendation:**

- **It is recommended that the MPO use measured data such as travel time and travel speeds in place of modeled/estimated measures such as level of service (LOS) and volume to capacity ratio (V/C) to measure congestion.**

## **Consultation and Coordination**

### **Regulation: CFR 450.316(b)(c)(d)(e):**

The MPO should develop and document consultation procedures that outline how and when during the development of MTPs and TIPs, the MPO will consult with agencies and officials responsible for other planning activities within the MPA that are affected by transportation (including state and local planned growth, economic development, environmental protection, airport operations, or freight movements) or coordinate its planning process (to the maximum extent practicable) with such planning activities, as well the MPO should also include Indian Tribal Governments, and Federal Public Lands, if applicable.

### **Current Status**

The MTP consultant process was developed to include the DCHC and adjacent CAMPO MPOs, NCDOT, local and regional staff, FHWA, and the Institute for Transportation Research and Education (ITRE). This group meets bi-weekly at the Triangle J Council of Governments (COG) during the development and update of the MTP. The inter-agency consultation meetings occur monthly and were established and are guided through an approved Memorandum of Agreement (MOA).

Effort is underway to develop a comprehensive list of agencies and resource groups to locate data, and create an overlay mapping system to compare MPO projects to identify natural, cultural, and agricultural resources, as well as hazardous conditions. Regional partners work together to share information and mapping.

Agency consultation is obtained at key decision points in the planning and programming phases of transportation decision-making. The Historic Resources Commission, the Division of Air Quality of the North Carolina Department of Environment and Natural Resources, EPA, and all agencies that are consulted during Environmental Assessments (EAs) and National



Environmental Policy Act (NEPA) projects are involved during the planning and development of MPO projects.

Air Quality Conformity consultation is a direct feedback with questions posed by the environmental agencies and responses provided by the MPO with corrections to either the TIP or MTP documents, or further explanation of the discrepancies in language between the two documents. The response and coordination between the planning and design phase is iterative in the development of projects. All comments and responses become public record within the environmental documents and assist the MPO in refining its process. The MTP relies on the input of the environmental agencies to update the document with current data, policies, rulemaking, and other issues that may affect or conflict with the content and meaning of the plan.

The Statewide Interagency Consultation Meetings (SICM), as well as the TIP and MTP specific Interagency Consultation meetings held monthly during plan development and review, are well coordinated at the Federal, State, regional, and MPO levels. This process has been very successful in creating a team effort in working through the requirements of air quality conformity. The MTP coordination on other natural and cultural resources is accomplished during the preliminary and draft reviews of the document.

Visualization techniques are used to assist agencies in understanding the transportation plan elements. Overlay maps incorporate all the projects within the time horizons of the MTP and show which resources may be affected by the projects. Any project which has multiple resources within the general corridor or alignment will be noted as having an environmental component in the project listing table. The overlays are at such a large scale that anything more concrete would be jointly identified during that process by the resource agencies, NCDOT, and the MPO.

The MTP is compared with State conservation plans and maps, and with inventories of natural and historic resources. The MTP projects are overlaid on the mapping of natural and historic resources culled from numerous sources on the NC ONE map, and other agency shared GIS files.

#### **Commendation:**

- **The MPO and NCDOT are commended on increased cooperation and coordination in project selection.**

#### **Action Plan**

The Federal Highway Administration (FHWA) North Carolina Division Office will work with the Durham – Chapel Hill Carrboro (DCHC) Metropolitan Planning Organization (MPO) and the



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North Carolina Department of Transportation (NCDOT) to address recommendations identified in this Report.



## **Appendix A**

### **Certification Review Agenda**

#### **Thursday, May 21, 2015**

9:00 – 9:15	Introduction and Purpose of Certification Review
9:15 – 10:15	Self- Certification
	Organizational Structure of Study Area
	Metropolitan Planning Area Boundary
	Agreements and Contracts
10:15 – 10:25	Break
10:25 – 11:00	Unified Planning Work Program (UPWP)
11:00 – 11:45	Consultation and Coordination
11:45 – 1:00	Lunch
1:00 – 1:30	Transportation Planning Process
1:30 – 1:50	Management and Operations
1:50 – 2:20	Financial Planning
2:20 - 2:50	Congestion Management Process
2:50 – 3:00	Break
3:00 – 3:30	Transportation Improvement Program and Project Selection
3:30 – 4:00	Public Outreach
	Visualization Techniques
4:00 – 4:20	List of Obligated Projects



6:00 – 7:30

Public Meeting

(Public Meeting includes time for one-on-one with Policy Board)

**Friday, May 22, 2015**

9:00 – 10:30

Metropolitan Transportation Plan (MTP) Development

Safety

Security

Freight Integration

Environmental Mitigation

Land Use and Livability

Bicycle and Pedestrian

10:30 – 10:45

Break

10:45 – 11:00

Air Quality

11:00 – 12:15

Title VI/Environmental Justice (EJ)

12:15 – 1:30

Lunch

1:30 – 2:30

Public Transit

2:30 – 3:00

FHWA/FTA Review Team Meeting

3:00 – 3:15

Presentation of Preliminary Findings



## Appendix B

### Certification Review Findings

#### Commendations:

- The MPO is commended for the development of an interactive website, which may become the prototype for the North Carolina Department of Transportation (NCDOT's) electronic Statewide Transportation Improvement Program (STIP).
- The DCHC website allows easy access to all plans and programs and an associated online funding database is also available. DCHC has started interactive mapping on their website as well. This includes travel time, traffic counts, urban canvas and land use and ARC GIS online.
- The MPO's coordination with the transit operators is outstanding. The transit operators spoke about how fortunate they are to be in the DCHC MPO. They have staff conversations with the MPO and feel their voices are being heard. The addition of the transit representation on the MPO board did not create a significant difference because the relationship was already good. Overall, the MPO does an excellent job of including the transit operators/providers in all areas of the planning process.
- The Triangle J Council of Governments has done an outstanding job as the regional coordinator for the Triangle Area transportation conformity process. The Triangle Area transportation partners are also to be commended for their communication, responsiveness, and timely completion of projects tasks. The Triangle Area transportation conformity process is a model for how this process should work in North Carolina.
- The recently completed Environmental Justice (EJ) Report is an extremely well-written and comprehensive document that will provide a solid foundation for the MPO as it moves forward with addressing EJ concerns and conducting EJ analyses.
- The MPO and NCDOT are commended on increased cooperation and coordination in project selection.



### **Recommendations:**

- **It is recommended that the Triangle Area continue to consider transportation conformity as they work on upcoming Metropolitan Transportation Plan (MTP) updates and beyond. As the project lists are prepared, they should be grouped by horizon years and projects should be identified as regionally significant, not regionally significant, or exempt. Doing this extra work will help keep the Triangle Area prepared for future conformity work in the event the area is designated under a future new National Ambient Air Quality Standard (NAAQS).**
- **It is recommended that the MPO consider all modes of transportation in its federal metropolitan transportation planning activities, including highways, especially with regard to the efficient intrastate and interstate movement of people and goods through the MPO.**
- **It is recommended that the DCHC MPO separately identify African Americans since they are the largest Environmental Justice (EJ) population and racial minority within the MPO boundary. As a best practice, DCHC may also want to present the individual raw data for each racial minority within the MPO boundaries for information purposes, keeping in mind that the only racial minority to be mapped and analyzed separately would be African Americans, due to their significant size.**
- **It is recommended that with regard to public involvement and ensuring participation from all EJ populations of concern, that DCHC be more deliberate in seeking and documenting representatives from all of its EJ populations to include on mailing lists, focus groups, advisory committees, etc.**
- **It is recommended that the MPO include language in its Public Involvement Plan (PIP) objectives that specifically targets EJ populations.**
- **It is recommended that the MPO use measured data such as travel time and travel speeds in place of modeled/estimated measures such as Level of Service (LOS) and Volume to Capacity Ratio (V/C) to measure congestion.**





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## **Appendix C**

### **Public Notice**



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**ANNOUNCING  
The Federal Certification Review of the  
Durham-Chapel Hill-Carrboro Planning Process**

The Metropolitan Planning Organization (MPO) is the agency responsible for regional transportation decisions for the Durham-Chapel Hill-Carrboro Urban Area. Every three years the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) conduct a review of the MPO's planning activities and procedures to determine whether a Continuing, Cooperative and Comprehensive Transportation Planning Process is being followed according to federal requirements.

There will be a public meeting conducted by the federal review team to receive public comments on the Durham-Chapel Hill-Carrboro planning process. The public meeting will be held on **Thursday May 21 from 5:00 p.m. to 7:00 p.m. in the Committee Room** (2<sup>nd</sup> Floor of Durham City Hall, 101 City Hall Plaza). For further information, please contact Felix Nwoko with the Durham Department of Transportation at 560-4366.

Public comments may also be mailed to Bill Marley, FHWA-NC Division, 310 New Bern Ave. Suite 400, Raleigh, NC 27601-1410 or [Bill.Marley@dot.gov](mailto:Bill.Marley@dot.gov). Comments must be received by May 22, 2015.

The federal review team is requesting comments on the Durham-Chapel Hill-Carrboro transportation planning process and not on specific projects!



## **Appendix D**

### **Glossary of Acronyms**

AADT -	Average Annual Daily Traffic
BOSS -	Bus on Shoulder
BOT -	Board of Transportation
3C –	Continuing, Cooperative, Comprehensive Planning Process
CAC -	Citizen Advisory Committee
CAMPO -	Capital Area Metropolitan Planning Organization
CFR -	Code of Federal Regulations
CHT -	Chapel Hill Transit
CMAQ -	Congestion Mitigation and Air Quality
CMP -	Congestion Management Program
CO -	Carbon Monoxide
COG -	Council of Governments
CTP -	Comprehensive Transportation Plan
DATA -	Durham Area Transit Authority
DCHC -	Durham – Chapel Hill - Carrboro
DOT -	Department of Transportation
EA -	Environmental Assessment
EJ -	Environmental Justice
EPA -	Environmental Protection Agency
FAF -	Freight Analysis Framework
FHWA -	Federal Highway Administration



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FTA -	Federal Transit Administration
FY -	Fiscal Year
GHG -	Greenhouse Gas
GIS -	Geographic Information System
HSIP -	Highway Safety Improvement Program
IC -	Interagency Consultation
IT -	Information Technology
ITRE -	Institute for Transportation Research and Education
ITS -	Intelligent Transportation Systems
LEP -	Limited English Proficiency
LOS -	Level of Service
LPA -	Lead Planning Agency
M&O -	Management and Operations
MAP-21 -	Moving Ahead for Progress in the 21 <sup>st</sup> Century Act
MOA -	Memorandum of Agreement
MOU -	Memorandum of Understanding
MPA -	Metropolitan Planning Area
MPO -	Metropolitan Planning Organization
MTP -	Metropolitan Transportation Plan
NAAQS -	National Ambient Air Quality Standard
NCDENR -	North Carolina Department of Environment and Natural Resources
NCDOT -	North Carolina Department of Transportation
NCR -	North Carolina Railroad
NEPA -	National Environmental Policy Act
OPT -	Orange Public Transportation



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PIP -	Public Involvement Plan
PL -	Planning Funds
PTD -	Public Transportation Division
RDU -	Raleigh-Durham International Airport
RTA -	Regional Transportation Alliance
RTP -	Research Triangle Park
SHSP -	Strategic Highway Safety Plan
SICM -	Statewide Interagency Consultation Meeting
SMSA -	Standard Metropolitan Statistical Area
SOV -	Single Occupancy Vehicle
SPOT -	Strategic Prioritization on Transportation
SPR -	State Planning and Research
SQL -	Structured Query Language
STI -	Strategic Transportation Investments
STIP -	Statewide Transportation Improvement Program
STP-DA -	Surface Transportation Program – Direct Allocation
TAC -	Transportation Advisory Committee
TAP -	Transportation Alternatives Program
TC -	Technical Committee
TCC -	Technical Coordinating Committee
TDM -	Transportation Demand Management
TIP -	Transportation Improvement Program
TMA -	Transportation Management Area
TPB -	Transportation Planning Branch
TRM -	Triangle Regional Model



TTA -	Triangle Transit Authority
UPWP -	Unified Planning Work Program
USC -	United States Code
USDOT -	United States Department of Transportation
UZA -	Urbanized Area Boundary
V/C Ratio -	Volume to Capacity Ratio
VMT -	Vehicle Miles Traveled
YOE -	Year of Expenditure

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