

Technical Committee Meeting Agenda

Wednesday, August 26, 2020 9:00 AM

Meeting to be held by teleconference.

Watch on Facebook Live at https://www.facebook.com/MPOforDCHC/

Any member of the general public who wishes to make public comment should send an email to aaron.cain@durhamnc.gov and the comment will be read to the Committee during the public comment portion of the meeting.

- 1. Roll Call
- 2. Adjustments to the Agenda
- 3. Public Comment

CONSENT AGENDA

4. Approval of the July 22, 2020 TC Meeting Minutes

20-161

A copy of the July 22, 2020 meeting minutes is not available at this time. The minutes will be provided later in a separate communication.

TC Action: Approve the minutes of the July 22, 2020 TC meeting.

ACTION ITEMS

5. <u>2050 MTP -- Goals and Objectives (20 minutes)</u> Andy Henry, LPA Staff

20-145

At their June meeting, the DCHC MPO Board reviewed the staff recommended Goals and Objectives, requested changes, and released them for a minimum 42-day public comment period. At their August meeting, the Board received a revised set of Goals and Objectives based on requests from their June meeting and received a presentation on the online survey that evaluated support for the individual goals and several proposed policies, and provided demographic data on survey respondents. Based on comments from Board members and those who spoke at the public hearing, staff was directed to make changes to the Goals and Objectives that further strengthened the issues of equity and the environment.

The revised Goals and Objectives are attached. Changes to the Goals are indicated in the Goals column, and changes to the Objectives are shown in the Proposed Objectives column. Some comments were related to the lack of identifying a specific condition so it is worth noting that the next step in the 2050 MTP process is to develop performance measures for the Objectives, which should satisfy this set of comments. A document that compiles comments through August 13 is also attached.

TC Action: Recommended that the MPO Board adopt the Goals and Objectives.

<u>Attachments:</u> 2020-08-26 (20-145) Compilation of Comments.pdf

2020-08-26 (20-145) Goals and Objectives.pdf

6. <u>2050 MTP Public Engagement Plan and Schedule (10 minutes)</u> Andy Henry, DCHC MPO

20-144

The DCHC MPO Board released the draft Public Engagement Plan and schedule for the 2050 MTP at their June meeting for a minimum 42-day public comment period. The Board conducted a public hearing at their August meeting but no one from the public spoke on this particular agenda item. The MPO received one email comment on the Engagement Plan and no comments on the schedule. The comment is on page 2 of the comment compilation document that was attached to the previous agenda item. Staff does not recommend any changes to the draft Public Engagement Plan or schedule. Both documents are attached.

TC Action: Recommend that the MPO Board adopt the Public Engagement Plan and schedule.

Attachments: 2020-08-26 (20-144) 2050 MTP Public Engagement Plan.pdf

2020-08-26 (20-144) 2050 MTP Schedule.pdf

7. US 15-501 Corridor Study (30 minutes)

19-144

Andy Henry, LPA staff

Rachel Gaylord-Miles, WSP (consultant)

Staff recommends that the MPO Board release the final US 15-501 Corridor Study for public comment (September 9 through October 15). The final Study consists of a summary report, a full report, and a conceptual design map. The purpose of the Corridor Study, which was funded by the DCHC MPO and NCDOT, is to identify multimodal transportation projects for inclusion in the MPO's Metropolitan Transportation Plan (MTP) and Comprehensive Transportation Plan (CTP), and for submittal to NCDOT's project evaluation process, called SPOT, for possible funding in the Transportation Improvement Program (TIP).

The US 15-501 Corridor Study began in 2018 and has completed an extensive public input process. The formal process included a corridor bus tour, three public workshops, several pop-up events in Durham and Chapel Hill, and an online public input map. Study development was guided by a project steering committee that consisted of staff from local governments, transportation related agencies and transit providers. On occasion, staff has presented the project and received input from the MPO's Technical Committee and Board, and local boards and commissions. In early 2019, the Corridor Study development schedule was extended because the Durham-Orange Light Rail Transit project was suspended in March 2019. Most recently, staff and local elected officials met several times to address issues related to the cross-section in Chapel Hill and the proposed local road network at the I-40/US 15-501 interchange area.

Throughout this extensive development process, there have been major interim products, including: a community profile; travel profile; vision and goals; and a set of strategies to address the different travel needs in the corridor. These interim products and additional background information are available on the project web site:

https://www.reimagining15501.com/. The full report that is being released today presents the highlights from these interim products.

Attachments include:

- The full report The recommended alternatives and implementation plan begin on page 39.
- Summary report The recommendations and proposed cross-sections are shown graphically.
- Conceptual design The scroll map shows a high-level design for the entire corridor; note that there are two scroll maps in this attachment.
- Presentation Includes the development process and final recommendations.

The proposed public input schedule will be:

- September Board meeting -- Release reports and conceptual design for public comment
- October Board meeting -- Conduct a public hearing

- October 15 last day to submit public comments
- November Board meeting Approve final reports and conceptual design

TC Action: Review final US 15-501 Corridor Study, provide comments, and recommend that the MPO Board release the Study for a public comment.

<u>Attachments:</u> 2020-08-26 (19-144) 15-501 Conceptual Design.pdf

2020-08-26 (19-144) 15-501 Presentation.pdf 2020-08-26 (19-144) 15-501 Full Report.pdf 2020-08-26 (19-144) 15-501 Summary Report.pdf

8. <u>Designation of I-885 (10 minutes)</u>

20-158

John Grant, NCDOT

As a Federal Highway Administration (FHWA) requirement, NCDOT is requesting a resolution of support from DCHC MPO regarding the addition of I-885 in Durham County, which would be a continuous highway from I-85 to I-40 (see attached map). Upon completion of the East End Connector in Durham (U-0071), this highway would be designated as I-885. This designation would rename the portion of what is currently NC 147 from the East End Connector to I-40 as I-885. NC 147 south of I-40 would be redesignated as NC 885. NC 147 would remain from the new I-885 through downtown Durham to I-85.

Attached is a draft resolution supporting that designation.

TC Action: Recommend approval of the resolution supporting the designation of I-885 in Durham County.

Attachments: 2020-08-26 (20-158) I-885 Designation Map.pdf

2020-08-26 (20-158) I-885 Designation Resolution.pdf

9. <u>Air Quality Memorandum of Agreement (5 minutes)</u> Andy Henry, LPA

20-163

In accordance with the Clean Air Act, the DCHC MPO is required to develop and adopt a transportation conformity Memorandum of Agreement (MOA) to ensure that the interagency consultation procedures are properly followed for the State Implementation Plan (SIP). The MOA outlines the responsibilities of the various state and federal agencies, the format for coordination meetings, documentation requirements, and the detailed procedures to be followed to determine air quality conformity for the MPO's Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP). This draft MOA is an update to the current MOA, which was adopted in February 2014. Most of the proposed changes are minor such as updating the name of an agency and describing technological improvements to procedures. One notable addition is the requirement to conduct project-level conformity analysis, or so-called "hotspot" analysis.

The EPA designated the Triangle area "attainment" with the 1997 8-hour ozone NAAQS on December 26, 2007. The area will remain under a maintenance plan through December 26, 2027. Currently, the MPO is required to complete "short form" conformity for the 1997 8-hour ozone NAAQS. The TJCOG has coordinated the conformity process for the Triangle region over the last decade. In addition, it is important to have a formal consultation process in place for contingency purposes, should the area be designated for a future NAAQS.

The draft MOA is attached - MPO duties begin in section 2.1, page 4, and the MPO signature is on page 22. Also, a summary of changes to the MOA is attached.

TC Action: Review Memorandum of Agreement (MOA) and recommend that the Board direct the Board Chair to sign the MOA.

Attachments: 2020-08-26 (20-163) AQ MOA.PDF

2020-08-26 (20-163) AQ MOA List of Changes.pdf

10. <u>Enhanced Mobility of Seniors and Individuals with Disabilities</u> (Section 5310) Grant - FFY19 and FFY20 Program of Projects (5

<u>20-162</u>

minutes)

Felix Nwoko, LPA Staff

The Enhanced Mobility of Seniors and Individuals with Disabilities program (Section 5310) provides funds to improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding transportation mobility options. The DCHC MPO is the Designated Recipient of the funds for the Durham UZA and distributes the funds to eligible sub-recipients through a competitive selection process every other year. A Call for Projects was conducted for \$529,150 (in federal funds) which was the total funding apportioned to the Durham UZA for FFY2019 and FFY2020. Applications were reviewed by a staff, and the recommended Program of Projects (PoP) is attached. Once the PoP is approved by the Board, LPA staff will begin the grant application process.

TC Action: Recommend the Board approve the proposed Program of Projects.

Attachments: 2020-08-26 (20-162) 5310 POP 5310 2020 Proposed1.pdf

REPORTS FROM STAFF:

11. Report from Staff <u>20-107</u>

Felix Nwoko, LPA Staff

TC Action: Receive report from Staff.

Attachments: 2020-08-26 (20-107) LPA staff report.pdf

12. Report from the Chair 20-108

Nishith Trivedi, TC Chair

TC Action: Receive report from the TC Chair.

13. NCDOT Reports <u>20-109</u>

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

TC Action: Receive reports from NCDOT.

<u>Attachments:</u> 2020-08-26 (20-109) NCDOT Progress Report.pdf

INFORMATIONAL ITEMS:

Adjourn

Next meeting: September 23, 9 a.m., Meeting to be held by teleconference.

Dates of Upcoming Transportation-Related Meetings: None

2050 MTP – Goals & Engagement Plan

Compilation of Public Comments (August 13, 2020)

Introduction

The DCHC MPO and CAMPO released the proposed 2050 MTP Goals and Objectives, Public Engagement Plan and schedule for public comment in June 2020. The public comment period ends officially for DCHC MPO and CAMPO on August 5 and August 13, respectively.

Comments

The entries below are the full text of written comments that the MPOs received through email and Twitter. The comments are in the order of receipt, from first to last, and are separated by a dashed line.

Hi, DCHC solicited comments on NextDoor for the 2050 Metropolitan Transportation plan, so here are my thoughts.

I lived in Houston for 50 years and our roadbuilding was very aggressive. We have three ring roads, the farthest out is 30 miles from downtown Houston. We made Interstate-10 twenty-two lanes!

It was never enough ... and way too much. Our flooding problems are directly tied for lack of absorptive capacity. One thing I've noticed is that the freeways are SO massive, they affect weather patterns. The rising heat from them can either cause or block thunderstorms.

However you plan to move people, consider the unintended consequences. Even if you have some sort of net zero plan, it will have unintended consequences. It is the unintended consequences that will trip you up.

On a lighter note, your Reduced Conflict Intersections appear to make NO sense. I've seen a couple that because of grade, vegetation, and curving roads, the U-turning cars are blind to the traffic into which they have to merge ... from zero to 60 immediately. RCI's are not a national trend for a reason. I think they defy good design.

mat's my two cents worth.			

Thank you for the opportunity to offer comments on the 2050 Transportation Plan. I must admit that I am confused about what the goals actually are, since I have received two emails, each with a slightly different list of goals. With that in mind, I would offer the following:

In the section on Environmental Impacts add:

That's my two conts worth

Preserve and promote wildlife habitat connectivity as provided for in the new Eno/New Hope habitat corridor study and the NC Natural Heritage program

in section on Congestion and System Reliability, add:

Make provision for exclusive lanes for transit and high occupancy vehicles

In section on Infrastructure:

Give more prominence to and infrastructure flexibility for autonomous vehicles.

Autonomous vehicles are clearly a revolutionary technology that will almost certainly be available before 2050. They deserve special mention, rather than lumping them together (as in the goal statement below) with connected and electric vehicles, which are mere tweaks to existing vehicles and do not involve major impacts on infrastructure or highway design.

E. Support autonomous, connected, and electric vehicles.

Public Engagement Plan

The public engagement plan appears to include a menu of options for engagement but no actual plan. It includes some options that seem like good ways to ensure equitable communication and opportunity for participation, but I can't tell if those methods will be prioritized. This is a really important piece to be clarified I think. I wanted to highlight this because the TC meeting agenda states that no comments have been received on the engagement plan.

<u>Goals</u>

I'm concerned that goals to Improve Infrastructure Condition & Resilience and Manage Congestion & System Reliability will be prioritized over the remaining goals around protecting environment, connecting people and places, equity, multi model and affordable options, safety and health.

A few thoughts for specific revisions:

- The goal Stimulate Economic Vitality needs to include an equity statement.
- The goal Ensure Equity & Participation needs to talk about specific communities that have not
 participated in the past (including the need to remove barriers to participation) and this goal
 should also include a statement around trying to correct unjust transportation decisions in the
 past that have negatively impacted communities of color.

How about come clean about our money well over 168m. I don't trust go triangle to be good Stewart's of our tax dollars. Therefore how do we trust county commissioners

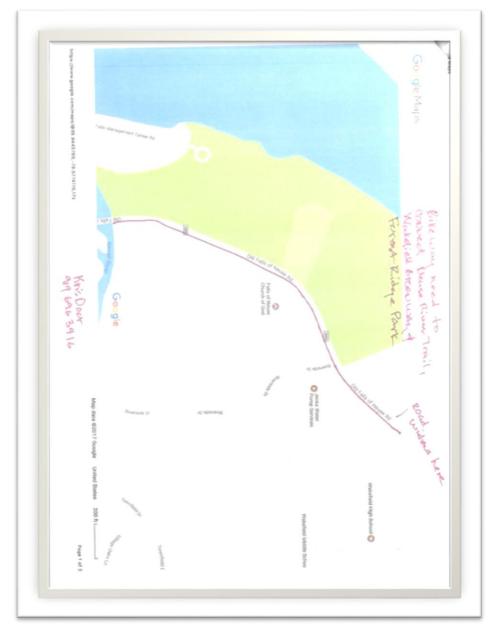
Respondent sent an edited page from the Goals and Objectives

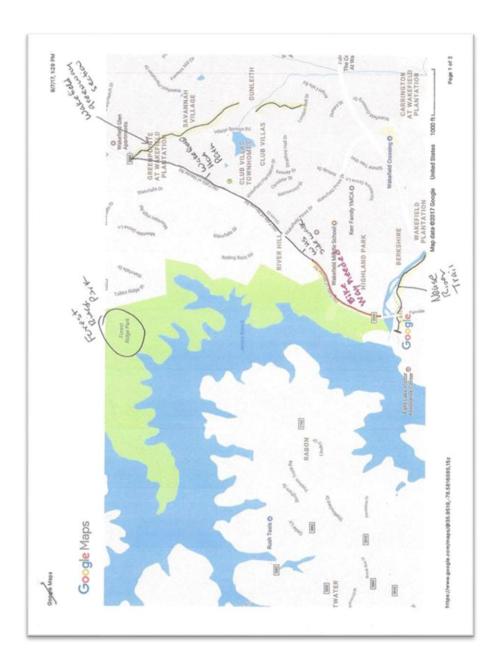
2050 MTP Goals and Objectives

(as released by DCHC MPO Board on June 10, 2020)

Goals	Objectives
Protect the Human and Natural Environment and Minimize Climate Change	A. Reduce mobile source emissions, GHG, and energy consumption
	B. Reduce negative impacts on natural and cultural environment
	C. Connect transportation and land use.
Connect People & Places	A. Connect people to jobs, education and other important destinations using all modes
	B. Ensure transportation needs are met for all populations (especially the aging and youth, economically disadvantaged, mobility impaired, and minorities)
Promote and Expand Multimodal & Affordable Choices	A. Enhance transit services, amenities and facilities TUVEST IN BICYCLE, PEDESTMAN AND GREE B. Improve bicycle and pedestrian facilities #7561617
<u> </u>	B. Improve bicycle and pedestrian facilities #721417
REMOVE BANKIERS AND	C. Increase utilization of affordable non-auto travel modes 400 WALKING.
Manage Congestion & System Reliability	A. Allow people and goods to move with greater reliability.
	B. Promote Travel Demand Management (TDM, such as carpool, vanpool, telecommuting and park-and-ride)
	as carpool, varipool, telecommuting and part

We need a bike lane connection between the Neuse Trail at the Dam up Old Falls to the Wakefield Trail. See maps:











I took this survey but found it to be poorly designed. Several goals lumped together in a way that of course you should support them. 1/4

CityofDurhamNC ② @CityofDurhamNC · 2h

Interested in the 30-year plan for future highway, bicycle, rail, pedestrian & transit projects for #Durham, @chapelhillgov & @CarrboroTownGov? Give your feedback by 8/5 to the @DCHCMPO.

- English survey: ...Otriangletransportplan.metroquest.com
- Encuesta en español: plandetransporte2050.metroquest.com









North Carolina Wildlife Resources Commission

Gordon Myers, Executive Director

Andrew Henry City of Durham Transportation Department 101 City Hall Plaza Durham, NC 27701

August 5, 2020

Subject: Update of the 2050 Metropolitan Transportation Plan: Proposed Goals and Objectives

Dear Mr. Henry,

Thank you for the opportunity to review and provide comments on the proposed goals and objectives for the update of the 2050 Metropolitan Transportation Plan (MTP). The NC Wildlife Resources Commission (NCWRC) reviews transportation plans and individual projects to provide recommendations on ways to reduce impacts of roads on fish and wildlife populations. Roads are barriers to many of our wildlife species, causing significant mortality and contributing to habitat fragmentation that can isolate wildlife populations across the landscape. NCWRC is supportive of the goal to "Protect the Human and Natural Environment and Minimize Climate Change" and is available to provide technical assistance on transportation planning efforts to avoid and minimize impacts of roads on wildlife, natural areas, and other natural resources. As the update of the plan seems to be in its beginning stages, I wanted to make you aware of recent efforts by the Eno New Hope Landscape Conservation Group to identify a network of priority wildlife habitat patches and corridors in the Eno and New Hope watersheds.

The Eno New Hope Landscape Conservation Group is composed of conservation professionals working for local and state governments, non-profits, and universities, many of which have conservation landholdings within the two watersheds that are becoming increasingly vulnerable to impacts from habitat fragmentation. The group's aim in coming together was to identify and map priority wildlife habitat and corridors connecting a network of natural communities and species populations, within and between the two watersheds, and to develop recommendations to drive land protection, land-use, and transportation decision-making within the watersheds. The results of this effort are detailed in A Landscape Plan for Wildlife Habitat Connectivity: In The Eno River and New Hope Creek Watersheds, North Carolina (https://ncbg.unc.edu/files/2019/12/EnoNewHopePlan December 2019.pdf). GIS data are available for viewing on the NC Natural Heritage Program Data Explorer (http://nchde.natureserve.org/content/map) and for download from the NC Botanical Garden (https://ncbg.unc.edu/research/eno-new-hope-plan/).

In order to the address the proposed environmental protection goal of the MTP, NCWRC recommends that the MPO avoid planning new roads and road widening projects in areas that are identified as part of the priority habitat network, as well as, other important natural areas not explicitly addressed in the habitat network data analysis, such as Natural Heritage Natural Areas, streams, wetlands, and areas identified as high priority in the Biodiversity and Wildlife Habitat Assessment (all of

Page 2

this data is available via the NC Natural Heritage Program Data Explorer). When roads through these areas cannot be avoided, NCWRC recommends providing wildlife crossing structures to help protect habitat connectivity for wildlife. These actions will also result in a reduction of wildlife-vehicle collisions that can be so costly to human health and property. NCWRC works regularly with the NC Department of Transportation to provide site specific recommendations for crossing structures.

Thank you for the opportunity to share these conservation planning resources with the MPO. The Eno New Hope Conservation Group is open to all interested stakeholders; transportation planners interested in learning more about the conservation plan are welcome to attend meetings and trainings provided by the group. Please email me, Brooke Massa, brooke.massa@ncwildlife.org if you'd like to be added to the group's listserv. As the update of the MTP moves forward, please feel free to reach out for assistance with integrating the conservation data into the planning process.

Sincerely,

Brygan

Brooke Massa, Land Conservation Biologist North Carolina Wildlife Resources Commission 919-630-3086

brooke.massa@ncwildlife.org

Andy,

Thank you for this opportunity to comment on the draft goals and objectives for the 2050 MTP. I have attached Bike Durham's specific comments on each of the goals and objectives. I know that you, and the teams at DCHC and CAMPO spent a lot of time on the goals and objectives for the last update of the MTP, and it shows. It clearly recognizes the importance of going beyond thinking about mobility in terms of speed and congestion.

However, we believe that the MPOs need to take the next step to stake out what we must be achieving through our transportation system by 2050. Over the next 30 years, we should be setting far-reaching goals and objectives that achieve zero racial and economic disparities in transportation access, zero deaths and serious injuries on our streets and roadways, and zero carbon emissions from our transportation system. We believe that there is broad support for these specific objectives and it's time for us to plan to achieve them.

[The comments are displayed on the next three pages]



Comments on 2050 MTP Draft Goals and Objectives

Thank you for this opportunity to comment on the 2050 Metropolitan Transportation Plan Draft Goals and Objectives. In general we agree with the staff's effort to incorporate goals and objectives that go beyond the traditional measures of traffic speed and delay as guides to the Triangle region's transportation plans. However, the articulation of these proposed goals and objectives don't seem to follow generally accepted principles to make them specific, measurable, and time-bound goals and objectives. We request the DCHC MPO and CAMPO rewrite the goals to more clearly communicate the direction in which we want to go, and rewrite the objectives to establish measurable outcomes to achieve by 2050 and interim years.

Goal: Protect the Human and Natural Environment and Minimize Climate Change

Objectives: Reduce mobile source emissions, GHG, and energy consumption; Reduce negative impacts on natural and cultural environment; Connect transportation and land use

We agree that this is a very important goal and appreciate that the staff has included it. We believe that the first objective should be Achieve Net Zero Carbon Emissions from the Transportation Sector by 2050. The second and third objectives are directionally fine, but they do not indicate the condition we aim to achieve by 2050.

Goal: Connect People and Places

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

We agree that this is an important goal, but we do not believe that goal language is adequate. We urge you to rewrite the goal as "Connect All People and Places without Disparity." We urge the objective for this Goal to be "Achieve Zero disparity of access to jobs, education, or other important destinations by race or income or other marginalized groups."

Goal: Promote and Expand Multi-modal & Affordable Choices
Objectives: Enhance transit services, amenities and facilities; Improve bicycle
and pedestrian facilities; Increase utilization of affordable non-auto travel modes
While we support these strategies and tactics in achieving the goals of Zero Carbon Emissions,
Zero Disparity of Access, and Zero Deaths on our streets and highways, the only goal as
defined here is affordability. We urge you to rewrite the goal to be "Ensure that All Have

Affordable Access to the Transportation System." We ask that the objectives include: "No one pays more than 40% of their income for housing plus transportation by 2050." It could be valuable to establish objectives around the percentage of trips made using sustainable modes of transportation, but we would recommend that be established under the first goal, and supportive of an objective for zero carbon emissions. In that case, it should be paired with an objective regarding the percentage of the motorized fleets that are electric.

Goal: Manage Congestion & System Reliability

Objectives: Allow people and goods to move with greater reliability; Promote Travel Demand Management (TDM, such as carpool, vanpool, telecommuting and park-and-ride); Enhance Intelligent Transportation Systems (ITS, such as ramp metering, dynamic signal phasing and vehicle detection systems)

We agree that System Reliability is an important goal. By that, we mean both that connections are available when people need them, and that travel times are predictable. Measures of congestion are not as important as measures of travel time predictability, and the travel times should be comparable for all system users. "Objectives 2 and 3" are strategies, not objectives.

Goal: Improve Infrastructure Condition and Resilience

Objectives: Increase proportion of highways and highway assets in 'Good' condition; Maintain transit vehicles, facilities and amenities in the best operating condition; Improve the condition of bicycle and pedestrian facilities and amenities; Promote resilience planning and practices; Support autonomous, connected, and electric vehicles

This is a well-defined goal and set of objectives, except for the last one. "Improving condition" should not be equated with expanding capacity. There is a long tradition of using the term "improvement" to define any transportation project as an improvement (i.e., Transportation Improvement Program). The last objective seems to be a strategy, and doesn't have a clear connection to this goal.

Goal: Ensure Equity and Participation

Objectives: Ensure that transportation investments do not disrupt communities; Promote equitable public participation among all communities

We agree with the goal, however, the first objective does not acknowledge that the existing transportation system has already created disproportionate burdens for low-income communities, especially Black communities, and also other individuals without regular access to a car. One objective should be that the transportation system has zero disparities of access based upon race, wealth, income, gender-identity, age or ability. We urge rewriting the second objective to read, "Ensure equitable public participation among all communities - geographic, racial, age, income, gender, and ability.

Goal: Promote Safety and Health

Objectives: Increase safety of travelers and residents; Promote public health through transportation choices

This is an essential goal. Objective 1 should be stated as Zero Deaths or Serious Injuries on our streets and highways by 2050. Objective 2 should be measurable, such as all residents will have safe access to active transportation choices by 2050. Interim targets should also be established.

Goal: Stimulate Economic Vitality

Objectives: Improve freight movement; Coordinate land use and transportation; Target funding to the most cost-effective solutions; Improve project delivery for all modes

While the Goal seems laudable, it does not indicate for whom. When we don't indicate for whom we are stimulating economic vitality, there is usually a group left behind, and that group is usually those who are Black or Brown, and at the lowest end of our income and wealth scales. If our transportation system is going to become equitable, then we need to be clear that we are stimulating economic vitality for all socio-economic groups, setting objectives toward that, and measuring our progress. We recommend a replacement goal of "Enhance Inclusive Local and Regional Economic Opportunity."

Secondarily, "improve freight movement" is ambiguous. Does this mean shorter freight travel times? or greater predictability of travel times? If a goal suggests the direction that we're going, an objective should communicate where we want to end up. Improving freight movement doesn't do that. Neither does the fourth objective. The third objective is important, but it isn't specific to this goal. We want the most cost-effective solutions that achieve multiple goals.

We recommend the following objectives: Maximize local hire opportunities in construction, operation, and maintenance projects; prioritize foot and bicycle access to local businesses over automobile access and parking; ownership of transportation-related businesses reflects the regional population by race and gender; ensure projects benefit the local community without displacing residents.

Here are my comments for the MPO Board:

Dear DCHC MPO Board Members:

After the demise of the Durham-Orange Light Rail, the assault by Covid-19, the murder of George Floyd, and in the midst of ongoing displacement of low-income residents from in-town neighborhoods, we need to look at the goals and objectives this long range transportation plan update with fresh eyes. The overarching theme should be that the needs of low wealth and health-challenged residents, especially those who are Black, Indigenous, and People of Color (BIPOC), are the number one priority in the MTP. The draft goals should then be prioritized and adjusted to incorporate this theme. Though other values, such as environmental protection and general economic vitality are worthy goals, emphasis on mobility equity is justified at this point in history because low wealth residents and workers have been slammed by rising housing costs, as well as pandemic related job loss and sickness. In addition, the Black Lives Matter movement has reminded us that past transportation investments have increased wealth disparities and thus may warrant compensatory action.

My comments and suggestions on the goals as drafted are attached. Suggested edits are in read, Comments are in blue.

Thank you for the opportunity to provide input on this important plan.

[comments follow on the next two pages]

Goals	Objectives
Protect the Human and Natural Environment and Minimize Climate Change This should not be the first goal. The first goal should be the highest priority. By not relying on Light Rail	A. Reduce mobile source emissions, GHG, and energy consumption
and compact, walkable development patterns, the new plan implies a lower priority for this goal than the previous plan	
Protect the Environment & Minimize Climate Change	
	B. Reduce negative impacts on natural and cultural Environment, especially in areas where low wealth and BIPOC people live and travel.
Connect People & Places This is a good first goal because it is the core purpose of transportation	A. Connect people to jobs, education and other important destinations using all modes
Connect People	
	B. Ensure transportation needs are met equitably for all populations (especially the aging and youth, economically disadvantaged, mobility impaired, and minorities)
Promote and Expand Multimodal & Affordable Choices	A. Enhance transit services, amenities and facilities, especially in areas where market and legally restricted affordable housing is located.
Promote Multimodal & Affordable Choices	affordable flousing is located.
	B. Improve bicycle and pedestrian facilities
	C. Increase utilization of affordable non-auto travel Modes Make routes and connections when people need them and expand paratransit services beyond established bus routes
Manage Congestion & System Reliability	A. Allow people and goods to move with greater reliability.
	Allow people and goods to move with minimal congestion and time delay, and greater predictability.
	B. Promote Travel Demand Management (TDM, such as carpool, vanpool, telecommuting and park-and-ride)
	C. Enhance Intelligent Transportation Systems (ITS, such as ramp metering, dynamic signal phasing and vehicle detection systems)
Improve Infrastructure Condition & Resilience	A. Increase proportion of highways and highway assets in 'Good' condition

	Objectives
Coole	
Goals	C. Improve the condition of bicycle and pedestrian facilities
	and amenities
	Promote resilience planning and practices.
	Improve response time to infrastructure repairs
	Support autonomous, connected, and electric
	vehicles.
Ensure Equity, Participation, and public accountability	A. Ensure that transportation investments do not
	create a disproportionate burden for any disrupt
	communit y ies.
	B. Promote equitable public participation among all
	communities (consider using the Durham Equitable
	Community Engagement Blueprint)
	B. Enhance public participation among all communities
	C. Ensure that local disadvantaged workers and small
	businesses can compete for jobs and contracts generated
	through transportation projects
	D. Establish metrics for goals and objectives and develop an
	equitable reporting process.
Promote Safety, and Health and Well- Being	A. Increase safety of travelers and residents
being	B. Promote public health through transportation choices
Stimulate Economic Vitality and	A. Improve freight movement
Opportunity	
	B. Coordinate land use and transportation. Ensure that
	excellent transit service is available to concentrations of
	market and legally restricted affordable housing.
	B. Link land use and transportation
	C. Target funding to the most cost-effective solutions
	D. Improve project delivery for all modes

Thank you so much for the work you are doing to improve representation of public input. It is by no means a small task. The enormity of doing public engagement well, taking into account your current resources, is obvious.

As one of those who HAS attended way too many public hearings and charrettes and DCHCMPO meetings, and one whose demographic is overly represented, I think I can speak to this with some amateur authority.

Those most dependent on bikes or buses or walking to get to their jobs at the hospitals or the universities or the restaurants will never see any of the ads, newpaper posts, or social media posts that are put out. They are not connected to the email blasts from the Town Halls. If they see the word charrette, they will have no idea what that is, but they will doubt it relates to

them. They can best be reached through community partners and at their work locations, which are not always large corporations and businesses.

Input sessions I have gone to are rather overwhelming in the amount of information presented and the number of hard-to-decipher maps that had to be explained to me, and I consider myself well-engaged.

My first suggestion would be to seek out partners who are community organizers in the Black community, the Latinx community, the Burmese, Karen, and other refugee communities and other communities of concern. You may need to use those organizers as go-betweens. And meetings may need to happen at the bus stops, or at El Centro, or at the hospital or housekeeping departments of universities. These are the people who don't have time to go out of their way to become involved in input sessions.

Also, work really hard to present material in the most basic way possible, like you would explain it to a neighbor who has never shown interest in a transportation project before. Don't ask people if they are in favor of a project, ask them what obstacles they face with their mobility, what would make their commute or travel to services easier, etc.

I am happy to see this huge disparity being recognized, and I look forward to seeing the effort to address it move forward.

Thanks as always for your work to make our communities better,

DCHC MPO -- 2050 MTP -- Proposed Goals and Objectives

Goals	Original Objectives	Proposed Objectives
Protect the Human and Natural Environment and Minimize Climate Change	a) Reduce mobile source emissions, GHG, and energy consumption b) Reduce negative impacts on natural and cultural environment c) Connect transportation and land use.	a) (revised) Reduce transportation sector emissions a) (revised) Achieve net zero carbon emissions b) (no change) Reduce negative impacts on natural and cultural environment
Ensure Equity and Participation	 a) Ensure that transportation investments do not create disproportionate negative impacts for any community, especially communities of concern b) Promote equitable public participation among all communities, especially among communities of concern. 	a) (revised) Ensure that transportation investments do not create disproportinate negative impacts for communities of concern b) (revised) Ensure equitable public participation among communities of concern
Connect People and Places	a) Connect people to jobs, education and other important destinations using all modes b) Ensure transportation needs are met for all populations (especially the aging and youth, economically disadvantaged, mobility impaired, and minorities)	a) & b) (revised) Increase mobility options for all communities particularly communities of concern to improve access to jobs, education, and other important destinations
Promote and Expand Multi-modal & Affordable Choices Ensure That All People Have Access to Multimodal and Affordable Transportation Choices	a) Enhance transit services, amenities and facilities b) Improve bicycle and pedestrian facilities c) Increase utilization of affordable non-auto travel modes	 a) (no change) Enhance transit services, amenities and facilities b) (no change) Improve bicycle and pedestrian facilities c) (no change) Increase utilization of affordable nonauto travel modes
Promote Safety, Health and Well- Being	a) Increase safety of travelers and residents b) Promote public health through transportation choices	a) (revised) Reduce deaths and serious injuries on our transportation system b) (revised) Provide all residents with active transportation choices

Goals: revisions are indicated in the Goals column; **Bold** = addition; **strikethrough** = delete.

Objectives: revised Objectives are in the Proposed Objectives column.

DCHC MPO -- 2050 MTP -- Proposed Goals and Objectives

Goals	Original Objectives	Proposed Objectives
Improve Infrastructure Condition and Resilience	a) Increase proportion of highways and highway assets in 'Good' condition b) Maintain transit vehicles, facilities, and amenities in the best operating condition c) Improve the condition of bicycle and pedestrian facilities and amenities d) Promote resilience planning and practices e) Support autonomous, connected, and electric vehicles	a) (no change) Increase proportion of highways and highway assets in 'Good' condition b) (no change) Maintain transit vehicles, facilities, and amenities in the best operating condition c) (no change) Improve the condition of bicycle and pedestrian facilities and amenities d) (no change) Promote resilience planning and practices e) (no change) Support autonomous, connected, and electric vehicles
Manage Congestion & System Reliability	a) Allow people and goods to move with greater reliability b) Promote Travel Demand Management (TDM, such as carpool, vanpool, telecommuting and park-and-ride) c) Enhance Intelligent Transportation Systems (ITS, such as ramp metering, dynamic signal phasing and vehicle detection systems)	transportation system through strategies such as
Stimulate Inclusive Economic Vitality	a) Improve freight movement b) Coordinate land use and transportation c) Target funding to the most cost-effective solutions d) Improve project delivery for all modes	x) (new) Ensure equitable distribution of transportation investments especially to communities of concern a) (no change) Improve freight movement b) (no change) Coordinate land use and transportation c) (revised) Invest in cost-effective solutions to improve travel reliability and safety d) Improve project delivery for all modes

Goals: revisions are indicated in the Goals column; **Bold** = addition; **strikethrough** = delete.

Objectives: revised Objectives are in the Proposed Objectives column.

2050 MTP Development Public Engagement Plan

Capital Area MPO Durham-Chapel Hill-Carrboro MPO

Contents

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Introduction

The Metropolitan Transportation Plan (MTP) is the long-range regional transportation plan for the greater Research Triangle region. The Capital Area and the Durham Chapel-Hill Carrboro MPOs coordinate to develop the MTP for the region. The 2050 MTP will provide a framework for the investment of anticipated federal, state and local funds, based on anticipated needs and regional goals and objectives over a 30-year timeframe. It will include transportation projects, programs, and policies across modes (roadway, transit, rail, bicycle, and pedestrian).

Public engagement is a significant component of the MTP development process. Decisions cannot be based solely on numbers and the interpretation of goals and objectives by the MPOs' staff and Policy Boards. Public engagement provides an opportunity to build trust and credibility for the MTP by engaging with a variety of stakeholders and residents to provide information and elicit input. The development of the 2050 MTP will include a comprehensive public engagement process that uses input from residents, municipal and agency partners, key community stakeholders and interest groups to provide a critical evaluation of the products for each stage of developing the plan.

The purpose of the following Public Engagement Plan ("PE Plan") is to outline the goals and methods to be deployed to promote meaningful participation and ensure that the public is not only informed, but also involved in the creation of ideas, identification of problems and issues, and the development of solutions. The intent is to provide the overarching engagement goals and the range of tools that will be used to engage members of the public, when they will be used during the overall development of the 2050 MTP, and a schedule of independent and overlapping activities. This PE Plan focuses on inclusive and authentic public outreach tools and tactics that will reach the region's numerous and diverse stakeholders and residents early and consistently. Engagement methods will focus on educating the general public on the MTP development to build awareness while obtaining the necessary input for the technical team to progress.

In addition to this PE Plan, which is customized for public engagement related to the 2050 MTP, both MPOs have a Public Participation Plan available on their respective websites (www.campo-nc.us or www.dchcmpo.org). Those plans detail the requirements for public comment periods, notifications of public hearings, and more especially related to MPO Policy Board actions.

Key 2050 MTP Development Milestones

There are five milestones in the development of the 2050 MTP that will involve public engagement:

- I. Vision Goals & Objectives
- II. Travel Model and SE Data
 - a. Socio-Economic Data (SE Data) to be used for 2050 MTP
 - b. Triangle Regional Model (TRM) to be used for 2050 MTP
- III. Alternatives Selection and Analysis
- IV. Preferred Option Review
- V. 2050 MTP Adoption

Public Engagement Goals

The strategies and methods outlined in this PE Plan reflect one or more of the following goals:

Meaningful: Multiple engagement efforts will take place during the 2050 MTP development process (18+ months). They will be customized to each development milestone. Ensure Access (1): "Go to them where they are approach." Deploy a range of methods to reach all populations, including targeted efforts toward traditionally underengaged populations · Involve minority, low-income, limited English proficiency, and disabled populations in the transportation decision-making. Coordinate with ongoing planning and outreach efforts of MPOs and partners (i.e. local municipalities and NCDOT) for opportunities to engage broader public and avoid "engagement fatigue". • Utilize community ambassadors and traditionally underengaged population representatives to gain input from targeted communities of concern Ensure Access (2): All materials will be crafted in a manner that is easily understood by the general population and ensure that participation is both welcomed and encouraged. •Ensure Access (3): Increase access to participation by utilizing both in-person and online methods. •Increase Participation: Leverage recent engagement efforts by MPOs as well as municipal partners for outreach mechanisms (eg. contacts lists) to broaden reach to both general public and targeted groups o **Documentation:** Target and measure engagement gaps and successes. Document public engagement activities and inputs for review by the public, administrators and decision makers. oBuild Trust: Close the loop; ensure all participants receive follow-up information about outcomes.

Public Engagement Activities

The following table depicts the intended public engagement activities for the development of the 2050 MTP. These activities are also described further below. Through these methods, staff from both MPOs will strive to create opportunities to engage with diverse stakeholder groups and residents early and consistently. Other tools and materials may be developed if circumstances suggest they will enhance effectiveness.¹

2050 MTP Development Milestone											
Activity	I. Goals & Objectives	II. SE Data and TRM	III. Alterna- tives	IV. Preferred Option	V. Adopt Plan						
Written Materials											
Reports	✓	✓ ✓		✓	✓						
Maps		✓	✓	✓	✓						
In-Person Engagement	t										
In-person events			✓	✓							
Public hearing	✓	✓	✓	✓	✓						
Presentations			✓	✓							
Virtual Engagement											
Website	✓	✓	✓	✓	√						
Social media	✓	✓	✓	✓							
Videos		✓	✓	✓	✓						
Online survey & map	✓	✓	✓	✓							
Mailing list	✓	✓	✓	✓	✓						
Newsletters/Brochures	✓		✓	✓							
Media and Ads											
Press releases	✓	✓	✓	✓	✓						
Ads	✓		✓	✓	✓						
Diverse Engagement	✓	✓	✓	✓	✓						
Respond to Comments	√	✓	✓	✓	✓						

¹ It should be noted that in-person events will take place as permitted by Covid-19 social distancing restrictions.

5

Activity Descriptions

1. Written Materials

Reports – The MPOs will produce easy-to-read plan reports that make extensive use of visuals such as charts, tables and graphs to present the materials. Long reports will have a summary.

Maps – The MPOs will produce easy-to-read printed and electronic maps (e.g., PDFs), and interactive, online maps that allows the user to zoom-in and zoom-out.

Mailing List – The MPOs will create an electronic and postal mailing list of people and agencies and send engagement opportunity notices to that list.

2. In-Person Engagement

In-person engagement will be held at various locations throughout the region to ensure the MPOs receive feedback from a variety of locales and socioeconomic groups. To the extent possible, the MPOs will coordinate with the public engagement activities of other planning efforts in the area. The MPOs' activities will be held at locations that are accessible to persons with disabilities and which are located on a transit route, to the extent feasible (some parts of the planning areas do not have fixed-route transit service). If notified within 48 hours of an event, special provisions will be made, e.g., sign language, translator, etc.

In-person events – These events can have a variety of formats, including, but not limited to:

- Workshops in which community members are able to talk one-on-one with staff;
- Focus groups in which a facilitator helps to produce feedback;
- Charrettes that allow citizens to make hands-on contributions to design elements; and,
- Pop-up events conducted at popular locations for targeted groups.

Public hearings – People can directly address the MPO Board.

Presentations – As appropriate, the MPOs will make presentations and solicit feedback from the elected officials and advisory commissions and committees of partner agencies and municipalities, and those identified among the target groups.

3. Virtual Engagement

Website – The MPOs will develop Web sites that provide the public: easy ways to provide feedback; background on the MTP federal requirements; MPO public engagement plan and schedule; public opportunities to participate and sign-up for notices; all MTP documents, maps, presentations and surveys; and staff contact information. Currently, the MPOs are investigating the possibility of creating a single 2050 MTP Web site for both MPOs.

Social Media – The MPOs will publish public engagement opportunities through social media such as Twitter, Facebook and Instagram.

Videos & Audio Files – The MPO will develop and publish explanatory videos to present products from the development of the 2050 MTP. The MPOs will also explore the utility of a monthly podcast, or presentations with audio for distribution.

Online Survey and Maps – As appropriate, the MPO will administer written and online surveys, and crowdsource maps.

E-Newsletters and Brochures – The MPO will publish newsletters or brochures for major milestones.

Call in meetings and/or Virtual Town Halls – The MPOs will host virtual meetings and endeavor to replicate in-person activities online at key milestones, as appropriate. Such meetings would be interactive to engage participants via meeting polling, and similar tactics. Online meetings (at a minimum the staff presentations) will be recorded and posted on the website

4. Media and Ads

Press Releases – The MPOs will provide press releases to the local governments in their planning area for release to the public.

Ads - The MPOs will publish a notice in major newspapers, and other local, minority, or alternative language newspapers, as appropriate, to notify the public of engagement opportunities.

5. Diverse Engagement

The MPOs will endeavor to engage people from all member jurisdictions, multi-modal transportation groups, neighborhood and community groups, and local and State agencies responsible for environmental protection, conservation, land use management, natural resources and historic preservation. The MPOs will realize more equitable engagement by including people from the environmental justice communities including minority, low-income, limited English proficient, and elderly persons.

6. Respond to Comments

The MPOs will document both oral and written public comments received during the course of public engagement and make those comments available to the MPO Executive Board and the public. As needed, staff will summarize comments, and in some cases directly responded to significant or popular comments.

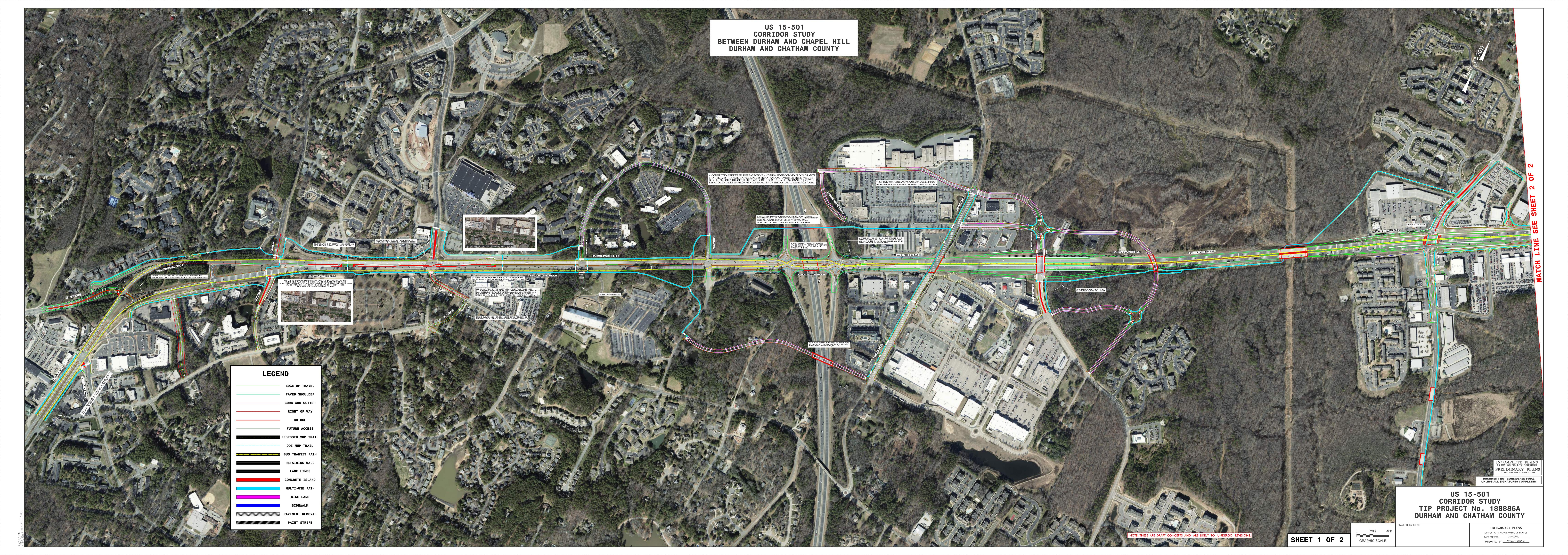
2050 MTP Schedule

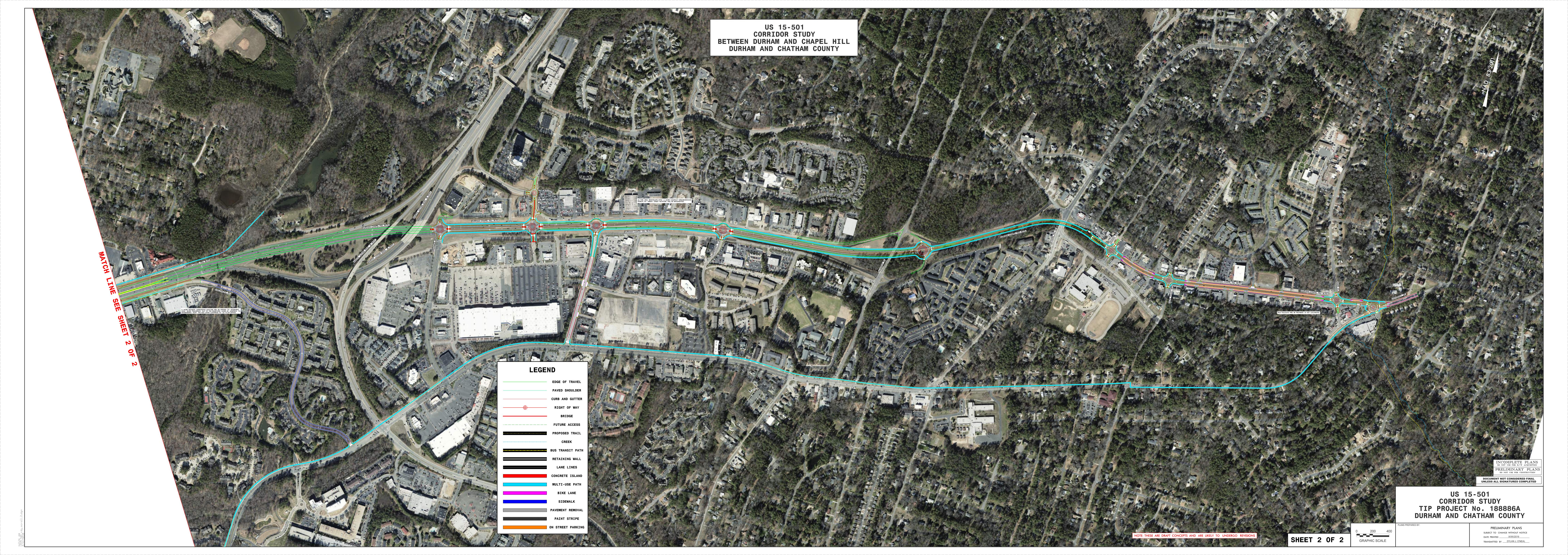
Task ID#	Plan Tasks	2020 Mar	Apr	May	Jun	Jul	Aug	Sep	Oct N	lov De		021 Jan]	Feb M	ar Ap	r May	Jun	Jul A	ug	Sep O	ct N	Nov	Dec	2022 Jan	Feb N	
205	0 MTP																					·			
1	Goals and Objectives draft, use for scenario evaluation, adopt with final 2050 MTP						public hearing																		
2	Socio-economic Data (SE Data) <u>Base Year</u> - CO and/or ACS for for populatin and complete Employment Analyst	collect employment	collect employment	collect employment	clean employment	clean employment	clean employment															public hearing			
3	Socio-economic Data (SE Data) <u>2050</u> horizon year develop guide totals																					public hearing			
	Land Use Model (CommViz) update land use model, create scenarios, approve for use in 2050 MTP, adopt with final 2050 MTP									public	nearing											public hearing			
5	Triangle Regional Model (TRM) update model, verify network, and approve for use in 2050 MTP									public	nearing											public hearing			
6	Deficiency Analysis and Needs Assessment generate deficiency analysis, develop needs assessment, and Board review and comment																								
	Financial Plan cost and revenue estimates for Preferred Option based on cost models																		public	hearing					
	Alternatives Analysis generate and evaluate alternatives, extensive public engagement and public hearing, select Preferred Option																nublic	hearing							
	Adoption of 2050 MTP release fiscally- constrained Preferred Option for comment, conduct hearing, receive local and agency review, and approve Plan for AQ analysis																			puone nearing					
10	Air Quality Conformity release Air Quality Conformity Determination Report (AQ CDR) for comment, conduct hearing, receive local and agency review, and adopt 2050 MTP and AQ CDR																							public hearing	public hearing

MPO Board and Staff Actions
(bold/blue block) = Board action
(light/blue crosshatch) =1st Bd review/action
(light grey block) = staff work

Note: MPO executive boards do not meet in July

This schedule was last updated on: 6/2/2020





US 15-501 Corridor Study

DCHC Technical Committee August 26, 2020

> Andy Henry, DCHC Rachel Gaylord-Miles, WSP

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Today's Presentation

- Purpose
- Process
- Products
- Recommendations
- Next steps

Purpose

- Key travel corridor, growing demand and travel delay, and changing land use.
- Purpose coordinate land use and transportation; identify multimodal transportation projects for MPO's long-range plans and TIP (Transportation Improvement Program)

Process

- Project began in 2018
- Project Steering Committee staff from local governments, NCDOT, transit agencies.
- Extensive public input corridor tour; three public workshops; pop-up events in Durham and Chapel Hill; online public input map; local boards and commissions; interim reports to MPO Board; and, meetings with staff and elected officials.





Final Report

Final study for release today...

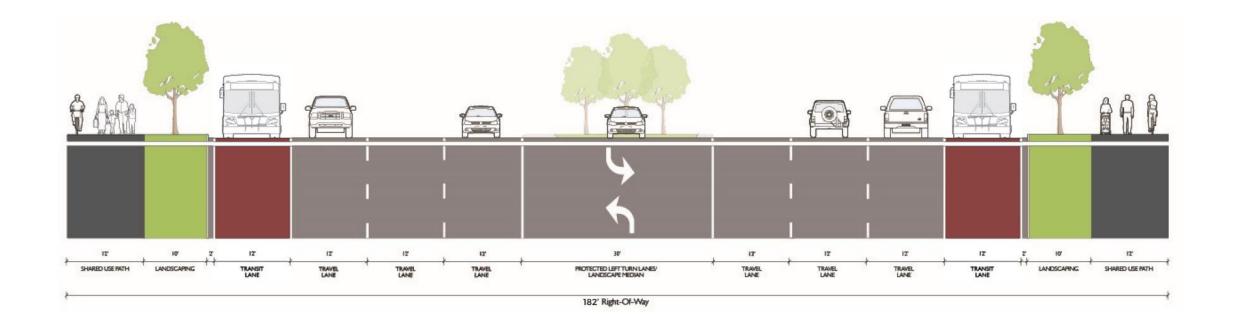
- 1- Full report: highlights from interim report, recommendations with proposed cross-section, and implementation plan
- 2- Conceptual design: high-level drawing on map; demonstrates feasibility
- 3- Summary report: easy to read and reference; graphic based

Recommendations

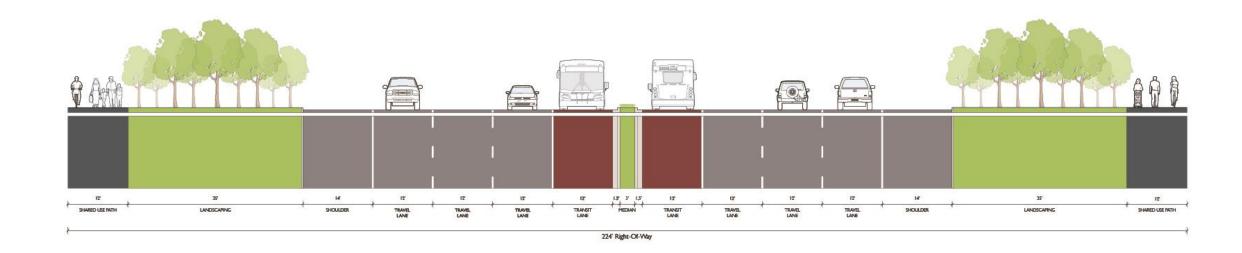


- Ephesus Church Road to I-40
- Vision:
 - Balance between the conflicting priorities of accessibility and mobility with a design that improves the flow of through traffic, but also provides tools for creating a more urban environment through reduced travel speeds, increasing the number and safety of crossing locations for bicyclists and pedestrians, and streetscaping to provide a more urban feel. High capacity transit service is prioritized with the inclusion of a bus only lane.

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- I-40 to US 15-501 Bypass
- Vision:
 - Focus is on mobility with a design that focuses on multimodal grade separations, while recommending local street networks within developments adjacent to the corridor for local traffic and bicycle and pedestrian movements along the corridor. High capacity transit service is prioritized with the inclusion of a bus only lane.



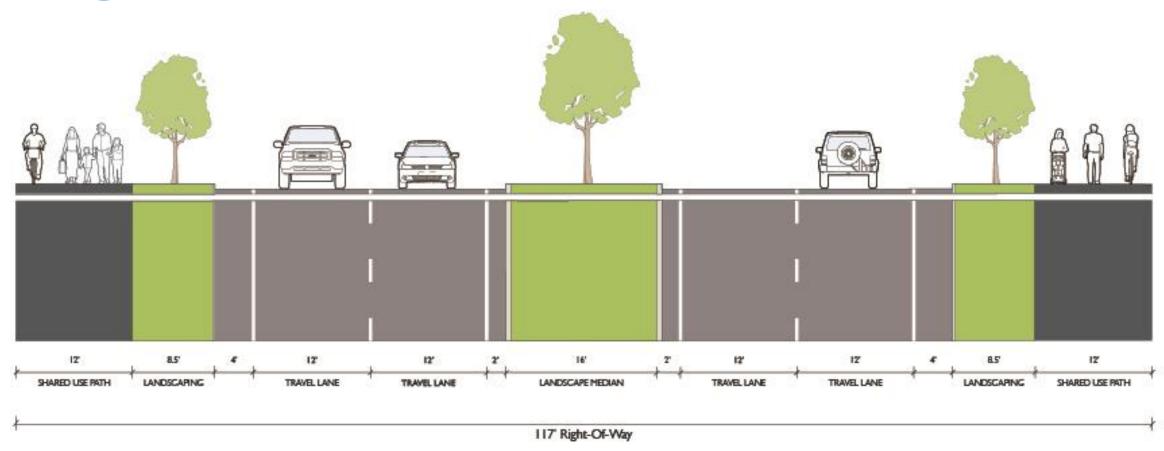


 US 15-501 Bypass to Chapel Hill Road

• Vision:

 Aims to provide a more urban cross section that reduces the speed of vehicles and provides a more pedestrian friendly environment with bicycle and pedestrian facilities and land use closer to the corridor. For the entire corridor, capitalize on opportunities to create land use patterns that promote multimodal travel, and incorporate urban design and human-scale design.

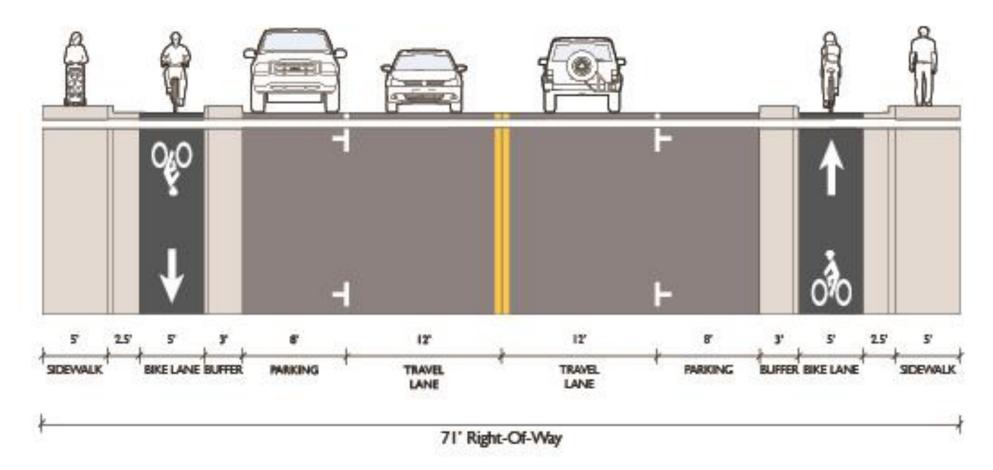
inina 15-5



Chapel Hill Road to University Drive

• Vision:

 Aims to provide a more urban cross section that reduces the speed of vehicles and provides a more pedestrian friendly environment with bicycle and pedestrian facilities and land use closer to the corridor. For the entire corridor, capitalize on opportunities to create land use patterns that promote multimodal travel, and incorporate urban design and human-scale design.



Implementation



Next Steps

- September 9 MPO Board release final report for public comment (9/8 through 10/15 = 37 days)
- October 14 Public hearing
- November 11 Approve final report
- Include US 15-501 projects in updated and amended long-range plans (MTP and CTP)

1 CORRIDOR VISION, GOALS, AND EVALUATION CRITERIA

A critical early step in the US 15-501 Corridor Study was the development of an overarching vision to guide the study process and the recommendations that will be put forth for adoption and implementation. The vision statement generalizes the public's view on how the corridor should function, look, and interact with the surrounding community. It helps clarify the governing principles for the study. The goals for the corridor describe how the vision will be achieved.

1.1 VISIONING PROCESS

Stakeholders play a key role in identifying the vision and goals for the study. The stakeholders represent agency staff, elected officials, advocacy groups, key constituent groups, and the public. These groups were engaged in the visioning process in a variety of ways, including:

- Mobile Tour and Visioning Exercise
- Public Workshop
- Public Comment Map

1.1.1 Mobile Tour and Visioning Exercise

To lay the ground work for the visioning process and to facilitate discussion between various stakeholders about the existing conditions along US 15-501, a bus tour was conducted with agency staff, key stakeholders, and elected officials on April 18, 2018. The purpose of the tour was to lay the foundation for the development of the corridor vision and goals, and to provide an opportunity for the project team to listen to the people who live, work and play along the corridor.

The corridor tour had five stops along US 15-501, in which participants got off the bus and discussed various elements of that section of the corridor. The five stops were:

- Rams Plaza
- Patterson Place
- South Square
- US 15-501 Business at Foster's Market





Figure 1: Mobile Tour

Following the tour, there was a short meeting to talk about what participants learned on the tour and what they felt was an important takeaway to inform the corridor study process. Participants completed a short questionnaire focused on the identification of key values, priorities, and concerns. One of the questions asked participants to write a news headline about the corridor for the year 2040. The responses were both creative and informative. A sample of the responses is provided in the Figure 3.



Figure 2: Post-tour discussion

15-501 Strings Together the Area's Most Livable Communities

15-501 Transformed: Then & Now

15-501 Has it All!

Local Scene
Thriving in the
Midst of High
Traffic Corridor

Man Walks Across 15-501... Enjoys It!

Patterson Place: Durham's Second

Thrixing Communities along Purham Downtown Chapel Hill's "Main Street"

Figure 3: Creative 'Headlines from the Future' about the 15-501 Corridor

1.1.2 Public Workshop

The first public workshop was designed as a two-part workshop, with the first part of the workshop conducted as an informal drop-in session where citizens could review graphical display boards summarizing the findings from the community and travel profile, converse with the team members, and provide comments related to issues and opportunities on printed maps of the corridor. The second part of the workshop included a formal presentation of the community and travel profiles along with a summary of existing



Figure 4: Project team engaging with citizens at the workshop

conditions. The presentation also provided clarity on the purpose of the study, and the intended outcome once the plan is finalized and implemented. Following the formal presentation, citizens were engaged in a visioning exercise. The purpose of the visioning exercise was to generate a common vision for the corridor that reflects the thinking of the diverse groups in the community, offers the possibility for fundamental change, and gives the study team a direction to work towards. Electronic polling was used to engage participants in a series of questions framed to assess their values, priorities, and concerns. Following each question, the group was engaged in a discussion to try and probe deeper into the question responses. Data from the polling questions was processed and analyzed to identify key themes that would inform the final vision for the corridor, in addition to providing insight into possible improvement strategies.

1.1.3 Public Comment Map

To engage the broader community and to capture feedback from citizens who are unable to attend the public workshop, an online public comment map was created and provided via the project website. The map encouraged people to identify:

- Areas that are challenging for you to navigate;
- Where you have major issues;
- Where you see opportunities;
- Your major destinations;
- Your environmental and safety concerns; and
- What frustrates you and/or what you think is working well.

Over 300 public comments were received through the public comment map. These responses were processed and analyzed and used both to inform the vision for the corridor, and possible improvement strategies.

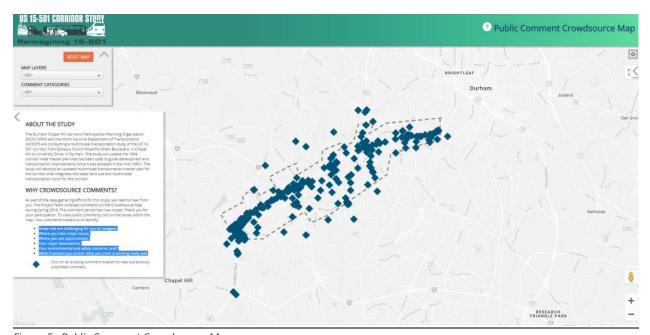


Figure 5: Public Comment Crowdsource Map

1.2 FINAL VISION

The data received from the visioning and outreach exercises was processed and analyzed to identify key themes that would be used to define the vision for the corridor. The key themes that emerged from this process are:

- Multimodal
- Connectivity
- Mobility

These key themes paired with the detailed responses, conversations with the Project Steering committee (PSC), and with the Durham-Chapel Hill-Carrboro (DCHC) Metropolitan Planning Organization (MPO) Board resulted in the following vision statement for the corridor:

By 2045, US 15-501 between Durham and Chapel Hill will be a key multimodal transportation corridor, that will complement and support [high capacity transit] and the adjacent, mixed use, and multimodal supportive development. The corridor will provide for the safety, mobility, and accessibility of all users, including motorists, pedestrians, bicyclists, and public transportation users; including connections across and through the corridor.¹

1.3 CORRIDOR GOALS

With the corridor vision defined, goals and objectives for achieving the corridor vision were developed. The goals were developed using feedback from the visioning exercises and comments received from the public workshop and online crowdsourcing map. The objectives provide a framework for how a specific goal can be achieved.

The comments received during the public workshop and online crowdsourcing map were categorized into five major themes:

- Mobility/Traffic Flow
- Accessibility/Connectivity
- Land Use/Development
- Environmental Sensitivity
- Health/Safety

These themes led directly to the development of the US 15-501 Corridor Study goals and objectives summarized in Table 1. The goals for the US 15-501 Corridor Study were compared with the DCHC MPO's 2045 Metropolitan Transportation Plan (MTP) to confirm adequate linkages between the two plans. The MTP documents highway, public transportation, bicycle, pedestrian, and other transportation projects to be implemented over the next 25 years to address future travel demand and economic development. The multi-year process to arrive at an adopted MTP involved developing goals and objectives, alternatives, and a preferred set of options, all with numerous public involvement efforts. Any project that is to be submitted for potential state or federal funding, must be included in the MTP. The US 15-501 corridor study used the MTP to guide and inform the study process.

¹ Vision statement revised to reflect the recommended direction of the MPO Board following the discontinuation of the Durham-Orange Light Rail

Table 1: Goals and Objectives for the US 15-501 Corridor Study

Goals and Objectives	MTP Goal Linkage
Goal: Improve accessibility and connectivity for all modes	■ Connect people
 Seek opportunities to improve and connect existing public transportation services 	Promote multimodal
■ Improve bicycle and pedestrian directness of routing	and affordable travel
■ Implement interconnected bicycle and pedestrian facilities	choices
 Increase transit, bicycle, and pedestrian access to jobs and essential goods and 	Protect environment
services, particularly for disadvantaged populations	and minimize climate
■ Increase automobile connectivity	change
■ Improve accessibility to bus stops, particularly for patrons with ADA needs	
Goal: Improve mobility for all users	 Manage congestion
 Manage peak-period congestion 	and system reliability
■ Increase system reliability	
 Provide facilities that expand mobility options and that are user friendly 	
 Minimize physical and psychological barriers to non-motorized travel 	
Identify and implement first/last mile connections for bicycle and pedestrian access	
to transit	
Create an intuitive multimodal network through design and wayfinding	
■ Reduce intermodal conflicts at intersections and driveways	
Goal: Enhance safety/health	■ Promote safety and
 Identify and eliminate or mitigate locations and operations that pose hazards 	health
Develop transportation infrastructure that prioritizes people	
 Design intersections for users of all ages and abilities 	
 Improve user comfort on bicycle and pedestrian facilities by increasing separation 	
along corridors with high speed and volume	
■ Increase opportunities for exercise/recreation on non-motorized network	
■ Implement roadway cross-sections that balance modes and greenspace	
■ Improve connectivity, for all modes, to parks and open space	
 Clear and consistent signing and pavement markings that enhance safety and 	
awareness for all modes	
Goal: Stimulate Land use, community, and market performance vitality	■ Stimulate economic
Create nodal land use patterns that promote multimodal travel	vitality
Incorporate urban design and complete streets principles that create human-scale	,
development.	
 Provide focal points of community activity within designated areas, as appropriate. 	
Foster a diverse mix of land uses and job types.	
 Provide suitable housing options for a variety of household types and income 	
levels, including affordable and workforce housing.	
 Leverage increases in tax base to support community goals. 	
 Preserve essential goods and services and locally distinctive destinations. 	
 Add goods and services that are currently lacking in the corridor in appropriate 	
locations.	
Goal: Protect sensitive environmental lands within the study area	■ Protect environment
Mitigate impacts of development on New Hope Creek and other environmentally	and minimize climate
sensitive areas	change
Implement transportation infrastructure that is compatible with, and	5
complementary of, the surrounding natural environment	
Reduce mobile emissions	
Mitigate storm water runoff	
I ITHEISAGE STOTTE WALLE FAILULE	
 Encourage replacement of short distance auto trips with walking or biking trips 	

1.4 EVALUATION CRITERIA

Following the visioning and goal setting process the study team worked with the PSC to identify specific measures that both track progress towards goals, and help screen potential strategies and alternatives for the corridor.

Table 2: Evaluation Criteria for US 15-501 Corridor Study

US 15-501 Evaluation Criteria					
Safety	Multimodal	Network	Accessibility	Equity	
Reduce fatal, injury, and total crash rates	Improve quality of transportation options	Improve access by connecting disjointed portions of a network?	Improve access to and from residential / commercial areas?	Benefit socio- economically disadvantaged populations	
Minimize friction between different modes	Reduce barriers to access alternative options	Strengthen existing network	Improve access to recreational / educational facilities	Improve access to lower income jobs / affordable housing	
Reduce congestion	Make alternative modes more competitive	Maintain consistency with regional and local plans	Increase catchment area	Preserve community affordability (housing and transportation costs)	
	Reduce Vehicle Miles Traveled (VMT)				
Environment	Health	Community	Economy		
Improve air quality	Improve health by providing active transport	Optimize total additional Right-of- Way (ROW) required	Explore potential to attract development		
Preserve Forest / wetlands / creek	Improve access to stores / parks / greenways	Mitigate temporary construction impacts	Improve access to jobs		
Improve Water / runoff quality		Balance community and stakeholder sentiment			
Conserve of existing built environment		Foster community cohesion			

2 IMPROVEMENT STRATEGIES

The screening of the multimodal alternatives was a multi-step process, as depicted in Figure 6. Feedback from the PSC, comments from the public workshop and crowdsourcing map, along with the initial corridor analysis were used to develop a comprehensive list of ideas and strategies by mode, including land use. All these strategies were compiled and mapped by segment for the entire corridor.

A qualitative screening process was applied using the evaluation criteria summarized in Table 2 to determine which strategies performed best. This was done with the understanding that these strategies would better support the overall goals for the corridor. The screening process resulted in a reduced number of multimodal strategies that were then combined into complementary packages of multimodal alternatives. The multimodal alternatives were further evaluated by the Project Team, PSC, and vetted by the public and MPO Policy Board, resulting in two final alternatives. These final alternatives, discussed in detail in the next section, were taken through a detailed evaluation and conceptual designs were developed. The final strategies and conceptual designs were shared with the public and the PSC to solicit feedback on the community's preference for the final recommendation².

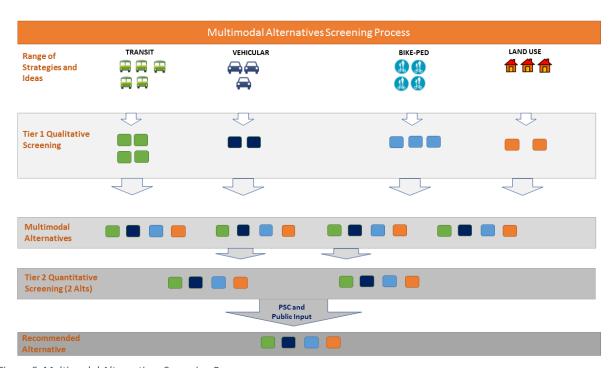


Figure 6: Multimodal Alternatives Screening Process

² The final designs presented to the public included a third alternative identified following the decision to discontinue work on the Durham-Orange Light Rail as discussed in Section 4.

3 EVALUATION OF ALTERNATIVES

For the purpose of this study, this corridor is divided into five segments. The segments are defined as:

- Segment 1: Ephesus Church Road to I-40 Interchange
- I-40 Quadrant: Includes I-40 Interchange and surrounding quadrants
- Segment 2: I-40 to US 15-501 Bypass
- Segment 3: US 15-501 Bypass to Chapel Hill Road
- Segment 4: Chapel Hill Road to University Drive

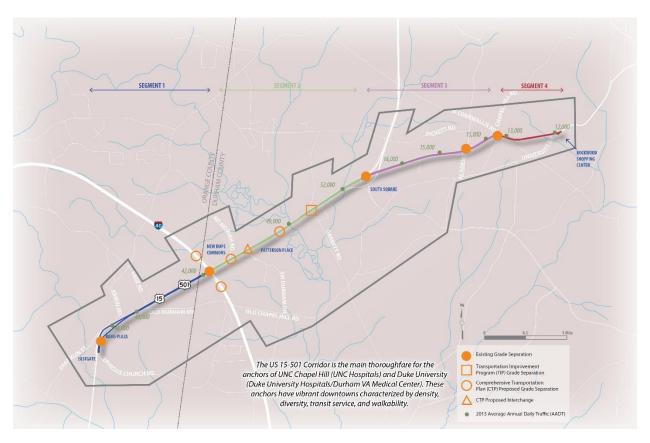


Figure 7: Segment Map

3.1 LAND USE

3.1.1 Introduction and Purpose

Capitalize on opportunities to create land use patterns that promote multimodal travel, and incorporate urban design and human-scale design

This document presents alternative local development and land use scenarios for the US 15-501 corridor in Durham and Orange Counties, relating alternative urban design and land use policy approaches to travel outcomes and facility design needs. This document is a part of the US 15-501 Master Plan update process and builds on the US 15-501 Market Analysis document developed at an earlier phase of the study. The Market Analysis examined growth potential in traffic analysis zones (TAZs) based on the Triangle Regional Model's (TRM) socio-economic and demographic forecasts for 2045, integrating transit station area forecasts based on findings of the GoTriangle Market Study (GTMS) completed in 2018. This accounted for potential displacement of existing uses and resulted in updated TAZ-level forecasts of residents and jobs by type for the study corridor. This Alternative Land Use Strategies document retains those TAZ-level forecasts, posing two potential frameworks for organizing new land uses within each TAZ.

- Alternative A follows the GTMS, using that study's "sketch development" building footprints and typologies to allocate jobs and residents to 100-foot grid cell areas within each TAZ. Excess TAZ growth not accounted for by the GTMS was allocated based on a land suitability analysis and generalized local zoning categories. Because of the heavy influence of the GTMS sketch development data, this alternative tends to focus growth around proposed transit stations, typically orienting buildings toward future transit infrastructure and away from the US 15-501 corridor.
- Alternative B relies on the land suitability analysis and an even coarser generalization of local zoning categories to allocate new jobs and residents within each TAZ, ignoring the GTMS sketch development building footprints. This alternative reflects a potential growth scenario oriented toward existing streets, including US 15-501, with less focus on development around potential transit stations.

The Alternative Land Use Strategies analysis presented below is organized into 3 sections. First, a summary of the allocation process is provided, identifying the key components of the analysis and comparing the steps in developing the alternatives described above. Then, a summary of the outcomes of the allocation process for each alternative is given. Finally, the implications of each scenario are described, focusing primarily on the appropriateness of each development alternative for different sections of the US 15-501 corridor in light of proposed highway design enhancements.

3.1.2 Growth Allocation Process

The allocation process begins with forecasts of housing and jobs by type at the TAZ level based on the US 15-501 Market Analysis document. The TAZ-level totals are distributed to specific locations within each TAZ (represented by 100-foot grid cells). This distribution accounted for forecasted declines in given activity types and/or potential displacement of activities within a TAZ due to redevelopment (based on the overlap of existing uses with GTMS sketch development polygons, e.g.). The activities to be allocated reflect those in the TRM forecasts: housing units and employment. Employment was subdivided into industry, office, service low, service high, and retail categories.

The distribution of growth by activity type is influenced by GTMS sketch development data for Alternative A. The sketch development building footprints and primary use categories are shown in Figure 8. These are focused at the Gateway station area (study segment 1), Patterson Place (segment 2), and South Square (segment 3). Many of the buildings are multi-family residential or mixed-use buildings, although the bulk of the square footage is for office and service employment. It is important to note that the building footprints only represent a hypothetical sketch of potential development based on market indicators. They are not based on approved or proposed developments. Their use in this analysis is to reflect growth potential around proposed station areas and assess how growth could be organized relative to the US 15-501 corridor.

For several TAZs, the total growth forecasted for one or more activity types exceeds the amount anticipated by the sketch development data. Additionally, for many TAZs, there is no sketch development from the GTMS. This remaining TAZ-level growth is allocated based on a land suitability analysis, whereby the most suitable areas within a TAZ are prioritized for growth. The suitability analysis was developed by overlaying several key factors affecting site development, as follows:

- Vacant parcels are generally most suitable for development;
- Underutilized parcels (based on the ratio of building value to land value) may be suitable for redevelopment;
- Parcels in wetlands and areas prone to flooding are not suitable for development; and
- Larger parcels are more suitable for development than smaller parcels, all else being equal.

Figure 9 shows the results of the land suitability analysis. It is important to note that the suitability scores are applied on a relative basis within each respective TAZ. For example, there are some highgrowth TAZ's with limited vacant land available, but all of the TAZ's growth is still allocated. This effectively assumes intensification of activity within those TAZs. On the other hand, some of the most suitable areas are located in low-growth TAZs. Even though there are large vacant lots in these areas, only the growth expected for their respective TAZs will be allocated there.

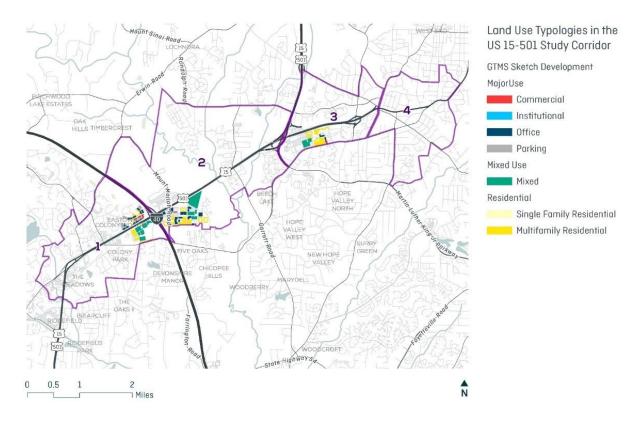


Figure 8: GTMS Sketch Development in the US 15-501 Corridor Study Area

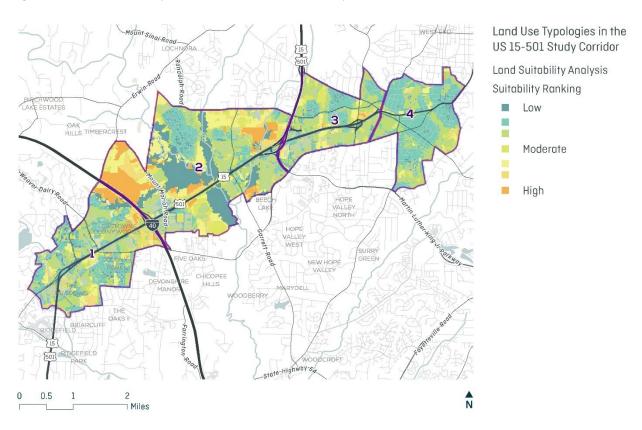


Figure 9: Land Development Suitability in the US 15-501 Corridor Study Area

The suitability analysis reflects the general suitability of a sub-TAZ location (grid cell) to accommodate future growth. It does not reflect different site location preferences or limitations for different land uses. As such, the allocation process is constrained by generalized zoning categories, where housing activity is guided into areas with residential zoning and commercial activities are guided into areas with non-residential zoning. The residential zoning group is stratified into low, medium, and high density areas, while the non-residential zoning group is further classified into commercial, office, and mixed use categories. The resulting classification of grid-cells is shown in Figure 10. The generalized zoning categories represented are distilled from detailed zoning classifications based on zoning data obtained from the City of Durham and the Town of Chapel Hill. They do not reflect the nuances of each jurisdiction's land development policies but are intended to ensure that the allocation of growth within each TAZ broadly reflects appropriate use types and development intensities. Additionally, for Alternative B, each non-residential zoning category was considered as a general "mixed use" category allowing residential development and all job types. This means that for Alternative B, existing zoning categories have less influence on the organization of existing growth compared to Alternative A. Residential zoning categories were retained to limit the potential for jobs clusters to be inappropriately allocated to residential neighborhoods.

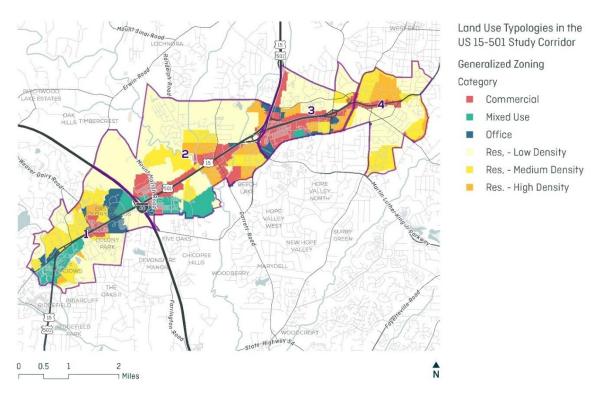


Figure 10: Generalized Zoning Categories in the US 15-501 Corridor Study Area

Having the three major components of the allocation process in place – sketch development, land suitability, and generalized zoning – the process uses development probabilities and zoning-based constraints to distribute changes in activities by type to each grid cell within a TAZ. The specific steps vary slightly for Alternative A versus Alternative B, based on the different assumptions about GTMS sketch development in each. It is helpful to organize the allocation steps into phases as shown in Table 3 below.

Table 3: Allocation Process Steps (Alterative A vs. Alternative B)

Steps of Allocation Process	Alternative A – Station-Area Development and Current Zoning	Alternative B – Corridor Development and Relaxed Non- Residential Zoning.	
Existing activity	Allocate existing growth based on current building locations and existing land use data		
	Allocate sketch development growth based on GTMS sketch development building footprint and attribute data	NA	
GTMS sketch development	Identify grid cells where existing activity is displaced by GTMS sketch development. Displaced activities may need to be allocated to other locations within the TAZ.	NA	
Prepare final allocation	Summarize (non-GTMS) change to allocate by TAZ, incorporating displaced activities into the allocation totals as appropriate.	Summarize change to allocate by TAZ	
Allocate decline	If any activity is expected to decline within a TAZ, allocate decline by proportionally reducing activities of that type at existing locations within the TAZ.		
Allocate growth	For all activities expected to grow within a TAZ, allocate growth based on land suitability and applicable zoning designations.		
Summarize total activity	Summarize existing activity and changes to determine total activity in 2045 at all grid cell locations.		

3.1.3 Results of the Allocation Process

The process described above results in the assignment of housing units and jobs (by type) to 100-foot grid cell areas throughout the corridor, accounting for displacement due to re-use and forecasted declines in specific activity types based on the TAZ-level forecasts. The changes allocated are applied to existing activity to develop a picture of what 2045 growth could look like at a fine-grained scale. The goal of this process is not to forecast where growth will occur on a site-by-site basis but rather to assess the potential mix, intensity, and orientation of land uses below the TAZ level. As such, the 100-foot grid cell areas were used to conduct a point density analysis (based on each grid cell's centroid location), summarizing each activity type within a 500-foot radius. This provided a means of classifying allocation results to aid in interpreting the differences between the two alternative land use approaches. The classification approach uses total activity (housing units + jobs) density and land use mix variables to define descriptive place types throughout the corridor as follows:

- Areas having fewer than 5 activities per acre are classified as "low-density development neighborhood" areas.
- Areas having more than 5 activities per acre and 80 percent or greater mix of residential units
 (as a total of all activities in the vicinity) are classified as "medium-to-high-density residential."
- Areas having fewer than 20 activities per acre and a mix of residential and employment activity are classified as "low-density development transitional" areas.
- The remaining areas were classified into non-residential groups based on dominant land use types, as follows:

- Areas where retail jobs made up 40 percent or more of all activity in the 500-foot vicinity were classified as "retail/commercial" areas.
- Areas where office jobs made up 40 percent or more of all activity in the 500-foot vicinity were classified as "office" areas.
- All others were classified as "mixed use" areas.
- Each grid cell in non-residential groups was then assigned to a "light", "moderate", or "heavy" tier based on density thresholds:
 - o Areas having fewer than 50 activities per acre were classified as "light" intensity.
 - Areas having fewer than 100 activities per acre were classified as "moderate" intensity.
 - o Areas having more than 100 activities per acres were classified as "heavy" intensity.

The existing place typology was created following the same parameters described above to provide reference for how land uses are expected to change in the corridor. This is displayed in Figure 11. Additionally, the results of the classification process are presented in Figure 12 (Alternative A) and Figure 13 (Alternative B).

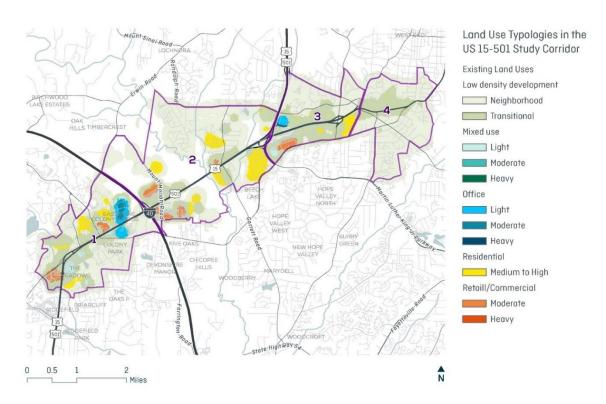


Figure 11: Existing Place Typology (2017)

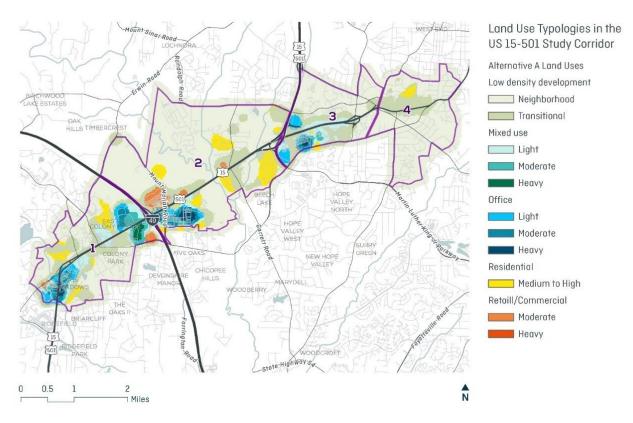


Figure 12: Future Place Typology (Alternative A, 2045)

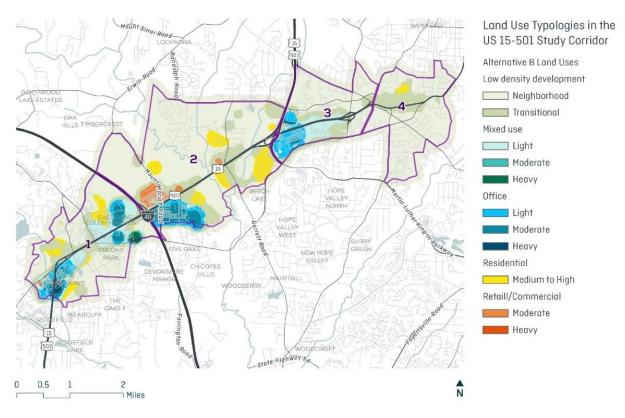


Figure 13: Future Place Typology (Alternative B, 2045)

In both alternative future place typology maps, the growth from the base condition (2017) to 2045 is notable. There is a substantial increase in activity density throughout the corridor, especially at established activity nodes, such as South Square, Patterson Place, and the Blue Hill District. Alternative A shows a nodal pattern of development focused around potential transit station locations. It suggests that many of the highest intensity future uses will be in clusters offset from the US 15-501 corridor. This pattern reflects the station area development modeled in the GTMS sketch development. Alternative B presents a more evenly-distributed growth pattern within the major growth zones. In this alternative, there is a greater number of uses straddling the corridor in high-intensity areas, such as the Blue Hill District and South Square. A rundown of the land use alternatives by each study area segment is provided below.

Segment 1 – Ephesus Church Road to I-40

In Segment 1 there are two prominent growth nodes: Blue Hill District in the south and Gateway/Eastowne in the north. In both alternatives, the Blue Hill district is expected to evolve from a retail and residential area in 2017 into a high intensity office and mixed use area by 2045. The organization of new activities within the district is similar in Alternatives A and B, with the most intense growth straddling the corridor and tapering down towards Franklin Street and Booker Creek.

In the northern portions of the segment, Eastowne is an existing moderate density office area in the southwest quadrant of the US 15-501/I-40 interchange. In both alternatives presented above, office and residential growth create a horizontally mixed use district in Eastowne. Alternative A forecasts higher intensity development than alternative B, with office growth along Eastowne Drive supported by residential and retail development. In Alternative B, growth is more focused within the existing developed portions of Eastowne, with modest residential and office growth in the currently vacant portions of the area. In Gateway – the southeast quadrant of the US 15-501/I-40 interchange – Alternative A envisions a high intensity mixed use district along Lakeview Drive with a cluster of retail uses off Old Chapel Hill Road. Alternative B shows a mixed use development focused along Lakeview and Old Chapel Hill Road, with office jobs expected at the former Blue Cross and Blue Shield of North Carolina headquarters building.

Segment 2 – I-40 to Martin Luther King Jr Pkwy

In Segment 2, there is a modest increase in overall activity near Garrett Road, but most growth is concentrated in Patterson Place with some additional retail coming to New Hope Commons in both alternatives. The growth of these areas complements the growth in the Gateway/Eastowne area, as the interchange I-40 evolves into a regional center.

In Alternative A, office growth is clustered around a proposed transit station and surrounded by medium to high residential. Some of the residential activity forecasted is located near 15-501 corridor, but units will likely be oriented to the interior of the district rather than toward the corridor. In Alternative B, Patterson Place evolves as a moderate intensity office district with activities focused on Mount Moriah Road, SW Durham Drive, and Old Chapel Hill Road. In both alternatives, the growth is offset from the corridor and oriented toward other transportation facilities.

Segment 3 – Martin Luther King Jr Pkwy to Chapel Hill Road

The differences between the two alternatives are most pronounced in Segment 3. In both alternatives, growth in the South Square area is predominantly in housing and the office jobs sector, and in both

alternatives housing units are expected to be incorporated into light-to-moderate mixed use areas. However, in Alternative A, the majority of this growth is clustered around a proposed transit station, resulting in a node of activity set back from US 15-501. Uses would likely be oriented toward new streets in a TOD and/or toward Shannon Road and University Drive. Additionally, Alternative A shows a mixed use cluster of activity along Mayfair Street with light-intensity portions abutting US 15-501. Meanwhile, Alternative B forecasts a more even distribution of office growth throughout South Square with a greater concentration of uses (office, housing, and retail) abutting the 15-501 corridor.

Segment 4 – Chapel Hill Road to University Drive

Segment 4 is built out as a low-to-moderate density residential area set back from the 15-501 corridor and storefront businesses along the corridor. Both Alternatives A and B resemble existing conditions, suggesting that incremental change may occur, but the character of the segment is unlikely to change significantly.

3.1.4 Implications of the Allocation Results

The fine-grained land use forecasts presented above represent two potential configurations of activities within the US 15-501 corridor and adjacent TAZs. Since the analysis assumes that TAZ totals of activity by type will remain constant across both scenarios, there is little to differentiate the two alternatives in terms of regional travel impacts. In other words, regardless of how the activities are organized at a site level, they are not re-arranging the organization of uses/activities at a regional level. Common transportation metrics, such as VMT generation, are most sensitive to changes at the regional scale. Therefore, no attempt is made here to quantify and compare the impacts of these alternative growth patterns. However, qualitative distinctions can readily be summarized, pointing to implications for facility design, intersection operations, and multimodal activity. These implications are reported on a segment-by-segment basis below.

Segment 1 – Ephesus Church Road to I-40

In Segment 1, both alternatives forecast the emergence of a mixed use/office district in the Gateway/Eastowne district. This is likely to increase activity at the US 15-501/I-40 interchange as workers throughout the region converge on the district. It also heightens the need for additional street connectivity connecting these areas to Patterson Place and New Hope Commons on the opposite side of I-40. It will also likely generate substantial demand for trips crossing US 15-501 at Eastowne Drive. Depending on the intensity and orientation of uses, pedestrian and bicycle crossing of US 15-501 may become more common. As such ensuring safe and efficient crossings of/access across US 15-501 for all users will be essential.

Given the current configuration of uses and the need to accommodate through traffic/commuters on US 15-501, it may be preferable to orient future uses away from the corridor and toward local streets such as Eastowne Drive, Lakeview Drive, and Old Chapel Hill Road. New connections across I-40 could be developed as "Market Streets" with light-to-moderate office and commercial use and nearby residential. This organization would have the benefit of funneling local travel by all modes away from US 15-501, though it would result in lower overall interaction among uses in all quadrants of the I-40 interchange and make it harder to efficiently serve the area with transit.

In the southern portion of the segment, both alternatives show the Blue Hill District stretching from Franklin Street east and across US 15-501, straddling the corridor with moderate-to-heavy intensity

office and mixed use development. This will create a built environment that is very different from today's contexts. Multimodal improvements will be needed to facilitate safe and efficient crossings of the corridor especially for cyclists and pedestrians. This may include operational and/or design improvements at Ephesus Church Road. Since most development will be between Franklin Street and US 15-501 (Fordham Boulevard), new uses should be oriented toward and internal network of cross streets, setting an effective edge at US 15-501.

Segment 2 – I-40 to Martin Luther King Jr Pkwy

In Segment 2, most changes are expected around Patterson Place, and in both alternatives, it appears that land uses will be offset from the corridor and oriented toward a future transit station or local streets, such as Southwest Durham Drive or Old Chapel Hill Road. As such, a corridor design focused on vehicle throughput seems appropriate for US 15-501 with high capacity access to and from Patterson Place via a new interchange or enhanced intersection(s). Land use policy should allow for a mixing uses and orient buildings away from the corridor. Consideration should be given to diversifying uses in the area around New Hope Commons, keeping in mind the potential for new connectivity across I-40 to Eastowne Drive.

A strategic plan for the entire US 15-501/I-40 interchange subarea may be appropriate to analyze detailed scenarios and better understand market demand, policy needs, and multimodal travel demand. The aim of such a study would be to establish a master planning framework to guide development appropriately in each quadrant, accounting for existing and future facilities and uses.

Segment 3 – Martin Luther King Jr Pkwy to Chapel Hill Road

In Segment 3, there is some potential for reuse and intensification along the US 15-501 corridor. This is especially noticeable in Alternative B, which has a more distributed pattern of growth than Alternative A. The Alternative B results suggest that if a variety of uses were permissible along the US 15-501 corridor, it could see substantial (re)development. However, the appropriate quantity and design of new development depends, in part, on the design of this portion of US 15-501.

- If the US 15-501 corridor is redesigned to a more urban cross-section, new developments
 fronting the corridor may be appropriate. In this scenario, consideration should also be given to
 redesigning Westgate Drive and encouraging uses to front it. This would help create a complete
 district bounded by Martin Luther King Jr Parkway, US 15-501 Business, Weymouth Street, and
 University Drive.
- In the absence of a corridor redesign, growth in the South Square are should be oriented toward University Drive, Mayfair Street, Shannon Road, and new local streets. Office uses should be emphasized in existing parking lots, with greater residential, retail, and services along Mayfair Street.

Segment 4 – Chapel Hill Road to University Drive

In Segment 4, minimal land use change is expected. Assuming facility design focuses on travel operations and multimodal enhancements, this corridor could support modest increases in residential density along the corridor as well as incremental additional retail and services. New uses should be oriented toward the corridor with activated street fronts. A study of parking needs may provide important insight into the segment's development capacity and design.

3.2 ROADWAY

The roadway strategies by segment and alternative are summarized in Table 4.

Table 4: Roadway Strategies by Segment and Alternative

Segment 1

Alternative 1

- Widen US 15-501 to a 6-lane median divided synchronized street (including elimination of service roads and channelization
- Synchronized street intersection at Ephesus Church Road
- Connect Legion Road and Old Durham Road
- Small footprint urban interchange at Eastowne Drive
- Connector roads connecting all 4 quadrants of I-40 interchange
- Implement local street network as proposed by Blue Hill District TIA

Alternative 2

Same as Alternative 1, except:

 Traditional intersection widening at Eastowne Drive

I-40 Quadrant

Alternative 1

- Redesign I-40 interchange to improve safety and operations (diverging diamond)
- Grade separated 2-lane roadway across I-40 connecting New Hope Commons to Eastowne Drive
- Grade separated 2-lane roadway across I-40 connecting New Patterson Place to Gateway

Alternative 2

No change

Segment 2

Alternative 1

- Implement Grade separation at Mt Moriah Road
- Implement small footprint urban interchange at SW Durham Drive
- Create grade separated access point east of SW Durham Drive to connect Patterson Place and New Hope Commons, footprint to follow road network recommended for Patterson Place
- Extend SW Durham Drive to connect behind shopping center
- Implement Patterson Place and New Hope Commons local street network
- Build urban interchange at Garrett Road
- Provide vehicle connectivity between Sandy Creek Drive, Chapel Hill Blvd Service Road, and Garrett Road

Alternative 2

Same as Alternative 1, except:

Additional access points along US 15-501
 east of SW Durham Drive, providing access
 to New Hope Commons and Patterson Place,
 but both restricted to right in/right out

Table 4 (continued): Roadway Strategies by Segment and Alternative

Segment 3

Alternative 1

- Implement 2-lane roundabout to transition into a more urban street cross section
- Reduce the footprint of the current crosssection to implement a fully multimodal 4-lane urban cross-section with landscaped median and roundabouts at key locations. Add additional intersections to improve connectivity and to further slow traffic and urbanize Segment 3. Full intersections at Mayfair, Weymouth, Shannon, Tower
- Roundabouts at Tower, Shannon, and Weymouth
- Other locations will be traditional intersections
- Retain service roads, initially, to provide full access to adjacent land parcels. Long term removal of the service roads. Connect service road to Academy.
- Implement better street connectivity (future focus on an urban grid system) to the north and south of US 15-501 Business
- Redesign Academy Road interchange to better reflect urban design
- Redesign Chapel Hill Road interchange to better reflect urban design

Alternative 2

Same as Alternative 1, except:

- Implement traffic calming measures to transition to a more urban street crosssection
- Traditional intersections in place of roundabouts

Segment 4

Alternative 1

- Implement 2-lane urban cross-section with roundabouts at key intersections, landscaped median, and consolidated driveways fronting US 15-501 Business.
- Provide parking on both sides of the roadway
- Redesign University Drive intersection as a roundabout

Alternative 2

Same as Alternative 1, except:

 Traditional intersections in place of roundabouts (except University Drive which remains a roundabout)

The roadway alternatives were evaluated considering systems level metrics, intersection operations, and corridor operations. The system level metrics include vehicle miles traveled (VMT), vehicle hours traveled (VHT), average daily speed, and delay. The Triangle Regional Model was used to evaluate these metrics, with results summarized in Table 5. Comparisons were made against the adopted 2045 MTP and Alternative 1 and 2.

Table 5: System Level Metrics

Performance	Base	2045 MTP	2045 Alt 1	2045 Alt 2	Base		% Change from MTP	
Measure		IVITE	AILI	AIL Z	Alt 1	Alt 2	Alt 1	Alt 2
Total Daily VMT	249,111	359,595	365,525	365,725	47%	47%	2%	2%
Total Daily VHT	9,334	15,388	15,504	15,480	66%	66%	1%	1%
Average Daily Speed (mph)	26.69	23.37	23.58	23.63	-28%	-28%	1%	1%
Total Delay (mins)	130,648	339,989	330,590	330,813	153%	153%	-3%	-3%
Delay per Mile Traveled (min)	0.52	0.95	0.90	0.90	72%	72%	-4%	-4%

Looking at the system level metrics for the two alternatives, they appear very similar across the various metrics. The differences between the two alternatives are noticed more at the detailed operational level and are often focused on other modes of travel, like bicycles, pedestrians and transit. In Segment 4 for example, the differences are roundabouts in Alternative 1 versus traditional intersections in Alternative 2. Both treatments work for traffic at a system level, but the differences are often focused on the local land use treatments and how the roadway operates for bicycles and pedestrians.

Looking at the percent change from the bases, increases are seen in all categories, except average daily speed. This makes sense because with anticipated growth in the corridor and region, it is anticipated that more traffic volumes will increase, leading to increased VMT and VHT. Without major changes to the infrastructure within and adjacent to the study area, this increased traffic will contribute to increased delay. The decrease in average daily speed aligns with the increased traffic volumes and ties to the increased delay. Overall, the changes seen in Alternative 1 and 2 are similar to improvements documented in the MTP as these improvements were taken as project givens for this study.

Intersection operations were evaluated using Synchro, a specialty software for evaluating intersection operations. Intersection metrics include delay and Level of Service (LOS) as measured on a scale of Avery good to F-failing. The analysis was conducted on key intersections for the no-build condition which assumes the intersection looks the same as it does today, and for the build condition reflected by the specific alternative. The traffic volumes reflect 2025 conditions. The no-build analysis is summarized in Table 6, and the build analyses are summarized in Tables 7 to 14.

The No Build alternative for 2025 forecast traffic, Table 6, shows that overall intersections many intersections are operating at LOS D or better. However, a closer look at individual movements are failing with LOS E or worse. With the new land development patterns forecast for this corridor, traffic is expected to increase and operating conditions will further decline. Tables 7 to 14 document improvement alternatives that were considered for the intersections along the corridor. The LOS goal for the DCHC MPO is LOS D.

Table 6: No Build Analysis

		AM P	eak	PM Peak	
Intersection		Delay (sec)	LOS	Delay (sec)	LOS
	EB	31.7	С	99.4	F
	WB	136.6	F	31.9	С
US 15-501 and Sage	NB	162.5	F	105.9	F
Road/Scarlett Drive	SB	73.9	E	71.3	Е
	Overall	96.2	F	75.4	E
	EB	26.4	С	28.7	С
	WB	51.0	D	27.6	С
US 15-501 and Eastowne Drive/E Lakeview Drive	NB	73.5	Е	45.6	D
Lakeview Drive	SB	87.7	F	81.9	F
	Overall	44.3	D	32.3	С
	EB	47.2	D	37.1	D
	WB	14.7	В	15.4	В
US 15-501 and I-40 EB Ramps	NB				
	SB	62.7	Е	66.8	Е
	Overall	30.5	С	31.6	С
	EB	7.2	А	22.7	С
	WB	41.9	D	45.5	D
US 15-501 and I-40 WB Ramps	NB	76.2	Е	45.0	D
	SB				
	Overall	39.7	D	36.3	D
	EB	33.9	С	38.9	D
	WB	13.3	В	15.6	В
US 15-501 and SW Durham Drive	NB	71.2	Е	92.5	F
	SB	61.8	E	65.7	Е
	Overall	28.2	С	33.9	С
	EB	19.3	В	22.6	С
	WB	20.4	С	20.8	С
US 15-501 and Westgate Drive	NB	28.5	С	26.6	С
	SB	38.0	D	37.8	D
	Overall	21.4	С	23.0	С
	EB	34.8	С	37.0	D
	WB				
US 15-501 and University Drive	NB	30.0	С	22.0	С
-	SB	18.5	В	29.0	С
	Overall	29.7	С	30.7	С

3.2.1 Build Analysis

The sections and tables below highlight the build scenarios at key intersections along the corridor.

3.2.1.1 US 15-501 and Sage Road - Scarlett Drive

Table 7 below summarizes the operations analysis of the Reduced Conflict Intersection (RCI) design, also known as a Superstreet design, along Segment 1. Overall this strategy results in notable operational improvements at the key intersections. In addition to the operational benefits of the RCI, the greatest benefit of this strategy is the safety benefits for all modes of transportation. The RCI is named as such because it reduces the number of conflict points from 32 at a traditional intersection to 14 at the RCI intersection. Studies have shown a 15 to 46 percent reduction in total crashes, and 22 to 63 percent reduction in injury and fatal crashes from implementing this design. Another benefit of this design is the ability to using signal timing to moderate travel speeds, creating a safer and more efficient environment for all users.

Table 7: 2025 Build Alternative 1 - Synchronized Street

2025 Build Alternative 1 – Reduced Conflict Intersection Design					
		AM Pea	ık	PM Pea	ak
Intersection	Delay (sec)	LOS	Delay (sec)	LOS	
	EB (Left-over)	34.8	С	21.9	С
US 15-501 and Sage Road	WB	6.6	Α	6.3	Α
OS 15-501 and Sage Road	SB	38.9	D	19.1	В
	Overall	12.7	В	10.0	Α
	EB	6.5	Α	6.2	Α
US 15-501 and Scarlett Drive	WB (Left-over)	16.1	В	30.6	С
03 13-301 and Scarlett Drive	NB	21.3	С	38.8	D
	Overall	9.2	Α	10.1	В
II Town Mark of Cone Book!	EB	6.7	Α	7.5	Α
U-Turn West of Sage Road/ Scarlett Drive	WB (U-Turn)	22.1	С	37.2	D
Scariett brive	Overall	8.7	Α	10.1	В
	EB (U-Turn)	36.9	D	22.1	С
U-Turn East of Sage Road/ Scarlett Drive	WB	10.7	В	7.7	Α
Scariett Drive	Overall	13.7	В	9.6	Α

3.2.1.2 US 15-501 and Eastowne Drive - Lakeview Drive

The two alternatives evaluated for the Eastowne Drive and Lakeview Drive intersection included traditional widening and the construction of a partial cloverleaf interchange. As shown in the tables below, the partial cloverleaf is clearly the winner considering only operations and LOS. However, this design requires significant right-of-way and is much more impactful to adjacent development. Modest improvements can be made to the intersection with traditional widening to include the addition of dedicated right turn lanes.

Table 8: 2025 Build Alternative 1 - Partial Clover

2025 Build Alternative 1 - Partial Clover						
		AM	Peak	PM Peak		
Intersection		Delay (sec)	LOS	Delay (sec)	LOS	
5	EBL	12.0	В	11.8	В	
Eastowne Drive and US 15-501 WB Ramps	EBR	10.6	В	10.2	В	
W B Ramps	NBL	7.7	А	7.9	А	
E Lakeview Drive and US 15-501 EB Ramps	EBL	15.6	С	21.7	С	
	EBR	10.0	А	9.3	А	
	NBL	8.3	А	8.5	Α	

Table 9: 2025 Build Alternative 2 - Traditional Intersection

2025 Build Alternative 2 - Traditional Intersection					
		AM Pe	eak	PM Peak	
Intersection		Delay (sec)	LOS	Delay (sec)	LOS
	EB	23.0	С	28.2	С
	WB	27.2	С	19.4	В
US 15-501 and Eastowne Drive/E Lakeview Drive	NB	38.7	D	45.6	D
Lakeview Drive	SB	40.4	D	81.9	F
	Overall	26.5	С	29.0	С

3.2.1.3 I-40 - US 15-501 Interchange

The I-40 interchange is clearly a bottleneck within the US 15-501 corridor, creating a barrier for both motorized and non-motorized modes of transportation. The goal of the alternative proposed for this location was to maintain a small design footprint, reduce delay, and improve safety by minimizing the number of conflict points. The recommended design is the replacement of the conventional diamond interchange with a diverging diamond interchange (DDI). The DDI reduces the number of conflict points from 26 to 14, greatly improving the safety of the interchange. Several other designs were screened but ruled out from further consideration due to the larger footprint, lesser ability to process left turning vehicles, and greater impacts on non-motorized movements through the interchange. Operations analysis summarized in Table 10 below show reduced delays and improved LOS with the implementation of a DDI.

Table 10: 2025 Build Alternative 1 - Diverging Diamond Interchange

2025 Build Alternative 1 - Diverging Diamond Interchange					
Intersection		AM Peak		PM P	Peak
		Delay (sec)	LOS	Delay (sec)	LOS
US 15 501 and I 40 50 Down Bight	WB				
US 15-501 and I-40 EB Ramp Right- Turn	SB	25.0	С	11.5	В
Turn	Overall	2.8	Α	1.4	Α
US 15 501 and 1 40 50 Dames	EB	33.4	С	23.9	С
US 15-501 and I-40 EB Ramps Crossover	WB	13.4	В	35.7	D
Clossovei	Overall	20.0	В	29.2	С
US 15 501 and 1 40 50 Dame Laft	EB				
US 15-501 and I-40 EB Ramp Left- Turn	SB	9.9	Α	18.8	В
Tuili	Overall	2.9	Α	3.9	Α
LIC 15 501 and L 40 M/B Barry Laft	WB		-		
US 15-501 and I-40 WB Ramp Left- Turn	NB	28.3	С	14.1	В
l luiii	Overall	7.3	Α	4.2	Α
LICAT FOA and LAO MD Danne	EB	48.6	D	23.4	С
US 15-501 and I-40 WB Ramps Crossover	WB	53.8	D	31.5	С
Crossover	Overall	52.0	D	26.8	С
	EB				
US 15-501 and I-40 WB Ramp	NB	12.9	В	52.3	D
Right-Turn	Overall	4.3	А	16.7	В

3.2.1.4 US 15-501 and SW Durham Drive

An interchange at SW Durham Drive was considered per project givens for the study. A tight diamond interchange was the only design evaluated due to a desire to minimize the impacts on adjacent land parcels and to provide a design that could more safely accommodate pedestrian movements than other designs that provide free-flowing ramp junctions. The grade separation of Mt Moriah Road results in higher volumes of traffic using this interchange to access adjacent developments, impacting the overall LOS, though the design does provide acceptable LOS for both the AM and PM peak hour.

While this design can accommodate sidewalks, no bike lanes are provided due the proximately of the grade separated Mt Moriah Road with full bicycle and pedestrian accommodations and no vehicle weaving movements to contend with. An extensive bicycle and pedestrian network is recommended both north and south of US 15-501 to encourage non-motorized travel along the corridor. In addition to a grade separated crossing at Mt Moriah Road, an additional grade separated roadway is recommended east of SW Durham Drive and will provide bicycle and pedestrian facilities.

2025 Build Alternative 1 - Tight Diamond Interchange					
		AM P		PM F	Peak
Intersection		Delay (sec)	LOS	Delay (sec)	LOS
	EB				
SW Durham Drive and US 15-501 WB Ramps	WB	34.6	С	51.5	D
	NB	18.0	В	30.6	С
vvb Kamps	SB	22.7	С	36.6	D
	Overall	25.1	С	39.6	D
	EB	39.1	D	62.6	Е
	WB				
SW Durham Drive and US 15-501 EB Ramps	NB	20.0	В	53.9	D
	SB	13.5	В	33.9	С
	Overall	23.6	С	49.9	D

Table 11: 2025 Build Alternative 1 - Tight Diamond Interchange

3.2.1.5 US 15-501 Business (Durham – Chapel Hill Blvd) and Westgate Drive

Traffic volumes on US 15-501 Business drop off significantly after the US 15-501 Bypass. This reduction in traffic volumes and an existing cross-section that is not needed based on existing and forecast traffic volumes provides the opportunity to transition this segment of study corridor to a narrower urban cross section with lower speeds, appropriate landscaping and multimodal infrastructure. Transitioning from a higher speed section that prioritizes mobility to a lower speed section that prioritizes access requires appropriate infrastructure to physically slow traffic and visually indicate to drivers that they are entering a new environment. To accomplish this, two strategies were selected for Westgate Drive: 1) a 2-lane roundabout, and 2) channelization and lane reductions. Both alternatives provide acceptable LOS during the peak periods, but the roundabout design offers improved operations in addition to a more physical indication of change along this segment. Results are summarized in Tables 12 and 13.

Table 12: 2025 Build Alternative 1 - Roundabout

2025 Build Alternative 1 - Roundabout					
		AM Peak		PM Peak	
Intersection		Delay (sec)	LOS	Delay (sec)	LOS
	EB	8.2	Α	10.3	В
	WB	5.4	Α	8.8	Α
US 15-501 and Westgate Drive	NB	8.7	Α	14.1	В
	SB	5.9	Α	8.8	Α
	Overall	7.3	Α	10.5	В

Table 13: 2025 Build Alternative - Lane Reduction

2025 Build Alternative 2 - Lane Reduction					
		AM Peak		PM Peak	
Intersection		Delay (sec)	LOS	Delay (sec)	LOS
EB		21.9	С	26.9	С
	WB	20.5	С	20.9	С
US 15-501 and Westgate Drive	NB	28.5	С	26.6	С
	SB	38.0	D	37.8	D
	Overall	22.8	С	25.0	С

3.2.1.6 US 15-501 Business (Durham – Chapel Hill Blvd) and University Drive

Given the unique configuration at University Drive along with the desire to better integrate bicycle and pedestrian, and to improve safety at this location, a roundabout is recommended. To improve multimodal operations and safety, a roundabout is considered at University Drive. In addition to improving multimodal access and safety, the roundabout also reduces peak delay at this location.

Table 14: 2025 Build Alternative 1 - Roundabout

2025 Build Alternative 1 - Roundabout					
		AM Pe	eak	PM Peak	
Intersection		Delay (sec)	LOS	Delay (sec)	LOS
	EB	11.4	В	24.7	С
	WB	8.7	Α	7.7	А
US 15-501 and University Drive	NB	20.1	С	13.6	В
	SB	8.3	Α	16.8	С
	Overall	12.6	В	18.7	С

3.2.2 Intelligent Transportation Systems and Connected and Autonomous Vehicles (C/AV) To further improve operations within the corridor, Intelligent Transportation System (ITS) strategies were considered and recommended. The ITS technologies considered are the same for both alternatives, and are summarized by segment in Table 15.

Table 15: ITS Strategies

ITS Strategies

Segment 1

- Connected Vehicle (CV) based Virtual DMS, and Transit Signal Priority (TSP), Traveler Information
 System like 511 could be an effective ITS solution to the study corridor
- Emergency Vehicle Pre-Emption (EVP) system and vehicle detection along the corridor can improve safety and mobility during an emergency event.
- Four Closed Circuit Television (CCTV) cameras are proposed to monitor the activities at the intersections and along the study corridor.

Segment 2

- CV based technology like mobile accessible pedestrian signal system could help achieve the goal of a multimodal corridor.
- Transit signal priority could help improve transit access and connectivity.
- Emergency Vehicle Pre-Emption (EVP) system and vehicle detection along the corridor can improve safety and mobility during an emergency event.
- Four Closed Circuit Television (CCTV) cameras are proposed to monitor the activities at the intersections and along the study corridor.

Segment 3

- CV based technology like mobile accessible pedestrian signal system could help achieve the goal of a multimodal corridor.
- Emergency Vehicle Pre-Emption (EVP) system and vehicle detection along the corridor can improve safety and mobility during an emergency event.
- One Closed Circuit Television (CCTV) camera is proposed to monitor the activities at the intersections and along the study corridor.

Segment 4

- Emergency Vehicle Pre-Emption (EVP) system and vehicle detection along the corridor can improve safety and mobility during an emergency event.
- Four Closed Circuit Television (CCTV) cameras are proposed to monitor the activities at the intersections and along the study corridor.
- A fiber communication system to connect the signals could help effectively mobilize travelers along the corridor.
- With parking is provided on both sides of the roadway along with improving transit amenities, parking and transit information is recommended along with Transit Signal Priority.

More efficient network mobility is possible by taking advantage of the Connected Vehicle/Automated Vehicle (CV/AV) technology and communicating with infrastructure. Feeding vehicle information back to dynamic control systems can potentially mitigate both congestion and its environmental impacts. Technologies (like DSRC, Wireless 5G, etc.,) evolve and mature with time and the cost of implementing them reduces with time.

3.3 Transit

A key assumption for the US 15-501 Corridor Study was the implementation of the Durham-Orange Light Rail Transit (D-O LRT). As a part of the development of the D-O LRT, GoTriangle and its partners conducted extensive travel market and transit ridership analysis for the US 15-501 Corridor. This effort confirms the role of the US 15-501 corridor as a key transit route that connects jobs, residents and students to major destinations including downtown Chapel Hill (including UNC Hospitals), the Duke University and Durham Veterans' Administration medical centers, and downtown Durham. Data from GoTriangle indicates that Route 400 provides all-day service with 30-minute frequencies and carries more than 900 passengers on an average weekday. Route 405 provides peak service on Weekdays at 30minute frequencies, with an average of nearly 550 passengers per weekday. Finally, the GoTriangle Robertson Scholars Express (RSX), which has stops at Duke University's West Campus and UNC's Morehead Planetarium, carries more than 200 passengers each weekday. GoDurham also serves the corridor. Data from GoTriangle shows that Routes 10A and 10B provide weekday daytime service, and Route 10 provides weekday evening service, to destinations within the corridor including South Square area the New Hope Commons and Patterson Place shopping centers on Mt. Moriah Road. Together, these routes carry more than 2,250 passengers on an average weekday. GoDurham Route 20, which is a peak-time-only service that connects south Durham to the Duke and VA Medical Centers, via the South Square area, carries about 150 passengers each weekday.

Multiple studies have identified the US 15-501 corridor as a key priority for fixed-guideway transit service and extensive planning efforts have gone into the development of a comprehensive transit system to serve this corridor, anchored by D-O LRT. Due to the extensive nature of transit planning studies previously conducted, the US 15-501 Corridor Study did not attempt to replicate any of that technical analysis, but rather focused on the identification of areas where local bus connectivity, access and amenities could be provided to better enhance and support transit service in the corridor.

The transit strategies by segment and alternative are summarized in Table 16.

Table 16: Transit Strategies by Segment and Alternative

Segment 1	
Alternative 1 Bus improvements as recommended by Blue Hill District TIA Bus stop enhancements	Alternative 2 • No change
I-40 Quad	
Extend GoDurham across I-40 to connect with a transfer point in Chapel Hill Extend Chapel Hill transit across I-40 to connect with a transfer point in Durham Implement connecting bus service to Eastowne Drive and New Hope Commons	Alternative 2 ● No change
Segment 2	
Alternative 1 Improve transit access and connectivity to and through Segment 2	Alternative 2 • No change

Table 16 (continued): Transit Strategies by Segment and Alternative

Segment 3	
Alternative 1	Alternative 2
 Roadway improvements to provide better transit service and access. 	No change
Segment 4	
Alternative 1	Alternative 2
Improve transit amenities	No change

3.4 BICYCLE AND PEDESTRIAN

The following strategies for active transportation considered the existing conditions for each segment (illustrated in Figure 14) as well as evaluation criteria. Although there are a variety of facilities that can provide designated space to bicycle users and pedestrians, vehicular traffic volume and speed primarily informed decisions about proposed facility types. Separating non-motorized users was considered throughout the corridor while also ensuring that access to destinations, safety through intersections, and overall connectivity were not sacrificed. The following recommendations utilize previous planning recommendations, like those made by the Durham Bike + Walk Implementation Plan and focus on the use of the US 15-501 corridor as the premier multimodal connection between Durham and Chapel Hill. The active transportation strategies by segment and alternatives are summarized in Table 17 and further explained with additional details in the subsequent sections.

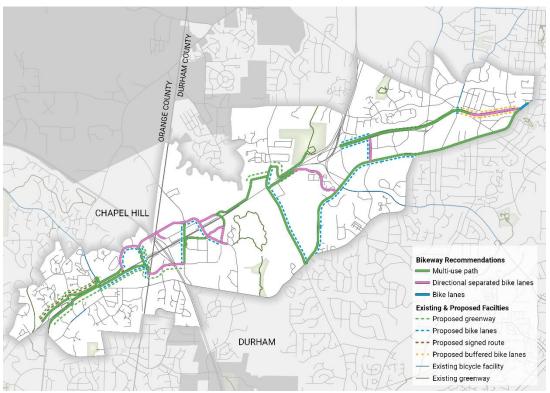


Figure 14: Bikeways and Multi-Use Path recommendations for US 15-501 Corridor Segments

Table 17: Active Transportation strategies by segment and alternative

Segment 1	
	Altamatica 2
 Alternative 1 Provide painted pedestrian crosswalks at all intersections. Provide bike and pedestrian facilities across proposed urban interchange. Implement bike/pedestrian facilities for Segment 1 as shown in Chapel Hill Mobility Plan Small footprint urban interchange with bicycle and pedestrian facilities. 	 Alternative 2 Traditional intersection widening with crosswalks and pedestrian signals. Bicycle and pedestrian bridge over US 15-501.
I-40 Quad	
 Alternative 1 Provide bike and pedestrian facilities along proposed grade separated 2-lane roadway connecting New Hope Commons to Eastowne Drive Provide bike and pedestrian facilities along proposed grade separated 2-lane roadway connecting New Patterson Place to Gateway Provide bike and pedestrian facilities along connector roads connecting all 4 	• No change
quadrants of the I-40 interchange.	
Segment 2	All II
 Alternative 1 Provide bike and pedestrian facilities on grade separated Mt Moriah Road Provide bike and pedestrian facilities on grade separated facility east of SW Durham Drive. Provide off-road bike and pedestrian facilities connecting into New Hope Commons and Patterson Place Provide bike and pedestrian connectivity between Patterson Place and Garrett Road utilizing Larchmont Drive versus off-road greenway due to wet and low-lying area. Provide bike and pedestrian connections from Garrett Road to University Drive Provide bike and pedestrian connectivity between Sandy Creek Drive, Chapel Hill Blvd Service Road, and Garrett Road Provide bike and pedestrian facilities along University Drive 	 Same as Alternative except: Grade separated bike and pedestrian only bridge within the vicinity of new right in/right out access point east of SW Durham Drive.
Segment 3	
 Alternative 1 Provide 4-lane urban cross-section, with better bike and pedestrian facilities. Provide a shared use path for bikes and pedestrians protected by wide swath of landscaping using recaptured space from narrowing of the roadway. Redesign Academy Road interchange to provide for safe bike and pedestrian movements Redesign Chapel Hill Road interchange to provide for safe bike and pedestrian movements Continue bike and pedestrian facilities along University Drive 	Alternative 2 ● No change
Segment 4	
 Alternative 1 Provide parking on both sides of the roadway with a bike lane protected by the parking and sidewalks on both sides Provide bike and pedestrian facilities at the proposed University Drive roundabout Improve connectivity between adjoining neighborhoods and US 15-501 Businesses using sidewalks for greenways Provide a pedestrian connection between Chapel Hill Road and US 15-501 Business 	• No change

3.4.1 Segment 1 and I-40 Quad: Ephesus Church Road through I-40 interchange

3.4.1.1 Active Transportation Strategy:

A 12-foot-wide shared used path is recommended on both sides of US 15-501 to accommodate both bicycle and pedestrian traffic from Ephesus Church Road to the eastern intersection of Eastowne

Drive/US 15-501. A new design for this intersection should include elements of a protected intersection to reduce turning speeds and transition shared use paths along Eastowne Drive before crossing I-40 on parallel routes. The Eastowne Drive intersection design changes should prioritize shared use path crossings and push button actuated pedestrian/bicycle signals to increase crossing safety for a high-volume intersection.

Two alternatives were considered for providing safe bicycle and pedestrian access across US 15-501 at Eastowne Drive. The first alternative recommends a small footprint urban interchange with bicycle and pedestrian facilities. The second alternative considers traditional intersection improvements to Eastowne Drive, and therefore a separate bridge for bicyclists and pedestrians to increase comfort and minimize conflicts near Eastowne Drive.

Shared use paths on both sides of the corridor align with the planned trails for the Town of Chapel Hill, and the paths



Figure 15: Segment 1 - US 15-501 East of Sage Road

<u>Evaluation Criteria</u> Considered

- Safety
- Multimodal
- Network
- Health
- Accessibility

improve connectivity to planned and existing bicycle facilities along Eastowne Drive, Sage Road, Erwin Road, and Ephesus Church Road. The shared use path on the north side of US 15-501 near the intersection of Sage Road should follow the parallel route along Dobbins Drive to E. Franklin Street and Eastgate Shopping Center Drive to connect with the Lower Booker Creek Trail and access to the shopping center and Ephesus Church Road.

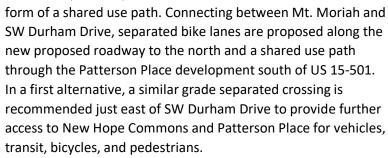
To provide bicycle and pedestrian access between the land parcels to the east and west of I-40 along US 15-501, two new connector roads with bicycle and pedestrian facilities are recommended to connect the Eastowne Drive development to New Hope Commons, and the proposed Gateway development to Patterson Place. For more direct access across I-40, sidewalks are recommended for the proposed DDI interchange.

3.4.2 Segment 2: I-40 interchange to US 15-501 bypass

3.4.2.1 Active Transportation Strategy

The proposed 12-foot shared use path along the south side of US 15-501 is proposed to split at the western intersection of Eastowne Drive and US 15-501, following Eastowne Drive to the north and south. These shared use paths perpendicular to US 15-501 will transition to directional separated bike

lanes with sidewalks and travel east towards Mt. Moriah Road, along Old Chapel Hill Road to the south and a proposed new roadway to the north. The Mt. Moriah Road intersection, which currently presents long crossings of US 15-501 and minimal protection for non-motorized users, is listed as a priority in the *Durham Bike + Walk Implementation* Plan. To safely facilitate multimodal access to businesses in Patterson Place and New Hope Commons, this intersection should be grade separated from US 15-501 and should include bicycle and pedestrian accommodations in the



A second alternative was considered that included additional access points along US 15-501 east of SW Durham Drive with the aim of providing access to New Hope Commons and



Figure 16: Segment 2 - East of Garrett Road

Evaluation Criteria Considered

- Safety
- Multimodal
- Network
- Health
- Accessibility
- Environment
- Equity

Patterson Place. However, these access points would be restricted to right turns in or out. In this scenario, a separate bridge for bicycle and pedestrian access would be provided near the existing intersection.

Continuing the shared use path along the north side of the corridor may require specific attention at the bridge crossing New Hope Creek. A separate bicycle and pedestrian bridge would ensure separation for the shared use path but may be cost prohibitive in the short term. A short section of buffered on-street path may be provided within the existing conditions through a design exemption to reduce the width of shoulders on the bridge. Vertical and horizontal separation is recommended along this section of the path to ensure the continued comfort and safety for users who want to connect to nearby commercial uses or make longer trips between Durham and Chapel Hill. A better alternative would be to design the path on the south side of US 15-501 with access to the north side of US 15-501 under the current New Hope Creek bridge. The path could extend behind the current Oak Creek Village shopping center to connect with proposed side paths along Garrett Road.

The existing conditions of the US 15-501 Business interchange pose considerable challenges for safety and connectivity for active transportation/recreation infrastructure. Rather than continuing through the

interchange, an alternative route should be considered that aligns with the planned bicycle and trail facilities for the City of Durham. The proposed shared use path would intersect Garrett Road to allow users to travel north and south. While the proposed shared use path continues along Garrett Road to University, an alternative route along Larchmont with separated bike lanes is also recommended. Both the connection along Garrett Road and Larchmont provide bicycle and pedestrian facilities that circumvent the US 15-501 Business interchange. While a direct route through the bypass could be accomplished, a variety of treatments to prioritize the most vulnerable users would be necessary. Therefore, the proposed alignments were preferred to the direct route through the US 15-501 Business interchange.

Pedestrian crossing improvements should also be considered at the Garrett Road intersection due to long crossing distances and a lack of refuge presently. Residents near this intersection should have both bicycle and pedestrian infrastructure that provides short trip connections across the street or to transit stops with sidewalks and ADA compliant curb ramps, and they should also have longer trip connections through the proposed shared use path to University along Garrett Road or Larchmont and a connection to Chapel Hill to the West.

3.4.3 Segment 3: Durham-Chapel Hill Boulevard (US 15-501 Business) to Chapel Hill Road

3.4.3.1 Active Transportation Strategy

Traveling east from the intersection of US 15-501 with Westgate Drive, shared use paths protected by wide swaths of landscaping are recommended to support walking and bicycling along corridor.

Separated bike lanes should be placed on Shannon Road to connect the shared use paths along Durham-Chapel Hill Boulevard (US 15-501 Business) with proposed bicycle facilities along University Drive. Additionally, redesign of the Academy Road and Chapel Hill Road interchanges as a single roundabout provide a safer environment for bicyclists and pedestrians and can reduce the number of conflict points and risk of severe or fatal crashes.



Figure 17: Segment 3 - US 15-501 near Tower Road

Building off the recommendations in the Durham Bike + Walk Implementation Plan, a connection from Garrett Road near Sandy Creek is recommended to link a proposed shared use path along the south side of University Drive. While sidewalks currently exist along University Drive, adding a shared use path

would allow people to travel by bicycle along the corridor without mixing with vehicular traffic. A connected and safe path facility will attract users of all ages and abilities for both active transportation and recreation.

A key connection from University Drive to Tower Road along Shannon Road and Durham-Chapel Hill Boulevard provides access to a variety of businesses and nearby multifamily residential properties. This connection is proposed through separated bike lanes along Shannon Road south Durham-

Evaluation Criteria Considered

- Safety
- Multimodal
- Network
- Accessibility

Chapel Hill Boulevard and a shared use path that parallels the corridor that intersects with Tower Road. Additionally, intersection changes to increase safety and shorten crossing distances for non-motorized users are recommended at the following intersections:

- Tower Road and Durham-Chapel Hill Boulevard (listed as a priority in the *Durham Bike + Walk Implementation Plan*)
- Shannon Road and Durham-Chapel Hill Boulevard
- University Drive and Martin Luther King Jr Parkway
- University Drive and Westgate Drive

Chapel Hill Road is a narrow, two-lane road that is fronted by residential properties. Additional paving could be considered to add designated bike lanes along this half mile section between University Drive and W Cornwallis Road; however, lowering the speed limit from the current 35 MPH should be considered to encourage speeds that are more appropriate for a residential context. Additional traffic calming measures could accompany a lower speed limit to provide a bike boulevard rather than designated bike lanes to connect University Drive to Durham-Chapel Hill Boulevard via Chapel Hill Road.

3.4.4 Segment 4: Chapel Hill Road to University Drive

3.4.4.1 Active Transportation Strategy

Due to limited sidewalk along this segment, pedestrian activity is likely discouraged from adjoining local commercial uses and nearby residential neighborhoods. Adding sidewalks on both sides of the corridor would provide connectivity throughout this segment with less volume and speed than segments to the west. Although there is an existing buffered bike lane, on-street parking could be placed adjacent to the travel lanes to provide a parking protected bike lane with a painted door buffer zone. This would



Figure 18: Segment 4 – Chapel Hill Road to University Drive

encourage even slower speeds than the existing road design, which is more appropriate for this context. Turning conflicts may be an issue along this segment, as many intersections have large radii and some properties have full frontage access. Managing access to individual properties with landscaping or curb and gutter may benefit all users and create a safer and more predictable environment. The current right-of-way of 100 feet is substantial and can accommodate the following improvements:

- 5-foot sidewalks (both sides)
- 2-foot grass buffer (both sides)
- 5-foot bike lane (both sides)
- 3-foot painted door buffer (both sides)
- 8-foot on-street parallel parking stalls (both sides)
- Two 11-foot travel lanes (one in each direction)
- One 11-foot center turn lane or landscaped median

Evaluation Criteria Considered

- Safety
- Multimodal
- Network
- Health
- Accessibility

The proposed cross section elements above total 79-feet in width. Designers should pay special attention to sight distances at intersections as well as business access to ensure that on-street parking is located appropriately. Bulb outs, either raised curb or painted, may be another effective treatment to protect sight distance triangles.

Bicycle and pedestrian facilities should be incorporated to the proposed roundabout at University Drive. The roundabout intersection design can reduce conflict points between travel modes and provide short crossing distances for bicyclists and pedestrians. A transition from the directional separated bike lanes (parking protected) in Segment 4 to the proposed shared use path on the south side of University Drive moving west is recommended. An additional transition from the shared use path to the conventional bike lanes that continue to the east along University Drive should be provided.

To further increase connectivity between neighborhoods and businesses adjoining US 15-501, sidewalks should be implemented. While providing sidewalk on both sides of the street would increase walkability, this type of infrastructure can be cost prohibitive. Additionally, neighborhood bikeways may be provided through traffic calming treatments that deter cut-through traffic and reduce vehicle speeds. Shared use paths should be considered as an alternative treatment to connect the surrounding neighborhoods to US 15-501 Business for both bicyclists and pedestrians.

4 DURHAM-ORANGE LIGHT RAIL TRANSIT

In April 2019, just a month before the third and final public workshop on the US 15-501 Corridor Study, a decision was made by the responsible governing bodies to discontinue work on the D-O LRT. At that time, work was also temporarily halted on the US 15-501 Corridor Study while the PSC worked to determine the best path forward. The ultimate decision of the PSC, supported by the MPO Board, was to develop a third alternative for the US 15-501 Corridor that could achieve the goal of linking Chapel Hill and Durham with fast, frequent, and reliable transit service.

The third alternative mirrors Alternative 2 in every way except for the addition of dedicated bus lanes within the study area between Ephesus Church Road, at the western edge of the study area, and the US 15-501 Bypass at the eastern portion of the study area. The dedicated bus lanes are accessed from the general-purpose lane allowing access from both US 15-501 Bypass and US 15-501 Business from the east, and the US 15-501 mainline from the west.

Eastwards from Ephesus Church Road to Eastowne Drive, the bus lane would be a Business Access and Transit (BAT) lane, which would allow right-turning vehicles to access the BAT lane to make right turns. This would mean that there would be no physical barrier between general purpose traffic and the BAT lane. Through the I-40 interchange, the buses would be in mixed traffic but could utilize Transit Signal Priority (TSP). TSP allows the buses to have priority at traffic signals and jump ahead of general purpose traffic. East of the I-40 interchange, the bus lanes would be center running, likely with some physical separation between general traffic and the bus only lane. This center running bus lane would continue to the US 15-501 Bypass. Future investigation, analysis and design will be needed to determine how the bus lane merges onto the US 15-501 Bypass for continued service to Duke University and beyond.

Table 18: Recommendations in Alternative 3

Segment 1

Alternative 3

• Same as Alternative 2, with addition of an outside running bus only lane

I-40 Quad

Alternative 3

• Same as Alternative 1 and 2, except with transit signal prioritization to merge buses into mixed traffic through the I-40 interchange

Segment 2

Alternative 3

• Same as Alternative 2, with addition of an inside running bus only lane

Segment 3

Alternative 3

Same as Alternative 2

Segment 4

Alternative 3

• Same as Alternative 2

While not an ideal replacement for the D-O LRT, this dedicated bus lane will serve a mix of express service linking downtown Chapel Hill with Duke University and/or downtown Durham; local services that service destinations outside the corridor and use a portion of the dedicated busway; and perhaps an "LRT replacement" service that serves some of the same key destinations as the D-O LRT within and outside the US 15-501 corridor. The provision of dedicated bus lanes as a third alternative was deemed important to ensure that transit travel times remain reliable even as traffic congestion increases in the future, thereby supporting the goals for the corridor.

5 RECOMMENDED ALTERNATIVE AND IMPLEMENTATION PLAN

5.1 RECOMMENDED ALTERNATIVE

The recommended alternative aims to provide a comprehensive multimodal alternative for the entire corridor while also balancing the often-competing need for accessibility and mobility. In **Segment 1** the focus is on trying to find a balance between the conflicting priorities of accessibility and mobility with a design that improves the flow of through traffic, but also provides tools for creating a more urban environment including reduced travel speeds, increasing the number and safety of crossing locations for bicyclists and pedestrians, and streetscaping to provide a more urban context. In **Segment 2**, the focus is on mobility with a design that focuses on multimodal grade separations, while recommending local street networks within developments adjacent to the corridor for local traffic and bicycle and pedestrian movements along the corridor. High capacity transit service along **Segments 1 and 2** is prioritized with the inclusion of a bus only lane. In **Segments 3 and 4**, the recommended alternative aims to provide a more urban cross section that reduces the speed of vehicles and provides more pedestrian friendly environment with bicycle and pedestrian facilities and land use closer to the corridor. For the entire corridor, the focus is to capitalize on opportunities for creating land use patterns that promote multimodal travel, and incorporate urban design and human-scale design.

The sections below highlight the details of the recommended alternative for each segment along the corridor.

5.1.1 Segment 1

The primary challenge with Segment 1 is the competing interests between local and through traffic, and a desire to create a more urban multimodal environment in a corridor that has historically prioritized vehicle movements. The recommended 8-lane median divided Reduced Conflict Intersection (RCI), commonly referred to as a superstreet design, attempts to strike a balance between these competing needs without creating a larger footprint intersection or numerous

To accommodate the urban design vision for Segment 1, the recommended RCI must be designed as an urban cross section with signal progression set to slow traffic and pedestrian crossings at all main intersections and midblock U-turns.

interchanges. The RCI design is recommended between Erwin Road and Sage Road. The RCI design improves safety and balances accessibility and mobility. To accommodate the expected increase in bicycle and pedestrian trips, the recommendation includes timing the signals in the corridor to slow the progression of traffic, development of pedestrian crossing at main intersections and at midblock U-turns, and streetscaping both within the median and along the sides of the corridor. Given recent design changes to the intersection at Ephesus Church Road, the PSC elected not to recommend additional design modifications to that location for this study. The RCI design is not recommended for the Eastowne Drive (east) intersection given the proximity to the I-40 interchange. Traditional intersection widening is recommended for this location.

Other improvements along this segment include support of the local street network proposed for the Blue District, and a recommendation to connect Legion Road to Old Durham to improve multimodal

connectivity within the corridor as well as a safer alternative to travel along US 15-501 for local traffic. The Blue Hill District bus recommendations are also endorsed by this study. Regional transit improvements for this segment include the provision of an outside running bus only lane.

To create a more multimodal corridor, the recommended alternative includes the provision of bicycle and pedestrian connections throughout Segment 1, both along and across US 15-501, including a grade separated pedestrian crossing near Eastowne Drive. Bicycle and pedestrian facilities are recommended on both sides of the corridor with connections to key development efforts. This study also endorses the bicycle and pedestrian facilities recommended in the Chapel Hill Mobility Plan.

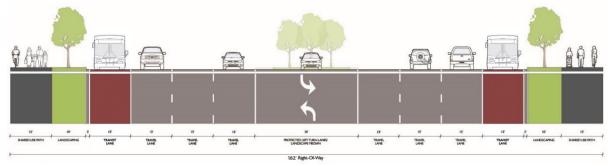


Figure 19: Recommended cross-section for Segment 1

5.1.2 I-40 Quadrant

The I-40 interchange is a regional access point, serving as a gateway to Chapel Hill and Durham from points east and west along I-40. It bisects the study area, providing many benefits related to economic development and regional connectivity for motorized travel, while at the same time being a barrier for non-motorized travel through the corridor. The goal for the I-40 Quadrant portion of the corridor is to allow high volumes of traffic to

Good bicycle and pedestrian connectivity between Durham and Chapel Hill is critical. If the northern and southern connector roads cannot be built, then a separate bicycle and pedestrian bridge across I-40 will be necessary.

move efficiently through the interchange, while creating new, lower volume connections across I-40 to better serve pedestrians, bicyclists, transit and local traffic. The recommended design calls for replacing the existing diamond design interchange with a diverging diamond design. It is critical that the new design accommodate bicycle and pedestrian travel, and that signalization be provided at ramp junctures where pedestrian crossings are provided. To provide better multimodal accessibility between the quadrants of I-40 without the need to travel along US 15-501, or through the interchange, a grade separated 2-lane roadway with bicycle and pedestrian facilities is recommended to the south of the I-40 interchange connecting Patterson Place to Gateway. An additional bicycle and pedestrian bridge is recommended north of the I-40 interchange.

To provide better multimodal connectivity across I-40, improved local bus service should be provided across I-40 connecting with local bus service for both Chapel Hill and Durham. The dense, mixed-use development envisioned for the I-40 quadrants will also greatly benefit from local bus service that not only provides transit connectivity between the four quadrants, but also provides service connectivity to the broader region. As technology in automated transit service advances, consideration should be given to providing transit access between the quadrants with automated transit vehicles.

The outside running bus only lane recommended for Segment 1 will need to use the I-40 interchange area to transition to a median running bus only lane for Segment 2. This transition will be accommodated with transit signal prioritization for merging buses to or from the bus only lanes into mixed traffic, and then back to the bus only lanes.

5.1.3 Segment 2

Like Segment 1, Segment 2 has competing interests between local and through traffic, but local access is more focused at key locations along the corridor, and the primary goal of this segment is the efficient movement of traffic between I-40 and the US 15-501 Bypass. While the primary goal is the efficient movement of traffic along the corridor, multimodal connectivity and accessibility along and across the corridor is also important for the long term economic

While this segment more than any other prioritizes the efficient movement of traffic through the corridor, the goals of providing multimodal connectivity along and across the corridor must not be overlooked.

vitality of this segment. The recommended alternative attempts to accomplish this by providing connections to the key destinations on either side of US 15-501, while allowing higher volumes of traffic to efficiently move along the corridor. To create a development environment that supports shorter trips and multimodal travel, dense development patterns supported by the Patterson Place and New Hope Commons street network is recommended as redevelopment occurs. Bicycles and pedestrians were also an important consideration in this corridor, with the preferred alternative providing bicycle and pedestrian connections throughout Segment 2, both along and across US 15-501.

The efficient movement of traffic will be accomplished through the separation of cross traffic via grade separation or small footprint urban interchanges. To improve safety and operations, Mt Moriah Road is recommended as a grade separated crossing of US 15-501 with bicycle and pedestrian facilities along Mt Moriah Road, including the bridge over US 15-501. Small footprint urban interchanges are recommended for SW Durham Drive and Garrett Road. These interchanges should be designed to safely accommodate bicycles and pedestrians. Access from the bus only lane will be provided to adjacent parcels via access to SW Durham Drive. To further enhance multimodal connectivity across US 15-501, a grade separated 2-lane roadway with bicycle and pedestrian facilities is recommended east of SW Durham Drive, and should follow the road network recommended for Patterson Place and any proposed development to the north of US 15-501. High capacity transit service will be accommodated with a

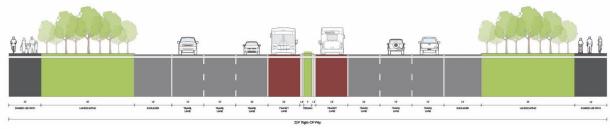


Figure 20: Recommended cross-section for Segment 2

recommended median running bus only lane between I-40 and the US 15-501 Bypass. Future studies should determine how this bus only lane transitions between US 15-501 and US 15-501 Bypass.

While not directly within the study area for this project, this study supports the provision of bicycle and pedestrian facilities along University Drive and Garrett Road to provide a more comprehensive network for non-motorized travel parallel to Segment 2. Other recommendations include the provision of multimodal connectivity between Sandy Creek Drive, Chapel Hill Boulevard Service Road, and Garrett Road; and bicycle and pedestrian facilities along Larchmont Drive.

5.1.4 Segment 3

Traffic volumes decrease considerably along Segment 3, moving east from the US 15-501 Bypass towards Chapel Hill Road, but the current roadway cross-section is configured to handle traffic volumes of a much higher magnitude, owing primarily to the days prior to the construction of US 15-501 Bypass when this segment served as US 15-501. With lower traffic volumes and a vision for a higher density, mixed-use, urban environment for this segment, the focus of Segment 3 was on creating a more fully multimodal 4-lane urban

Transitioning this segment to a more urban cross-section with no service roads will need to be accomplished as the land use pattern becomes more urban in nature.

roadway with landscaped median, roundabouts at key locations, and bicycle and pedestrian facilities throughout. To create a physical transition from the more suburban, higher speed Segment 2 to a slower speed urban environment, a 2-lane roundabout is recommended at the intersection of Westgate Drive on the western edge of Segment 3. The conversion of traditional intersections to roundabouts at Tower Boulevard, Shannon Road and Weymouth Street will serve to further reduce traffic speeds and create a more urban feel. As the area redevelops, an urban grid system should be encouraged to the north and south of US 15-501 Business as recommended in the City of Durham's Street Plan for transit oriented developments, and per rezoning adopted for this area. Existing t-intersections should be converted to full intersections. As this segment transitions, the services roads will need to initially be maintained to provide access to adjacent land parcels. However, long term should include a more urban and dense development pattern that allows for the removal of the service roads

The higher speed ramp junctions from the Academy Road and Chapel Hill Road interchanges contrast with the multimodal urban environment envisioned for this segment. For this reason, recommendations include a redesign of the Academy Road interchange to remove the western most ramp junction, and to convert the eastern most ramp junction to a roundabout design. The slip ramp that provides access between Chapel Hill Road and US 15-501 business should be removed, and access to Chapel Hill Road provided via Cornwallis Road and a roundabout at Legion Avenue and US 15-501 Business. A side path for bicycles and pedestrians is recommended. This side path should be protected by a wide swath of landscaping using the recaptured space from narrowing the existing roadway cross-section.

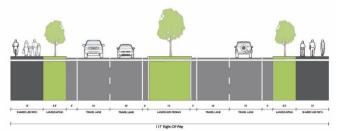


Figure 21: Recommended cross-section for Segment 3

5.1.5 Segment 4

At present, Segment 4 is a more urban street cross section, with on-street parking and bicycle facilities, and supports lower traffic volumes. The goal for Segment 4, was to provide improvements that would make the segment more pedestrian friendly and provide for safe movements across US 15-501 for all modes of travel, which can be accomplished using roundabouts. Recommendations include a 2-lane urban cross-section with

Providing a landscaped median along this section will help reduce neighborhood cut through traffic.

landscaped median, consolidated driveways, and roundabouts at key intersections. Sidewalks, bike lanes, and parking are recommended for both sides of the roadway. The bike lanes are recommended between the parking and the sidewalk. To slow down travel speeds and help create a more urban feel, roundabouts are recommended at Legion Avenue, Hope Valley Road, and James Street.

Recommendations also include redesigning the University Drive intersection as a roundabout with bicycle and pedestrian facilities, including a multiuse path that connects with the recommended multiuse path on University Drive. As this area continues to become more urban, and more bicycle and pedestrian friendly, it will be important to improve non-motorized connectivity to the adjoining neighborhoods, including Chapel Hill Road. Improved transit service and transit amenities, including bus pullouts at key locations, will be key to providing multimodal connections to other locations across the region.

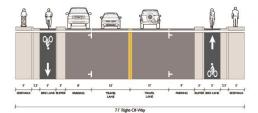


Figure 22: Recommended cross-section for Segment 4

5.2 IMPLEMENTATION PLAN

The implementation of the recommendations along US 15-501 was divided into three time periods for implementation, along with a corresponding time frame for implementation:

- Short term within 10 years
- Midterm within 20 years
- Long-term beyond 20 years

A brief description of all recommendations – grouped by mode - is provided in tables 19 to 22, along with their locations, phasing and tentative cost.

Table 19: Implementation Plan of Roadway Project Recommendations

Description	Location	Jurisdiction	Phase	Cost
Implement a 8-lane median divided Reduced Conflict Intersection (RCI) urban design with pedestrian crossings at intersections and midblock U-turn locations.	From Erwin Road to Eastowne Dr (west)	Chapel Hill	Mid	\$20,000,000
Intersection widening to include an additional through lane on US 15-501 WB, and exclusive right turn lane on US 15-501 EB, and exclusive right turn lanes on both the NB and SB approaches of Eastowne Dr.	Eastowne Dr and US 15-501 (east)	Chapel Hill	Short	\$400,000
Construct a new 2-lane connector road by extending Legion Rd.	Legion Rd from Scarlett Dr. to Old Durham Rd.	Chapel Hill	Long	\$800,000
Construct a 2-lane connector road with sidewalks and bike lanes across I-40 north of the US 15-501 interchange.	From Eastowne Dr to Mt Moriah Rd.	Chapel Hill & Durham	Mid	\$4,588,000
Construct a 2-lane connector road with sidewalks and bike lanes across I-40 south of the US 15-501 interchange.	From Lakeview Dr to Mt Moriah Rd.	Chapel Hill & Durham	Mid	\$5,127,000
Construct diverging diamond redesign of US 15-501 interchange to include sidewalks from Eastowne Dr to Mt Moriah Rd. (Requires Bridge Replacement)	US 15-501 at I-40	Chapel Hill & Durham	Mid	\$13,300,000
Implement transit signal prioritization to prioritize bus movements through the US 15-501 and I-40 interchange.	US 15-501 at I-40	Chapel Hill & Durham	Mid	\$600,000
Upgrade US 15-501 by converting Mt Moriah Rd to an overpass over US 15-501 with bicycle and pedestrian facilities; and constructing a tight diamond interchange at US 15-501 and SW Durham Dr, with an extension of SW Durham Dr to New Hope Commons Dr. Provide sidewalks and bike lanes.	From existing intersection to SW Durham Dr	Durham	Mid	\$135,800,000
Construct a 2-lane connector road with sidewalks and bike lanes across US 15-501 east of SW Durham Dr with a roundabout intersection at New Hope Commons Dr.	From Witherspoon Blvd to New Hope Commons Dr.	Durham	Long	\$9,800,000
Construct tight diamond interchange at Garrett Rd with bicycle and pedestrian facilities.	US 15-501 at Garrett Rd.	Durham	Short	\$32,000,000
Upgrade US 15-501 Business to a 4-lane divided urban cross section with landscaped median and sidewalks. Construct roundabouts at Westgate Dr, Tower Blvd, Shannon Rd and Weymouth St.	From Westgate Dr to Academy Rd	Durham	Long	\$6,200,000
Connect Chapel Hill Blvd Service Rd (north side) to Academy Rd.	From 3308 Durham Chapel Hill Blvd to Academy Rd	Durham	Long	\$1,700,000

Table 19 (continued): Implementation Plan of Roadway Project Recommendations

Description	Location	Jurisdiction	Phase	Cost
Redesign the US 15-501 Business and Academy Rd Interchange from the current diamond design to a single "bowtie" design with the roundabout at the western ramp termini for Academy Rd. Eastern ramps from Academy to US 15-501 Business will be removed.	Interchange between US 15-501 and Academy Rd.	Durham	Long	\$800,000
Reduce the footprint of US 15-501 Business from 4-lane divided to 2-lane divided with 12-foot wide multiuse side paths on both sides of the road.	Academy Rd roundabout to Nation Ave	Durham	Long	\$300,000
Modifications to US 15-501 Business and Chapel Hill Rd "interchange" to remove the ramp from W Cornwallis Rd to US 15-501 Business, construct roundabout at Legion Ave and provide signage to encourage all interchange movements to occur via the US 15-501 Business and Legion Ave roundabout.		Durham	Long	\$800,000
Convert US 15-501 Business to 2-lane urban cross-section with landscaped median, consolidated driveways, and roundabouts at Hope Valley and James Street (in addition to the previously proposed roundabout at Legion Ave). Provide sidewalks and parking on both sides of the roadway with a bike lane protected by the parking.	From Nation Ave to University Dr	Durham	Long	\$4,300,000
Construct a roundabout at University Dr and US 15-501 with Multi Use Paths connecting to the proposed multiuse path on the south side of University Dr.	University Dr at US 15-501	Durham	Long	\$1,100,000

Table 20: Implementation Plan of Transit Project Recommendations

Description	Location	Jurisdiction	Phase	Cost
Construct an outside running bus lane along US 15-501 in both the eastbound and westbound directions, including reconfiguration of travel lanes between the US 15-501 and E Franklin St split. Construction of a new 4-lane bridge to accommodate the reconfiguration of travel lanes for E Franklin St.	US 15-501 from western study boundary to US 15-501 interchange.	Chapel Hill	Mid	\$10,000,000
Construct an inside running bus lane along US 15-501 in both the eastbound and westbound directions with access to Southwest Durham Dr. via a bridged crossing.	US 15-501 interchange to US 15-501 Bypass.	Durham	Mid	\$1,300,000

Table 20 (continued): Implementation Plan of Transit Project Recommendations

Description	Location	Jurisdiction	Phase	Cost
Expanded local bus service between Durham and Chapel Hill serving I-40/US 15-501 quadrant development and providing access to points beyond.	Various locations.	Chapel Hill and Durham.	Short	\$4,000,000
Provide bus pullouts at designated locations along US 15-501 business.	Various locations.	Durham	Short	\$250,000 per location

Table 21: Implementation Plan of Bicycle and Pedestrian Project Recommendations

Description	Location	Jurisdiction	Phase	Cost
Provide a minimum 12-foot wide multiuse side path on the north side of US 15-501.	From western study boundary to Eastowne Dr. (east)	Chapel Hill	Mid	\$850,000
Provide a minimum 12-foot wide multiuse side path on the south side of US 15-501.	From western study boundary to Lakeview Dr multiuse side path.	Chapel Hill	Mid	\$920,000
Construct a minimum 12-foot wide multiuse side path with a bridge over US 15-501 to provide a grade separated pedestrian and bicycle crossing.	From Old Chapel Hill Rd, across US 15- 501 just west of Eastowne /Lakeview intersection, to northern connector road.	Chapel Hill	Mid	\$1,090,000
Construct a multiuse Path from Eastowne Dr, over I-40 to Mt. Moriah Dr.	Eastowne Dr to Mt. Moriah Dr	Chapel Hill	Mid	\$4,000,000
Provide a minimum 12-foot wide multiuse side path on Mt Moriah Rd.	From southern connector road to SW Durham Dr extension	Durham	Mid	\$300,000
Provide a minimum 12-foot wide multiuse side path on the north side of US 15-501.	From new 2-lane connector road to Garrett Rd with access to southern multiuse path under New Hope Creek bridge.	Durham	Short	\$1,920,000
Provide a minimum 12-foot wide multiuse side path on the south side of US 15-501.	From new 2-lane connector road to New Hope Creek bridge multiuse path.	Durham	Mid	\$1,210,000
Provide a minimum 12-foot wide multiuse side path on both sides of Garrett Rd.	From Falls Mountain Way to Millennium Dr.	Durham	Short	\$430,000

Provide a minimum 12-foot wide multiuse side path on the north side of US 15-501.	From Falls Mountain Way to Sandy Creek Trail.	Durham	Short	\$280,000
Provide a minimum 12-foot wide multiuse side path on the south side of US 15-501.	From Garrett Rd to Lyckan Pkwy.	Durham	Mid	\$280,000

Table 21 (continued): Implementation Plan of Bicycle and Pedestrian Project Recommendations

Description	Location	Jurisdiction	Phase	Cost
Provide sidewalks and separated bike lanes on Larchmont Rd.	From Lyckan Pkwy to University Drive.	Durham	Mid	\$1,160,000
Provide a minimum 12-foot wide multiuse side path along University Drive.	From Garrett Rd to US 15-501 Business.	Durham	Short	\$2,380,000
Provide a minimum 12-foot wide multiuse side path on the north side of US 15-501 Business, separated from roadway by landscaped buffer.	From Westgate Dr to Academy Rd	Durham	Long	\$690,000
Provide a minimum 12-foot wide multiuse side path on the south side of US 15-501 Business, separated from roadway by landscaped buffer.	From Academy Rd to Westgate Dr.	Durham	Long	\$700,000
Provide a pedestrian path between Nation Ave and Chapel Hill Rd between existing Hardee's and US 15-501 Business.	Nation Ave to Chapel Hill Rd.	Durham	Short	\$20,000
Provide a minimum 12-foot wide multiuse side path on the south side of University Dr.	Hope Valley Rd to US 15-501 Business.	Durham	Short	\$1,140,000

Table 22: Implementation Plan of Land Use Recommendations

Description	Location	Jurisdiction	Phase
Accommodate future growth along the corridor by following the framework strategies and recommendations established in the	General	Chapel Hill + Durham	n/a
appropriate Comprehensive Plans.			
Align land use and transportation planning by encouraging innovative design and architecture in the Design Districts, which are intended to provide high density infill, redevelopment and new development that integrates a mix of uses within an urban fabric supportive of multimodal transportation, with an enhanced street-level experience that promotes transit and pedestrian oriented activities.	As noted below	Durham	n/a
Recognize the Blue Hill District Design Guidelines, which identifies this area as a redevelopment priority with both residential and commercial uses, including a mixed-use core area with a new gridded street network, small blocks, public spaces, greenway connections and complete streets amenities. The related small area plan realigns Ephesus Church Road to meet S. Elliott Road at US 15-501.	US 15-501/Ephesus church Road area, generally from S. Elliott Road to just west of Europa Drive	Chapel Hill	short/ mid
Emphasize this part of the corridor as a transitional area between more intense catalyst development nodes by incorporating horizontal mixed uses, utilizing offices as a transition between commercial and residential areas.	West of Europa Drive to west of Eastowne Drive	Chapel Hill	short

Table 22 (continued): Implementation Plan of Land Use Recommendations

Utilize the flexibility offered by the Design District to redevelop the Patterson Place area, providing a mix of uses within gridded streets and small blocks that activate the street level and emphasize mobility choices. Take advantage of proposed bridges over I-40 to increase connectivity in this catalyst development node and provide opportunities for larger projects and a variety of commercial uses on vacant parcels or by the redevelopment of parcels such as the Blue Cross Blue Shield site.	west of Eastowne Drive to east of SW Durham Drive	Chapel Hill + Durham	mid/ long
Within the Patterson Place area, take development emphasis away from US 15-501 by fronting buildings on local roads such as Old Chapel Hill Road, Danziger Drive, SW Durham Drive, Eastowne Drive and other potential local roads. Prioritize an enhanced public realm and connections both internal and external.	west of Eastowne Drive to east of SW Durham Drive	Chapel Hill + Durham	mid/ long
Recognizing that this area is constrained by environmental boundaries, emphasize this part of the corridor as a transitional area between more intense catalyst development nodes by incorporating horizontal mixed uses, utilizing offices as a transition between commercial and residential areas. There may be opportunities for redevelopment and intensification of existing uses, including higher density residential development.	US 15-501/Garrett Road intersection area	Durham	short/ mid
Utilize the flexibility offered by the Design District to redevelop the South Square area, providing a mix of uses within gridded streets and small blocks that activate the street level and emphasize mobility choices.	east of Garrett Road to east of Weymouth Street	Durham	mid/ long
Within the South Square area, focus development towards the street, including local roads such as University Drive, Mayfair Street, Shannon Road, Westgate Drive and other potential local roads. Prioritize an enhanced public realm and connections both internal and external.	east of Garrett Road to east of Weymouth Street	Durham	mid/ long
As commercial parcels on the north side of US 15-501 (across from South Square) redevelop, encourage design that changes the form of the site, fronting buildings to the street with parking behind or to the side and sidewalk connections both along the parcel frontage and connecting to building entrances.	east of Garrett Road to east of Weymouth Street	Durham	short/ mid
A single row of commercial parcels is located on both sides of US 15-501 through this part of the corridor, with residential uses directly behind. As these commercial parcels redevelop, encourage design that changes the form of the site, fronting buildings to the street with parking behind or to the side and sidewalk connections both along the parcel frontage and connecting to building entrances.	east of Weymouth Street to the US 15-501/University Drive intersection	Durham	short/ mid
The character in this area is unlikely to change significantly due to the existing residential areas, but there will be opportunities for incremental redevelopment and intensification of commercial parcels, provided that adequate transitions and buffers are created to residential areas.	east of Weymouth Street to the US 15-501/University Drive intersection	Durham	short/ mid

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STUDY OVERVIEW

US 15-501 between the City of Durham and the Town of Chapel Hill is an auto-centric arterial highway that is in stark contrast to the vibrant multimodal downtowns that anchor the facility on either end.

The goal of this study is to Reimagine US 15-501 as an integrated, multimodal corridor informed by a community vision and goals, and supported by strategies that lead to the implementation of that vision.



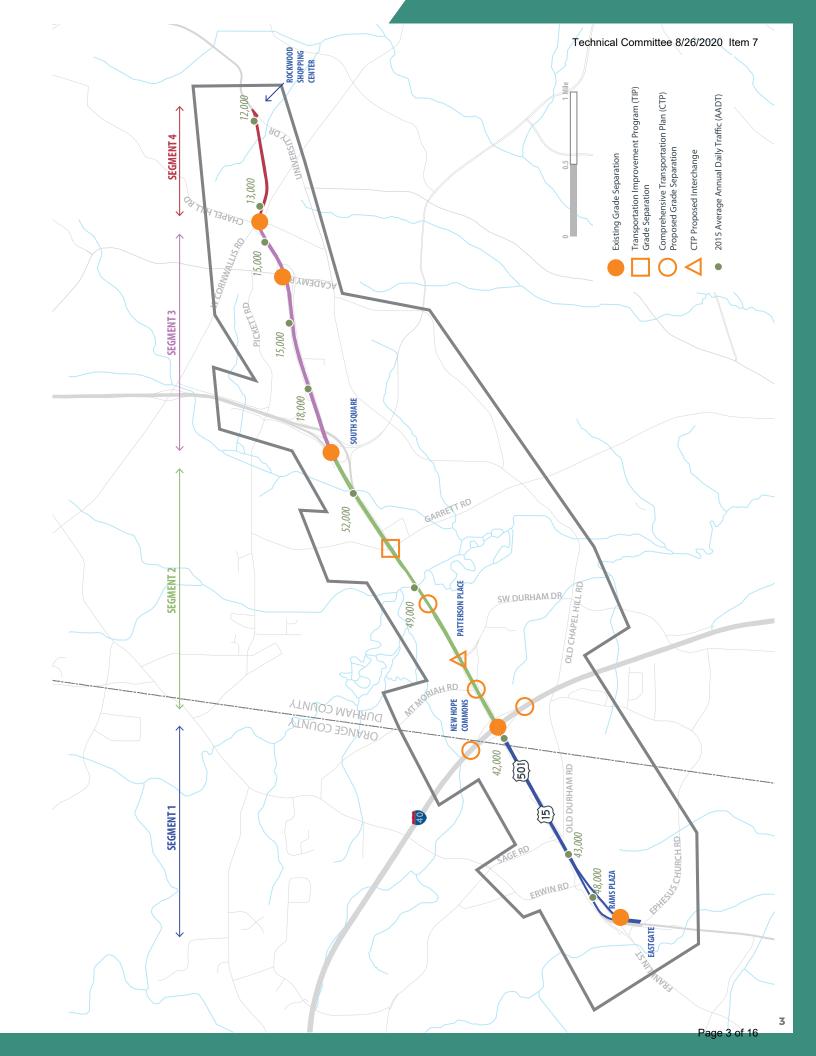




The Study Corridor

For analysis purpose and due to the differing nature of the corridor, the study broke the corridor into segments:

- ► **Segment 1:** Ephesus Church Road to I-40 Interchange
- ► I-40 Quadrant: I-40 Interchange and surrounding quadrants
- Segment 2: I-40 to US 15-501 Bypass
- ► Segment 3: US 15-501 Bypass to Chapel Hill Road
- ► Segment 4: Chapel Hill Road to University Drive



COMMUNITY AND TRAVEL PROFILE (KEY THEMES)

Biking and Walking

- Lack of connectivity between activity centers
- Few facilities along the corridor
- Areas of concentrated demand
- Several areas with high concentrations of captive users

Transit

- Gaps in the existing system
- Corridor served by multiple transit agencies
- Difficult to efficiently serve existing development from US 15-501
- Challenging to provide local service along the corridor
- Bus operations impacted by congestion and delay



Highway

- ▶ US 15-501 is a gateway to the region
- ► High conflict between "to" and "through" travelers
- New development pattern should increase local trips within developments
- Attractive destination for travelers outside the study area
- ► Traffic crash patterns reflect high congestion levels

Environmentally Sensitive Areas

- New Hope Creek corridor
- Natural Heritage Area in the NW quadrant of I-40 and US 15-501

Jobs and Housing

- Study area will experience substantial growth in jobs and housing over the 30-year planning horizon
- Growth is primarily focused around the I-40 interchange, Blue Hill District, Gateway, and South Square area
- Proposed new development will be mixed-use high density which has several benefits, including:
 - A greater number of trips are made internal to the development
 - More transit supportive
 - Encourages active transportation



VISIONING





Visioning Process

- Conducted a mobile tour
- Visioning exercise with tour participants
- Visioning exercise with citizens and at public workshops
- Received comments from online comment map

Key Themes Emerging from the Visioning Process

- Multimodal
- Connectivity
- Mobility

Corridor Vision

▶ By 2045, US 15-501 between Durham and Chapel Hill will be a key multimodal transportation corridor, that will complement and support high capacity transit and the adjacent, mixed use, and multimodal supportive development. The corridor will provide for the safety, mobility, and accessibility of all users, including motorists, pedestrians, bicyclists, and public transportation users; including connections across and through the corridor.

Corridor Goals

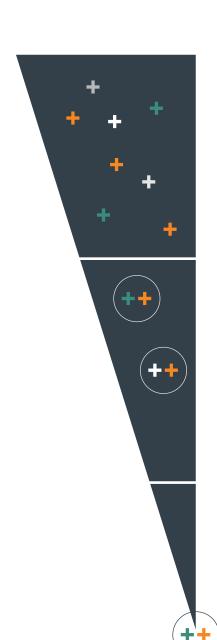
- Improve accessibility and connectivity for all modes
- Improve mobility for all users
- Enhance safety and health
- ► Stimulate land use, community, and market performance vitality
- Protect sensitive environmental lands within the study area



IMPROVEMENT STRATEGIES

A range of improvement strategies and ideas were captured from the following:

- Online comment map
- Public workshop
- Project Steering Committee
- Corridor analysis



Tier 1 Qualitative Screening

This screening evaluated strategies against a rubric designed to evaluate and score each strategy against the study goals and objectives.

Safety, multimodal network connections, accessibility, equity, environment, health, community, and economy.

Multimodal Alternatives

Tier 1 screening resulted in a reduced number of multimodal strategies that were combined into complimentary packages of multimodal alternatives that were further evaluated by the Project Team, Project Steering Committee and vetted by the public and MPO Policy Board, resulting in two final alternatives.

Tier 2 Quantitative Screening

This screening involved a detailed evaluation of the alternatives and the development of conceptual designs. Input was received from the public and Project Steering Committee on the conceptual designs.



Durham-Orange Light Rail Transit (D-O LRT)

- Prior to the completion of this study, a decision was made by the governing bodies to discontinue work on D-O LRT.
- The Project Steering Committee and MPO Board directed the Project Team to develop a third alternative that could help achieve the goal of linking Chapel Hill and Durham with fast, frequent, and reliable transit service.
- ► Alternative 3 mirrors Alternative 2 in every way except for the addition of dedicated bus lanes within the study area between Ephesus Church Road and the US 15-501 Bypass.

The purpose of the **second public meeting** was to

allow the public to review

and comment on proposed

concepts for addressing

future transportation

challenges. This meeting

helped guide the project

team in selecting concepts

to be studied in detail





The purpose of the **third public meeting** was to

allow the public to review

the final three proposed

recommendations

for addressing future

transportation challenges.

This meeting helped

guide the project team in

selecting the final preferred

alternative for the study.



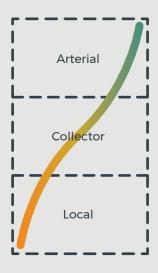


RECOMMENDED ALTERNATIVE

The recommended alternative aims to provide a comprehensive multimodal alternative for the entire corridor.

In Segment 1 the focus is on trying to find a balance between the conflicting priorities of accessibility and mobility with a design that improves the flow of through traffic, but also provides tools for creating a more urban environment through reduced travel speeds, increasing the number and safety of crossing locations for bicyclists and pedestrians, and streetscaping to provide a more urban feel. In Segment 2, the focus is on mobility with a design that focuses on multimodal grade separations, while recommending local street networks within developments adjacent to the corridor for local traffic and bicycle and pedestrian movements along the corridor. High capacity transit service along Segments 1 and 2 is prioritized with the inclusion of a bus only lane. In Segments 3 and 4, the recommended alternative aims to provide a more urban cross section that reduces the speed of vehicles and provides a more pedestrian friendly environment with bicycle and pedestrian facilities and land use closer to the corridor. For the entire corridor, capitalize on opportunities to create land use patterns that promote multimodal travel, and incorporate urban design and human-scale design.

Mobility vs. Accessibility



The ideal use of a corridor designed for mobility is to move people and goods from place to place.

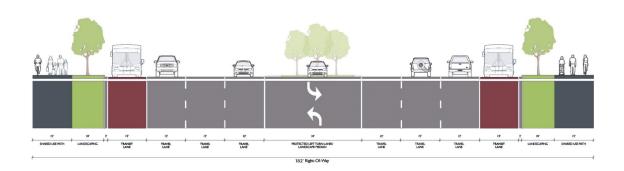
The ideal use of a corridor designed for accessibility is the ease with which people can reach an activity.

Focusing solely on one will come at the expense of the other, so a key challenge of this corridor is trying to create a balance between mobility and accessibility.

Key features of the recommended alternative for each segment include the following:

Segment 1

- ► Convert US 15-501 to a Reduced Conflict Intersection design (aka Superstreet) to improve safety and to better balance accessibility and mobility. To encourage a more urban design, signals will be timed to slow the progression of traffic, pedestrian crossings will be provided at intersections and at midblock U-turns, and streetscaping is encouraged
- Provide bicycle and pedestrian connections throughout Segment 1, both along and across US 15-501, including a grade separated pedestrian crossing at Eastowne Drive
- Connect Legion Road to Old Durham Road
- Implement local street network as proposed by Blue Hill District TIA
- Provide outside running bus only lane



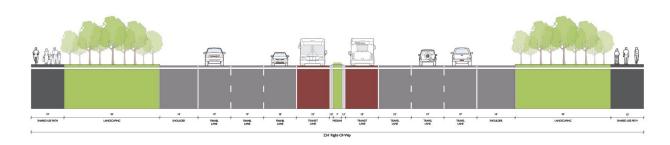
Segment 1 conceptual cross section

I-40 Quadrant

- Redesign I-40 interchange to improve safety and operations (diverging diamond), with addition of pedestrian facilities on the bridge across I-40
- Grade separated bicycle and pedestrian facility across I-40 connecting New Hope Commons to Eastowne Drive
- Grade separated 2-lane roadway with bicycle and pedestrian facilities across I-40 connecting Patterson Place to Gateway

Segment 2

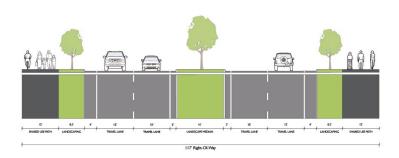
- Grade separate Mt Moriah Road and provide bicycle and pedestrian facilities on bridge
- Urban interchanges at SW Durham Drive and Garrett Road
- Implement Patterson Place and New Hope Commons local street network
- Provide bicycle and pedestrian connections throughout Segment 2, both along and across US 15-501
- Provide multimodal connectivity between Sandy Creek Drive, Chapel Hill Blvd Service Road, and Garrett Road



Segment 2 conceptual cross section

Segment 3

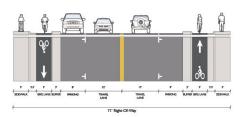
- Reduce the footprint of the current crosssection to implement a fully multimodal
 4-lane urban cross-section with landscaped median
- Add roundabouts at key locations to improve connectivity and to further slow traffic and create a more urban environment
- ► Implement better street connectivity (future focus on an urban grid system) to the north and south of US 15-501 Business
- Redesign Academy Road and Chapel Hill Road interchange to better reflect urban design



Segment 3 conceptual cross section

Segment 4

- Implement 2-lane urban cross-section with landscaped median, consolidated driveways, and roundabouts at key intersections
- Provide sidewalks, bike lanes, and parking on both sides of the roadway
- Redesign University Drive intersection as a Roundabout with bicycle and pedestrian facilities



Segment 4 conceptual cross section

Land Use Strategies for the Corridor Follow framework strategies established in the appropriate Comprehensive Plans, Ephesus Church Road-Fordham Boulevard Small Area Plan, and Patterson Place Design District. Utilize the flexibility offered by the various Design Districts to encourage innovative design and architecture, and create a mix of uses with an urban fabric supportive of multimodal travel. Where appropriate, encourage designs that change the form of the corridor with buildings fronting the street and parking behind or to the side, and sidewalks to provide connectivity. Create areas of transition between more intense development nodes and commercial and residential areas. Respect environmentally sensitive areas. Page 13 of 16

IMPLEMENTATION

The US 15-501 Corridor Study is a long term plan, with the goal to Reimagine US 15-501 as a integrated, multimodal corridor. Due to the long term nature of this plan, the implementation of recommendations documented in this plan have been broken into three phases:



Along with differing timeframes for the recommendations, implementation will be overseen by different entities. Major roadway projects, like new interchanges, will be funded and built by the North Carolina Department of Transportation (NCDOT) and will include bicycle and pedestrian facilities. Standalone bicycle and pedestrian improvements or smaller roadway projects, could be funded by local municipalities like the Town of Chapel Hill or City of Durham. Developers may also be responsible for constructing new streets or bicycle and pedestrian facilities on parcels as they redevelop.

With all the stages of implementation, there is a recognition that more detailed level analysis and design will be completed. At this time, more context sensitive details, like final placement of crosswalks or streetscaping will be determined. See for example the aerial photo below that shows an illustration of how a Reduced Conflict Intersection design can be implemented within an urban corridor with high pedestrian activity. (photo is East Grand River Avenue, East Lansing, Michigan)



PROJECT DETAILS

This US 15-501 Corridor Study Report Summary, is meant to provide an overview of the corridor study. For more detailed information on the study process, recommendations, and implementation plan please visit the project website: https://reimagining15501.com/

For more information on the study, please visit:

Durham-Chapel Hill-Carrboro MPO

http://www.dchcmpo.org/

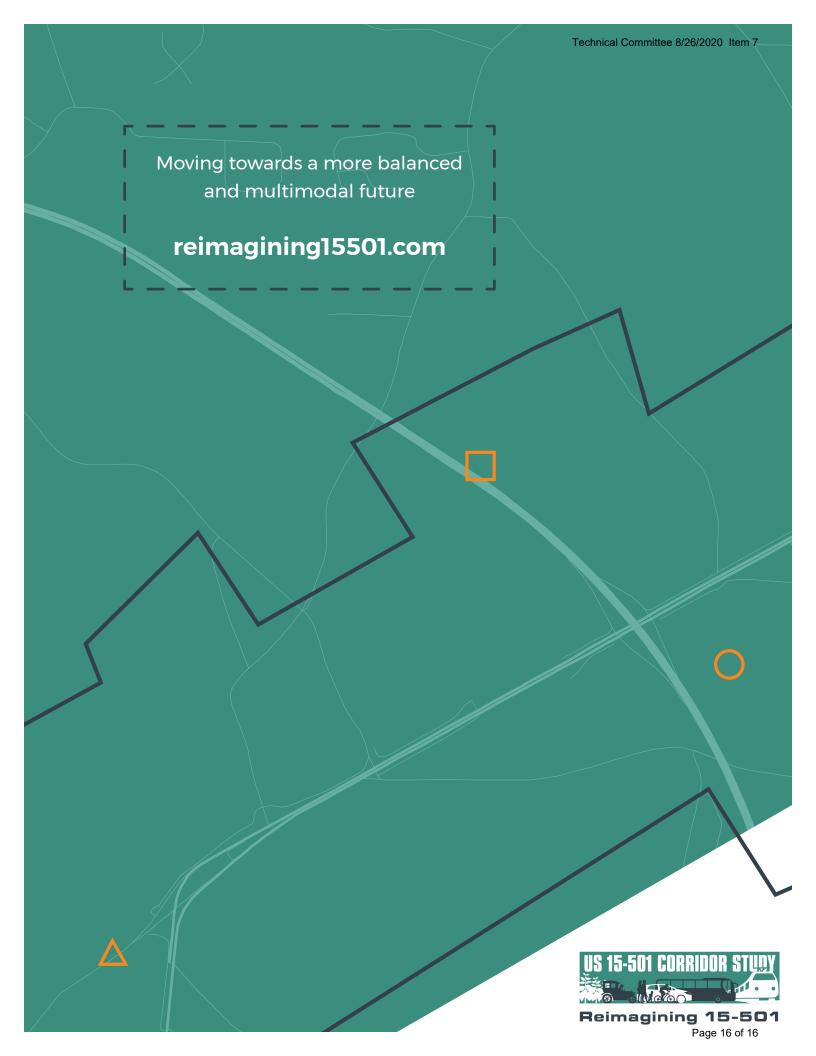
Or visit the project website

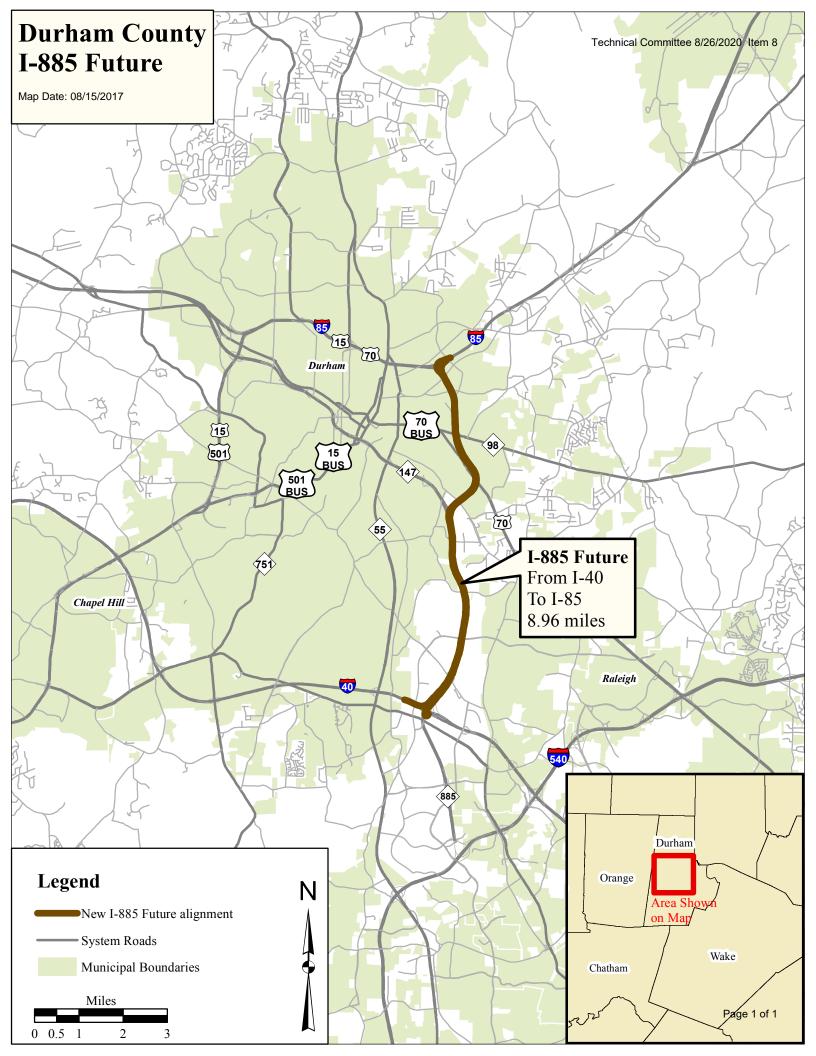
https://reimagining15501.com/

For additional comments, please contact:

Andy Henry

andrew.henry@durhamnc.gov





RESOLUTION TO APPROVE THE ROUTING OF I-885 AND REMOVE NC 147 DESIGNATION FROM I-40 TO THE EAST END CONNECTOR INTERCHANGE UNDER THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION TIP PROJECT U-0071

September 9, 2020

A motion was made by	and seconded by		
for adoption of the following	resolution, and upon being put to a vote was duly adopted.		
-	oel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) transportation decision-making body for the DCHC MPO, as and		
WHEREAS, the DCHC MPO 2045 Metropolitan Transportation Plan (MTP) and the FY 2020-2029 Transportation Improvement Program (TIP) meet the planning requirements of 23 CFR Part 134; and			
WHEREAS, TIP project U-007	1 establishes I-885 from I-40 to I-85 in Durham County; and		
	runs along a section of the I-885 project from I-40 to the new East and NCDOT proposes to remove the NC 147 designation along this 85; and		
WHEREAS, NC 147 will rema	in from the new East End Connector interchange westward to I-85;		
Organization approves the ro	that the Durham-Chapel Hill-Carrboro Metropolitan Planning outing of I-885 and the removal of NC 147 designation from I-40 to interchange, as approved by the Board on this, the 9th day of		
	Wendy Jacobs, MPO Board Chair		
Durham County, North Carol	ina		
I certify that Wendy Jacobs p she signed the forgoing docu	ersonally appeared before me this day acknowledging to me that ment.		
Date: September 9, 2020			
	Fraderick Prize Phodes Notary Public		
	Frederick Brian Rhodes, Notary Public My commission expires: May 10, 2025		

MEMORANDUM OF AGREEMENT

THIS MEMORANDUM OF AGREEMENT, is made by and between the DURHAM-CHAPEL HILL-CARRBORO METROPOLITAN PLANNING ORGANIZATION (hereinafter, "MPO"), the NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (hereinafter, "NCDOT"), the NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (hereinafter, "NCDEQ"), the UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (hereinafter, "USEPA"), the FEDERAL HIGHWAY ADMINISTRATION (hereinafter, "FHWA"), the FEDERAL TRANSIT ADMINISTRATION (hereinafter, "FTA"), and collectively referred to hereinafter as the Parties.

RECITALS

WHEREAS, the Parties enter into this Memorandum of Agreement (hereinafter, "MOA" or "Agreement") for the purpose of implementing interagency consultation procedures for developing a State Implementation Plan (hereinafter, "SIP") and/or revisions, regional emissions budget comparisons and conformity determinations of Metropolitan Transportation Plans (hereinafter, "MTP"), Metropolitan Transportation Improvement Programs (hereinafter, "TIPs"), and Regionally Significant Projects (hereinafter, "RSP");

WHEREAS, the Parties enter into this Agreement in accordance with Section 176(c)(4)(E) of the Clean Air Act (hereinafter, "CAA"), as amended (42 USC 7401 et seq.) with respect to the conformity of MTPs, TIPs and FHWA/FTA projects, which are developed, funded or approved by the United States Department of Transportation (hereinafter, "USDOT") and by the MPO or other recipients of funds under Title 23 USC, or the Federal Transit Act (49 USC Chapter 53), and Title 15A North Carolina Administrative Code (hereinafter, "NCAC"), Subchapter 02D, Section .2000, relating to nonattainment and maintenance areas;

WHEREAS, the MPO desires to comply with the aforementioned federal laws and regulations and parallel state and local laws and regulations by preparing, modifying and evaluating MTPs and TIPs (which may include RSPs) in accordance with the SIP and in order to preserve the integrity of the SIP;

WHEREAS, NCDOT desires to comply with the aforementioned federal laws and regulations and parallel state and local laws and regulations by assisting the MPO in its conformity determination in accordance with the State Transportation Plan and State Transportation Improvement Program (hereinafter, "STIP") and in order to preserve the integrity of the SIP;

WHEREAS, NCDEQ desires to assist the MPO in its compliance with the aforementioned federal requirements and must enforce applicable state environmental laws and regulations regarding air quality;

WHEREAS, USEPA desires to effectively enforce the relevant federal laws and regulations regarding air quality and compliance with SIP requirements;

WHEREAS, FHWA desires to effectively enforce and administer the relevant aforementioned federal laws and regulations regarding metropolitan and statewide transportation planning and transportation conformity;

WHEREAS, FTA desires to effectively enforce and administer the relevant aforementioned federal laws and regulations regarding metropolitan and statewide transportation planning and transportation conformity; and

WHEREAS, the Parties wish to work together to perform the duties imposed upon them by law and to coordinate among themselves for efficient and thorough planning for air quality in the geographic area included within the MPO.

THEREFORE, in consideration of these conditions and for good and valuable consideration and the benefits flowing to the Parties from each other, the receipt of which is hereby acknowledged, and in further consideration of the mutual covenants, terms, conditions, and restrictions hereinafter set forth, the Parties hereby agree as follows:

PURPOSE

The purpose of this MOA is to satisfy the requirement in CAA Section 176(c)(4)(E) to create a state conformity SIP containing the following three requirements of the Federal Transportation Conformity Rule, 40 CFR Part 93, Subpart A: (1) 40 CFR 93.105, which addresses consultation procedures; (2) 40 CFR 93.122(a)(4)(ii), which states that conformity SIPs must require written commitments to control measures to be obtained prior to a conformity determination if the control measures are not included in an MPO's transportation plan and TIP, and that such commitments be fulfilled; and (3) 40 CFR 93.125(c), which states that conformity SIPs must require written commitments to mitigation measures to be obtained prior to a project-level conformity determination, and that project sponsors comply with such commitments.

1.0 <u>DEFINITIONS</u>

- 1.1 "Conformity" -- refers to the status of transportation plans, programs and projects within a region designated as nonattainment or maintenance for transportation-related pollutants, as to whether they comply with air emission levels and standards required by existing state and/or federal implementation plans for that region.
- 1.2 "Consultation" -- means when one Party confers with another identified Party, prior to any final decision, provides all information necessary to that Party needed for meaningful input, and considers and responds to the views of that Party in a timely and written manner.
- 1.3 "Interagency Consultation Conformity Determination Meeting" -- refers to a meeting called by the MPO or its designee and open to all Parties, designed to establish agreed upon procedures, protocols, and schedules for conducting a conformity analysis and determination.
- 1.4 "Metropolitan Transportation Plan" (MTP) -- means the official multimodal transportation plan addressing no less than a 20-year planning horizon that the MPO develops, adopts, and updates through the metropolitan transportation process.

- 1.5 "Transportation Improvement Program" (TIP) -- means a prioritized listing/program of transportation projects that are developed and formally adopted by the MPO as part of the metropolitan planning process, consistent with the MTP pursuant to 23 CFR, Part 450, and required for projects to be eligible for funding pursuant to Title 23 USC and 49 USC Chapter 53.
- "State Implementation Plan" (SIP) -- means documents, including, but not limited to, State adopted regulations, attainment demonstrations, and maintenance plans, submitted by North Carolina to, and approved by, the USEPA, or the most recent revision thereof, in accordance with Sections 110, 301(d), and 175(A) of the CAA (42 USC 7410, 7601, and 7505(a)) and regulations promulgated by USEPA pursuant to the provisions of those Sections.
- 1.7 "Statewide Interagency Consultation Meetings" (SICM) -- refers to regularly scheduled informational meetings, sponsored by NCDEQ to which all Parties are invited, including all MPOs and Regional Planning Organizations throughout the State, which are required to have air quality conformity determinations pursuant to Title 15A NCAC Subchapter 02D, Section .2000.
- "Statewide Transportation Improvement Program" (STIP) -- means a statewide prioritized listing/program of transportation projects that is consistent with the long-range statewide transportation plan, the MTP, TIPs, and required for projects to be eligible for funding pursuant to Title 23 USC and Title 49 USC Chapter 53.
- 1.9 "Timely" -- means within the timeframe agreed to in the schedule set at the Interagency Consultation Conformity Determination Meeting(s).
- **1.10** "Transportation Providers" -- means public agencies that provide transportation services to the public, these agencies are publicly owned and operated.
- **1.11** "Parties" -- means representatives from all signatory agencies to this Agreement.
- 1.12 "Transportation Control Measures" (TCMs) -- are strategies that are specifically identified and committed to in SIPs; and are either listed in Section 108 of the CAA, or will reduce transportation-related emissions by reducing vehicle use or improving traffic flow.
- 1.13 All other terms used herein but not defined in this Agreement shall have the meaning given to them by the CAA, Title 23 and 49 USC 40 CFR 93.101, other USEPA regulations, other USDOT regulations, or 15A NCAC 02D.

2.0 **DUTIES OF THE PARTIES**

The roles and responsibilities of each Party are defined below:

- 2.0.1 Each Party member shall determine which staff members will represent the Party in the conformity process and shall take responsibility to see that the appropriate representatives are available to ensure a cooperative process and adequate communication among the Parties. Each Party shall choose its representative(s) and at least one alternate staff person for interagency consultation and provide their names and contact information to NCDEQ. It is the responsibility of each Party to notify NCDEQ of changes in their appointed designee(s) or contact(s).
- 2.0.2 All Parties shall review and provide comments to the MPO on draft MTPs, TIPs, and conformity analyses. All Parties shall review and provide comments to NCDEQ on draft SIP submissions. All Parties shall review and provide comments to NCDOT and/or local project sponsors on project-level conformity determination prepared during the National Environmental Policy Act (NEPA) process for FHWA/FTA projects located in the MPO jurisdiction. Parties shall provide their written review comments, if any, to these agencies within twenty-one (21) days of receipt of draft documents unless an alternate deadline has been agreed upon at an interagency consultation meeting. The MPO, NCDEQ, or NCDOT, as appropriate, shall respond in writing to all Parties to explain how comments were addressed or why they were not addressed in the subsequent version of the document that is distributed to all Parties.

2.1 MPO DUTIES

- 2.1.1 The MPO, or its designee, shall sponsor the Interagency Consultation Conformity Determination Meetings and prepare meeting agendas and meeting materials required for fulfillment of consultation procedures outlined in this Agreement. Any adjacent MPO will be invited to this meeting for purposes of coordination and consultation.
- 2.1.2 The MPO, or its designee, shall prepare meeting summaries and conclusions of said Interagency Consultation Conformity
 Determination Meetings and other appropriate meetings it sponsors.
 The MPO, or its designee, shall provide meeting summaries and conclusions to all Parties within a timely manner not to exceed fourteen (14) days after the meeting. The other Parties may provide comments on meeting summaries/conclusions to the MPO within a timely manner not to exceed fourteen (14) days, copying other Parties. The MPO, or its designee, shall respond to comments from Parties in writing in a timely manner not to exceed fourteen (14) days of receiving comments. The MPO's response to comments shall be distributed to all Parties.
- 2.1.3 The MPO shall consult with the Parties on the development process for MTPs, TIPs, and amendments thereto. This process will begin no later than one year prior to when the conformity determination is needed.

- 2.1.4 Notification of the MTP and TIP revisions and amendments that add or delete non-exempt projects.
- 2.1.5 Before the MPO conducts conformity analyses and determinations, as initiated under the terms and conditions of this Agreement, the MPO, or its designee, shall initiate and facilitate an Interagency Consultation Conformity Determination Meeting with all Parties on proposed procedures and protocol for conducting and performing conformity analysis prior to making a conformity determination. This meeting will take place preferably one year prior to, but no less than 9 months before the determination is needed.
- 2.1.6 The MPO, NCDOT, or its designee, shall conduct project-level conformity analysis for MPO-sponsored projects as part of the NEPA process for FHWA/FTA projects located in the MPO boundary. The MPO does not have to make project-level conformity determinations.
- 2.1.7 The MPO, or its designee, shall provide information requested by other Parties to track the implementation of TCMs funded by the MPO, or local municipalities, and included in the SIP by the dates agreed to in the Interagency Consultation Conformity Determination Meeting.
- 2.1.8 The MPO shall be responsible for development and maintenance of the travel demand model for the MPO area in consultation with the Parties. The MPO may delegate such responsibility to a third party through an agreement with NCDOT and/or neighboring MPOs and associated transportation agencies to develop a regional travel demand model. Any Party delegating responsibility to a third party shall notify the third party, in writing, that all documentation is subject to the applicable public records law. Responsibility for development and maintenance of a regional travel demand model should be established through a separate memorandum of agreement between the affected MPOs, NCDOT, and associated transportation agencies.
- 2.1.9 Upon written request by the Parties, the MPO, or its designee, shall provide all Parties with available travel data needed to determine various transportation emissions budgets, if they are responsible for this data.
- 2.1.10 The MPO, or its designee, shall assist NCDEQ and NCDOT as needed for modifications or revisions to the SIP, which includes the assessment of effectiveness of existing TCMs and implementation of potential TCMs for inclusion in the SIP, and providing critical input to the SIP development process, such as vehicle miles traveled (VMT) and speed assumptions for various road classifications.

- 2.1.11 The MPO, or its designee, shall submit concurrently, upon completion, a draft and/or final MTP and/or TIP document and related conformity determination to the NCDOT, NCDEQ, and FHWA. FHWA will coordinate the federal review effort and will forward the documents to FTA and USEPA unless an alternate coordination process is specified through interagency consultation. The MPO shall respond in writing to comments made by the other Parties on draft documents.
- 2.1.12 The MPO shall maintain procedures for public involvement in the conformity determination process consistent with its adopted Public Involvement Procedures including receiving and responding to public input on conformity findings, consistent with 23 CFR 450.316(a) and 40 CFR 93.105(e).
- 2.1.13 The MPO, or its designee, shall submit a written request for emissions modeling results required for conformity determinations to NCDEQ or its designee, and shall provide vehicle speed, VMT, and other data necessary to generate the emissions modeling results.
- 2.1.14 Enforceability of design concept and scope and project-level mitigation and control measures.
 - 2.1.14.1 Prior to making a conformity determination on the MTP and/or TIP, the MPO will ensure any project-level mitigation or control measures are included in the project design concept and scope and are appropriately identified in the regional emissions analysis used in the conformity analysis.
 - 2.1.14.2 The MPO shall fulfill commitments made for mitigation measures that were required for facilitating positive conformity determinations.
 - 2.1.14.3 Written commitments to mitigation measures must be obtained prior to a positive conformity determination, and project sponsors and/or operators must comply with the agreed upon commitment obligations (in accordance with 40 CFR 93.122(a)(4)(ii)).

2.2 NCDEQ DUTIES

- 2.2.1 NCDEQ shall maintain a list of current interagency consultation members and distribute it to all members whenever a change in membership occurs.
- 2.2.2 NCDEQ shall participate in the Interagency Consultation Conformity Determination Meetings, sponsor the SICM meeting, and other appropriate committees/meetings established to advise the Parties on SIP and emissions control strategies and programs particularly as these relate to transportation issues.

- 2.2.3 NCDEQ shall participate in consultations with the Parties regarding the development process for MTPs, TIPs, and amendments thereto.
- 2.2.4 NCDEQ shall participate in the development and review of transportation system and emissions modeling activities and projection procedures to ensure consistency of air quality and transportation system evaluations.
- 2.2.5 NCDEQ shall ensure the SIP is developed using appropriate emissions and control measures. NCDEQ is to develop the applicable motor vehicle emissions budgets in consultation with the Parties to ensure that accurate and up-to-date data assumptions are being used at the initial phases of the development of the SIP by the deadline established by NCDEQ during the consultation process. NCDEQ shall update the SIP consistent with federal CAA requirements.
- 2.2.6 NCDEQ shall provide applicable transportation-related emission budgets and revisions to the NCDOT, MPO, and USDOT (FHWA and FTA).
- 2.2.7 NCDEQ shall keep the Parties apprised of its SIP revision submittals and USEPA's approval thereof and provide for and respond in writing to comments made by the MPO and NCDOT and the other Parties in transportation-related SIP development processes.
- 2.2.8 NCDEQ shall obtain MPO and NCDOT approval for the inclusion of transportation-related TCMs (for any TCM funded by the federal and state transportation budgets or local funds and where the implementing agency is the MPO) in the SIP.
- 2.2.9 NCDEQ shall provide a list of TCMs included in the SIP as well as their SIP implementation schedules at the Interagency Consultation Conformity Determination Meeting.
- 2.2.10 Upon initiating a modification or revision to the SIP, NCDEQ shall consult with NCDOT and the MPO, which will include the assessment of effectiveness of existing TCMs and implementation of potential TCMs for inclusion in the SIP. Additionally, NCDEQ will consult with NCDOT and the MPO about what critical transportation-related inputs for the SIP development process should be used, such as VMT and speed assumptions for various road classifications. A draft version of the SIP will be shared with the Parties, at a minimum, thirty (30) days prior to the end of the public comment period.
- 2.2.11 NCDEQ shall consult and review project narratives provided by NCDOT or appropriate project sponsor to determine if the project is an air quality concern pursuant to 40 CFR, Part 93.

- 2.2.12 NCDEQ at the written request of NCDOT or the MPO, shall provide appropriate emissions modeling results to NCDOT or the MPO for completion of the conformity analysis. NCDEQ shall provide a schedule for completion of work within two (2) business days of the written request. NCDEQ shall consult with NCDOT and/or the MPO for the availability and appropriate use of local data in the latest USEPA-approved emissions model.
- 2.2.13 NCDEQ shall review and provide comments to the MPO on draft conformity analyses. NCDEQ shall provide timely review comments to the MPO within twenty-one (21) days of receipt for inclusion in the final report in accordance with the terms and conditions of this Agreement.

2.3 NCDOT DUTIES

- 2.3.1 NCDOT shall participate in the SICM, Interagency Consultation Conformity Determination Meeting(s), and other appropriate committees/meetings established to discuss with the Parties on the development of a revised statewide transportation plan, including programs and projects.
- 2.3.2 NCDOT shall consult with the Parties to develop the STIP and amendments thereto. Furthermore, NCDOT shall keep the Parties apprised of the status and content of statewide transportation plans and the STIP.
- 2.3.3 NCDOT shall consult with the Parties to develop MTPs, TIPs, and amendments thereto by the dates agreed to in the Interagency Consultation Conformity Determination Meeting.
- 2.3.4 NCDOT shall participate in the development and review of transportation system emissions modeling activities and projection procedures to ensure consistency of air quality and transportation system evaluations.
- 2.3.5 NCDOT shall review and provide comments to the MPO on draft conformity analyses by the dates agreed upon in the Interagency Consultation Conformity Determination Meeting unless NCDOT has authored said conformity analysis report.
- 2.3.6 NCDOT shall also provide information requested by other Parties to track the implementation of TCMs included in the SIP by the dates agreed to in the Interagency Consultation Conformity Determination Meeting.
- 2.3.7 NCDOT shall assist NCDEQ and the MPOs as needed for modifications or revisions to the SIP, which will include the assessment of effectiveness of existing TCMs and implementation of potential TCMs for inclusion in the SIP.

- 2.3.8 NCDOT shall conduct project level conformity analysis for NCDOT sponsored projects as part of the NEPA process for FHWA/FTA projects located in the MPO boundary.
- 2.3.9 Enforceability of design concept and scope and project-level mitigation and control measures.
 - 2.3.9.1 The NCDOT shall obtain written commitments from the project sponsor and/or operator to fulfill and complete all of the projects and operations identified by the project-level NEPA mitigation or control measures with respect to local hot-spot analysis.
 - 2.3.9.2 The NCDOT shall fulfill commitments made for mitigation measures that were required for facilitating positive conformity determinations.
 - 2.3.9.3 Written commitments to mitigation measures must be obtained prior to a positive conformity determination, and project sponsors and/or operators must comply with the agreed upon commitment obligations.

2.4 FHWA and FTA (USDOT) DUTIES

- 2.4.1 FHWA and FTA shall consult with the Parties regarding the SICM, the Interagency Consultation Conformity Determination Meetings, and other appropriate committees/meetings established to advise the Parties on the development of transportation plans, programs, and projects, particularly as these relate to air quality-related issues.
- 2.4.2 FHWA and FTA shall advise the Parties of changes to USDOT technical, regulatory, and policy guidance as it relates to the planning process and conformity.
- 2.4.3 FHWA and FTA shall assist NCDEQ, NCDOT, and the MPOs as needed for modifications or revisions to the SIP, which will include the assessment of effectiveness of existing TCMs and implementation of potential TCMs for inclusion in the SIP.
- 2.4.4 FHWA and FTA shall assess the MPO's compliance with public participation policy and procedures that meet the requirements of 23 CFR 450.316(a) and 40 CFR 93.105(e).
- 2.4.5 FHWA and FTA shall provide written comments to the other Parties concerning both draft and final conformity findings in accordance with the terms of this Agreement. The final conformity finding made by FHWA shall be consistent with the requirements of the national conformity memorandum of understanding.

- 2.4.6 FHWA shall review and provide timely approval or rejection, in writing, of the final conformity determination report by the MPO of an amended and/or adopted transportation plan, program, or project subject to conformity analysis and determination according to this Agreement by the dates agreed to in the Interagency Consultation Conformity Determination Meetings.
- 2.4.7 The FHWA will coordinate the federal review effort and will forward copies of the draft or final MTP and/or TIP document and related conformity determination to the FTA and USEPA unless an alternate coordination process is specified through interagency consultation.
- 2.4.8 In accordance with 40 CFR 93.125(c), prior to making a project-level conformity determination for a transportation project, FHWA must obtain from the project sponsor and/or operator written commitments, as defined in 40 CFR 93.101, to implement any project-level mitigation or control measures in the construction or operation of the project identified as conditions for NEPA process completion. The written commitments to implement those project-level mitigation or control measures must be fulfilled by the appropriate entities.
- 2.4.9 FHWA shall be responsible for final approval or rejection of project-level conformity determinations on FHWA projects.

2.5 USEPA DUTIES

- 2.5.1 USEPA shall participate in the SICM, the Interagency Consultation Conformity Determination Meetings, and other appropriate committees/meetings established to advise the Parties on the development of transportation plans, programs, and projects, particularly as these relate to air quality-related issues.
- 2.5.2 USEPA shall, in a timely fashion, advise the Parties of changes to USEPA policy, regulation, and guidance related to air quality and conformity.
- 2.5.3 USEPA shall review and comment, in writing to FHWA and the MPO, on draft and final conformity analyses in accordance with the terms of this Agreement and consistent with the requirements of the national conformity memorandum of understanding within twenty-one (21) days of receipt.
- 2.5.4 USEPA shall assist NCDEQ, NCDOT, and the MPOs as needed for modifications or revisions to the SIP, which will include the assessment of effectiveness of existing TCMs and implementation of potential TCMs for inclusion in the SIP.

- 2.5.5 USEPA shall review the adequacy of the motor vehicle emissions budgets, and determine the approvability determination of submitted SIPs, including the Conformity SIP (the subject of this MOA) and any subsequent revisions, and of control strategy SIPs and any revisions. USEPA's determination of approvability shall be published in the Federal Register.
- 2.5.6 USEPA shall be consulted with and will review compliance for hotspot requirements related to individual FHWA/FTA projects and provide comment in writing.

3.0 <u>CONTENT AND SUBMISSION OF TRANSPORTATION PLANS. PROGRAMS.</u> <u>AND PROJECTS</u>

3.1 CONTENT AND DESIGN

The MTP/TIP, programs, and/or projects to be analyzed for conformity shall meet the requirements of the current federal transportation authorizing legislation, and the most current USDOT and USEPA regulations. At the time that a new or revised transportation plan is proposed, the MPO, in cooperation with NCDOT and local transportation planning agencies, shall prepare a list of new or modified transportation projects and services included in the transportation plan and identify the time frame each new project or service is expected to become operational.

3.2 PUBLIC PARTICIPATION

Conformity determinations for MTP and TIPs shall follow the specific public involvement process established by the MPO, consistent with the requirements of 23 CFR, Part 450, which provides opportunity for public review and comment prior to formal action on a conformity determination. The public review must provide reasonable public access to technical and policy information considered by the affected parties in making the conformity determination.

Conformity determinations in rural portions of nonattainment and maintenance areas outside and adjacent to the MPO boundaries shall follow the specific public involvement process established by NCDOT, consistent with the requirements of 23 CFR, Part 450, which provides opportunity for public review and comment prior to formal action to update the STIP.

Any charges imposed for public review and copying should be consistent with applicable fee schedules including but not limited to 49 CFR 7.43 and North Carolina General Statute 132-6.2.

4.0 STATEWIDE INTERAGENCY CONSULTATION MEETINGS

NCDEQ shall sponsor a SICM meeting on a regular basis for the purpose of keeping all Parties and all MPOs abreast of new information concerning transportation planning generally and as it relates to conformity analysis and determination.

4.1 MEETING FREQUENCY

SICM shall be held monthly unless otherwise agreed upon by all Parties. Meeting dates shall be determined by NCDEQ after consultation with the Parties. The meeting shall consist of updates and other pertinent information provided by each Party.

4.2 SPECIAL MEETINGS

If NCDEQ determines, in consultation with other Parties, a need for an unscheduled SICM meeting and there is a consensus among the Parties to have an unscheduled meeting, NCDEQ must provide prior notice to all Parties, at least fourteen (14) days in advance of the meeting. However, the Parties may waive the fourteen (14) day advance notice requirement if all Parties agree that an earlier scheduled meeting is in the best interest of the Parties.

4.3 MEETING LOCATION AND AGENDA

The SICM meeting location shall be determined based upon convenience and agreement by the Parties. NCDEQ shall provide all Parties, including all Statewide MPOs, advanced notice of the meeting time, location, and agenda. If necessary and convenient, the SICM meeting need not be a face-to-face meeting but may occur by telephone, video, or some other practical electronic means.

4.4 DISCUSSION OF SIP-RELATED ISSUES

NCDEQ shall use the SICM meeting as an opportunity to update the Parties on SIPs under development and SIP revisions submitted to USEPA. NCDEQ shall allow the Parties to review and comment on transportation-related SIP issues and respond to said comments. See Section 2.0.2 for the general process for commenting and responding to comments.

5.0 INITIATING CONFORMITY DETERMINATIONS OR ANALYSIS

The Parties shall make conformity determinations and consultations consistent with this Agreement and in accordance with the conditions described in 40 CFR, Part 93 for MTPs, TIPs, and FHWA/FTA projects.

5.1 EXEMPTIONS TO CONFORMITY DETERMINATIONS

- 5.1.1 Notification of Exempt Status Required --The MPO shall notify the Parties of adoption or approval of projects determined to be exempt by the MPO and provide a basis for such exempt status. Notification by the MPO shall also be made when the MTP or TIP is revised to add or delete exempt projects as defined in 40 CFR 93.126, 93.127, and 93.128. Notification of deleted projects does not have to be made prior to an MPO action.
- 5.1.2 Objection to Exempt Determination -- If the Parties disagree with the MPO's finding that the amendment to the MTP or TIP contains only exempt projects, the objecting Party shall notify all Parties in writing. See Section 9.0 for conflict resolution procedures.

6.0 <u>INTERAGENCY CONSULTATION CONFORMITY DETERMINATION MEETING</u>

When the need for conformity analysis and determination is initiated in accordance with this Agreement and aforementioned regulations, the MPO, or its designee, shall call an Interagency Consultation Conformity Determination Meeting to which all Parties of this Agreement shall be invited by the MPO, or its designee. The Interagency Consultation Conformity Determination Meeting shall be held prior to performing any conformity analysis or determination and shall address the specific processes outlined in 40 CFR 93.105(c). The purpose is to coordinate early with the Parties on information regarding the choice of some major parameters of the conformity analysis and to determine the schedule of preparation and review of the analysis. All of the information agreed upon by the Parties will be documented in the pre-analysis plan. If during the meeting a conflict arises, the Parties shall follow the conflict resolution procedures as outlined in Section 9.0 of this document.

6.1 NOTICE OF MEETING

The MPO, or its designee, shall provide at least fourteen (14) days prior written notice to the Parties that an Interagency Consultation Conformity Determination Meeting has been scheduled. Said prior notice shall also be given to local transportation providers represented by the MPO. However, the Parties may waive the fourteen (14) day advance notice requirement if all Parties agree that an earlier scheduled meeting is in the best interest of the Parties.

6.2 MEETING PLACE, TIME AND AGENDA

The meeting shall be scheduled at a time and location that allows representatives from the Parties to participate. The MPO, or its designee, shall distribute to the Parties draft agenda and meeting materials at least five (5) business days prior to the meeting. The Parties shall have the opportunity to add agenda items and will be responsible for presenting them. If it is agreed among the Parties that additional meetings are required the MPO, or its designee, may schedule such additional meetings.

Attendance at the Interagency Consultation Conformity Determination Meeting may be by telephone or teleconference so long as all the Parties agree. If some Parties are unable to attend the Interagency Consultation Conformity Determination Meeting(s), the MPO or its designee shall consider whether meaningful consensus can be reached with the available Parties. If the MPO or its designee determines the overall Party representation to be adequate, it shall document the meeting and provide all Parties with a summary of the important discussions and conclusions.

6.3 CONSULTATION ON CONFORMITY ANALYSIS APPROACH

The MPO, or its designee, shall outline, in the pre-analysis plan, the proposed methodologies to be used in the conformity analysis and share the pre-analysis plan with the Parties for comment at least seven (7) days prior to the meeting unless otherwise agreed upon by all Parties.

- 6.3.1 <u>Interagency Consultation Procedures</u> -- The issues listed in 40 CFR 93.105(c) shall be reviewed and discussed at this meeting, including but not limited to, the following activities:
 - 6.3.1.1 Evaluating and choosing an appropriate model (or models) and associated methods and assumptions to be used in hot-spot analyses and regional emissions analyses;
 - 6.3.1.2 Determining which minor arterial and other transportation projects should be considered RSPs for the purpose of regional emissions analysis, (in addition to those functionally classified as principal arterials or higher or fixed guideway systems or extensions that offer an alternative to regional highway travel);
 - 6.3.1.3 Evaluating whether projects otherwise exempted from meeting the requirements of 40 CFR 93.126 and 93.127 should be treated as non-exempt in cases where potential adverse emissions impacts may exist;
 - 6.3.1.4 Discussing whether or not adopted TCMs are on schedule and performing as anticipated, as required by 40 CFR 93.113. If TCMs are not on schedule, Parties shall discuss whether 40 CFR 93.113(c)(1) can be met and what will occur if 40 CFR 93.113(c)(1) cannot be met;
 - 6.3.1.5 Choosing conformity tests and methodologies for areas outside the MPO boundary but within the nonattainment or maintenance area as required by 93.109(g)(2)(iii);
 - 6.3.1.6 Consulting on emissions analysis for transportation activities which cross MPO, nonattainment area, or air basin boundaries;
 - 6.3.1.7 For the metropolitan planning area that does not include the entire nonattainment or maintenance area, the MPO and NCDOT will work to provide cooperative planning and analysis for the purposes of determining conformity of all projects outside the metropolitan area and within the nonattainment or maintenance area through interagency consultation meetings;

- 6.3.1.8 Ensuring that plans for construction of RSPs, that are not FHWA/FTA projects, are disclosed to the MPO on a regular basis and any changes to those plans disclosed in writing to the MPO;
- 6.3.1.9 NCDOT and the MPO, or its designee, will consult on the design, schedule and funding of research and data collection efforts and regional transportation model development through interagency consultation meetings;
- 6.3.1.10 As defined in Section 2.1.10, the MPO, or its designee will provide final documents and supporting information to each applicable Party after adoption or approval;
- 6.3.1.11 Latest planning assumptions for developing emissions modeling results for the conformity analysis;
- 6.3.1.12 Projects without a determined design concept and scope shall be discussed at the Interagency Consultation Conformity Determination Meeting; and
- 6.3.1.13 Parties must agree on sufficient details of the design concept and scope for the project to be included in the conformity analysis and determination.
- 6.3.2 TCM Analysis and Implementation -- The Interagency Consultation Conformity Determination Meeting shall be used for assuring implementation of TCMs, which shall be a joint responsibility of NCDEQ, the MPO, and NCDOT. NCDEQ shall submit (at the Interagency Consultation Conformity Determination Meeting) a list of the TCMs and their implementation schedules included in the applicable SIP, to be included in the MTP or TIP.
- 6.3.3 Scheduling Implementation -- The MPO or its designee shall provide a list of transportation system elements from the most recent conforming MTP for inclusion in the current TIP to be completed in the time frame established in the MTP. NCDEQ or its designee (at the request of the MPO) shall provide the emissions modeling results to the MPO within a time agreed upon during the interagency consultations and to allow the MPO sufficient time to complete the conformity analysis on schedule. Additional meetings to address schedule changes or modifications shall be scheduled as needed. Due to the difficulty in assembling all Parties at one time, subsequent meetings may involve various subsets of the larger group. However, pertinent information discussed in these sub-meetings shall be shared with the other Parties as defined in Section 2.1.2.

6.3.4 <u>TIP Conformity Analysis and Determination</u> -- The MPO shall also discuss the TIP as it relates to conformity-related issues. If the TIP is a subset of a currently conforming MTP, the discussion of the TIP conformity analysis and determination may be made via e-mail or postal mail unless a Party member identifies sufficient reasons for including such discussions in a scheduled face-to-face meeting. If e-mail or postal mail is used, the MPO shall outline the manner in which the upcoming TIP conformity determination is to be carried out. The MPO shall inform the Parties of any proposed changes in procedure from the last TIP Conformity Analysis and Determination. The review and commenting procedures are outlined in Section 2.0.2.

7.0 CONFORMITY ANALYSIS RESULTS AND REPORTING

The draft conformity analysis report shall be circulated to the Parties defined during the Interagency Consultation Conformity Determination Meeting for their review prior to releasing said draft report for public review as required by Title 15A NCAC 02D .2003. After the Parties' twenty-one (21) day review period, or review period agreed upon by all Parties, the MPO shall provide public review and comments of the draft report in accordance with the MPO's public participation policies and procedures. The MPO shall not make a conformity determination or plan adoption or approval until after the agency review is completed or the required review period has ended and after public participation.

7.1 DOCUMENTATION OF CONFORMITY ANALYSIS

The conformity analysis shall document all assumptions and relevant information used to determine the impact of the MTP, TIP, or FHWA/FTA project on travel and emissions in the region.

<u>Contents of the Regional Conformity Analysis Report</u> -- The conformity analysis report shall include, but not be limited to, the following documentation:

- 7.1.1 Forecasts of population, households, and employment in the analysis shall be either mentioned or referenced in report;
- 7.1.2 Mobile model inputs and outputs used to develop road network emissions modeling results; and
- 7.1.3 VMT and average speed for each federal functional classification.

7.2 COMMENTS BY THE PARTIES AND THE PUBLIC

The Parties may comment upon the analysis results after receiving the results of the draft conformity analysis and report. The results shall also be made available to the public for review and comment in accordance with the MPO's public participation policy and procedures and 23 CFR 450.316(a) and 40 CFR 93.105(e).

- 7.2.1 Evaluation of Comments from the Public -- After the completion of the public comment period, the comments received from the public on the conformity analysis shall be addressed in the final report and may be raised in an additional meeting between the Parties.

 Comments may be addressed individually or in summary form at the discretion of the MPO.
- 7.2.2 Evaluation of Comments from the Parties -- If the Parties disagree with the conclusions of the analysis, the MPO shall convene a meeting or consult with the Parties via an electronic communication means (telephone, teleconference, e-mail, etc.) if agreed to by the Parties, to consider and discuss the comments and determine whether further conformity-related analysis is needed.

8.0 CONFORMITY DETERMINATION ADOPTED BY MPO RESOLUTION

The MPO may make a conformity determination and approval/adoption of the MTP, TIP, RSP, or applicable transit project after addressing conformity-related objections and concerns raised by both the public and the Parties.

8.1 NOTIFICATION OF MPO RESOLUTION

The MPO shall provide FHWA and NCDOT with written notification of a conformity determination by MPO resolution within the time period agreed upon during interagency consultation meetings. The MPO shall include, along with the notification, a copy of the final conformity analysis and report. FHWA will be responsible for distribution of the final conformity analysis and report to the USEPA and FTA for formal review.

8.2 NCDEQ OBJECTION TO CONFORMITY DETERMINATION

If NCDEQ objects to the MPO's conformity determination, NCDEQ may appeal the MPO determination within fourteen (14) days of receiving notification of the MPO's determination. The appeal process and procedure to be followed shall be in accordance with the Conflict Resolution Section of this Agreement. Notwithstanding NCDEQ's right of appeal, NCDEQ may waive its right to object, in writing, at any time during the fourteen (14) day appeal period.

8.3 USDOT REJECTION OF CONFORMITY DETERMINATION

USDOT may reject the MPO determination within forty-five (45) days of receiving notification of the MPO's determination. The MPO may appeal the rejection to the Secretary of the USDOT. If no written approval or rejection has been received from USDOT after forty-five (45) days, the Secretary of NCDOT, the Chairperson of the MPO or the Secretary of NCDEQ may provide a written request of review by the Secretary of the USDOT seeking a resolution among the FHWA and FTA. The rejection of conformity determination and appeal procedure and process shall be in accordance with the Conflict Resolution Section of this Agreement.

9.0 CONFLICT RESOLUTION

The purpose of this Agreement is to ensure that necessary conformity analyses and determinations are made efficiently and with limited conflict. The Parties believe this Agreement establishes a means and protocol for consultation and document review that will avoid conflicts and disagreements among the Parties regarding final conformity determinations. Nevertheless, a means must be established to address the possibility that certain conflicts may arise that cannot be resolved among the designated representatives of the Parties. It is the purpose of this Section to address such situations.

9.1 RESOLUTION OF CONFLICTS AT THE STATE LEVEL

- 9.1.1 Conflicts Arising Prior to Conformity Determination -- Any conflict or disagreement between NCDOT, NCDEQ, and the MPO causing a lack of consensus among the state Parties as to acceptance of MPO conformity analysis may be resolved in the manner described below. If NCDOT or NCDEQ objects to the proposed conformity analysis prior to the MPO making a conformity determination by resolution, the issue may be resolved by the following procedure:
 - 9.1.1.1 **Level I Resolution** -- After the objecting Party gives five (5) days written notice to the other Party members explaining the reasons for objection, each staff level Party member shall forward written objections to the Level I Resolution Negotiators who are defined as follows:

NCDOT-- the Transportation Planning Division Director NCDEQ -- the Division of Air Quality Director MPO -- the Chair of Technical Coordinating Committee or his or her designee.

The Level I Resolution negotiators shall have five (5) business days, from notice, to resolve the matter by mutually agreed upon meeting forum, including, but not limited to, face-to-face meetings, telephone, and e-mail.

9.1.1.2 **Level II Resolution** -If the Level I Resolution

Negotiators are unable to resolve the dispute, it may be raised to Level II Resolution negotiators who are defined as follows:

NCDOT -- The Secretary of the NCDOT NCDEQ -- The Secretary of NCDEQ MPO -- the Chair of the MPO or his/her designee.

The Level II Resolution Negotiators shall have ten (10) business days to resolve the matter by mutually agreed upon meeting forum, including, but not limited to face-to-face meetings, telephone, and e-mail.

- 9.1.2 Conflicts Arising After MPO Regional Conformity Determination After the MPO has made its conformity determination by resolution and adoption/approval, NCDEQ may appeal said conformity determination by resolution and adoption/approval to the Governor of North Carolina within fourteen (14) days of confirmation that NCDEQ received notice. If NCDEQ appeals to the Governor, the final conformity analysis and determination must have the concurrence of the Governor of North Carolina. NCDEQ shall provide written notice of appeal under this Subsection to the Chairperson of the MPO, the Secretary of NCDOT, the FHWA North Carolina Division Administrator, and the USEPA and FTA Region 4 Administrators. Notwithstanding NCDEQ's right of appeal, if NCDEQ supports the final conformity determination, NCDEQ may voluntarily waive its right of appeal, in writing.
 - 9.1.2.1 **Resolution of NCDEQ Appeal** --The Governor may delegate his or her role in this appeals process to another official or agency within the State, but not to the head or staff of NCDEQ, NCDOT, MPO, the North Carolina Board of Transportation, or any agency that has responsibility for any one of these functions.

If the NCDEQ does not appeal to the Governor within fourteen (14) days of the MPO's notification of conformity on the MTP or TIP, the MPO may continue submission of its conformity determination to USDOT for their final review and conformity determination. The MPO does not have to make conformity determinations on projects.

9.2 RESOLUTION OF CONFLICTS AT THE FEDERAL LEVEL

It is the affirmative responsibility of FHWA and FTA to raise issues prior to the end of any agreed upon review period. If FHWA or FTA determines there is a significant issue, it is that agency's affirmative responsibility to arrange a meeting with the Parties to resolve the issue prior to writing negative comments or finding that the MTP or TIP in question does not conform to the intent of the SIP.

If, after the fourteen (14) day prior notice of the MPO's final conformity determination by resolution and approval/adoption, NCDEQ has not appealed said final conformity determination (or waived it's right to appeal earlier), FHWA and FTA may provide written approval or rejection of the final conformity determination within forty-five (45) days of notice of the final conformity determination.

9.2.1 Consensus Among Federal Agencies -- If, within the forty-five (45) day period the FHWA and FTA are in disagreement over the approval or rejection of the conformity determination, the FHWA and FTA may escalate the conflict among their respective agencies in an attempt to resolve the issue within the forty-five (45) days' time period.

- 9.2.2 <u>Rejection by the Federal Agencies</u> -- If the FHWA and FTA reject the conformity determination, the MPO, NCDOT, or NCDEQ may appeal said rejection to the Secretary of USDOT.
- 9.2.3 No Action after Forty-Five (45) Days -- If after forty-five (45) days, no written approval or rejection has been provided from FHWA and FTA, the Secretary of NCDOT, the Chairperson of the MPO, or the Secretary of NCDEQ may provide a written request of review by the Secretary of the USDOT seeking a resolution among the FHWA and FTA.

10.0 MODIFICATIONS OF AGREEMENT

- 10.1 The Parties may propose revision(s) to this MOA, and request that Parties meet to consider such a revision. A change in duties will require this MOA to be reviewed.
- 10.2 The NCDEQ may make administrative amendments if necessary to preserve the accuracy and integrity of this MOA. The following administrative amendments shall not require the Parties to sign a new MOA:
 - 10.2.1 Change information that is readily available to the public, such as when an organization or position is renamed;
 - 10.2.2 Correct a citation to a referenced law or regulation when the citation has become inaccurate because of the repeal or reorganization of the cited text; or
 - 10.2.3 Correct a typographical error.

If an administrative amendment is made, documentation of the change shall be submitted to each of the Parties. If no Party provides objections to the revision within twenty-one (21) days of receipt, the revised Agreement shall be adopted as final.

If a Party provides objections to the administrative amendment within twenty-one (21) days of receipt, the NCDEQ shall attempt to resolve the issue. If consensus cannot be obtained by the Parties, the revised Agreement shall not be adopted as final.

11.0 SAVINGS PROVISIONS AND OTHER

- 11.1 This MOA does not change any of the requirements and obligations contained in any existing law or regulation, including but not limited to CAA, transportation conformity regulations (40 CFR, Parts 51 and 93), NEPA, or 15A NCAC. In the event of conflict between the provisions of this Agreement and an existing regulatory provision, the regulatory provision shall prevail.
- Upon its execution by the Parties this MOA supersedes any and all previous Agreements between the signatories with respect to matters addressed herein.
- 11.3 This MOA does not create any, nor does it affect any existing, administrative or judicial right of the Parties.
- 11.4 If any provision of this MOA is rendered or declared invalid by any final court action or decree, or by reason of preemptive legislation, the remaining Sections of this MOA shall remain in full force and effect for the duration of the MOA.
- Unless otherwise specified, in computing any period of time prescribed or allowed in this MOA, Rule 6 "Time" of the North Carolina Rules of Civil Procedure shall apply.

	WHEREOF, the parties ha	EMENT on this
MPO		
Ву:		
Name:		
Title:		

	HEREOF, the parties ha		EMENT on this
NCDOT		, v - v -	
Ву:			
Name:			
Title:			

	WHEREOF, the parties ha	EMENT on this
NCDEQ		
Ву:		
Name:		
Title:		

IN WITNESS V	VHEREOF, the parties ha	ve executed this AGREEM	ENT on this
the	day of	, 2020.	
USEPA			
Ву:			
Name:			
Title:			

IN WITNESS V	VHEREOF, the parties ha	ve executed this AGREEME	NT on this
the	day of	, 2020.	
FHWA			
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FTA		,	
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Air Quality Memorandum of Agreement (MOA)

Summary of Changes (September 2020)

In accordance with Clean Air Act (CAA) Section 176(c), the DEQ chose through rulemaking in 15A NCAC 02D .2005, *Memorandum of Agreement*, to develop transportation conformity Memorandum of Agreements (MOAs) to ensure that interagency consultation procedures for transportation conformity are followed in each of the State's maintenance areas pursuant to 40 Code of Federal Regulations (CFR) 93.105. The MOA outlines the responsibilities and processes that each signatory entity will follow to ensure that transportation plans conform to the emissions budgets set forth in North Carolina's State Implementation Plan (SIP). The existing MOAs were approved by the United States Environmental Protection Agency (EPA) into the SIP effective February 24, 2014 (78 FR 78266). Once the EPA approved the MOAs into the SIP, the MOAs remain in effect until the State revises the MOAs and EPA approves the revisions into the SIP. The DEQ initiated the process for renewing the MOA to fulfill the duties outlined in Section 10.1 of the existing MOA.

Below is a summary of the revisions made to all MOAs during this renewal cycle:

- 1. Updated the DEQs name;
- 2. Updated cross-references and definitions;
- 3. Revised "Long Range Transportation Plan" to "Metropolitan Transportation Plan";
- 4. Revised "emissions factors" to "emissions modeling results";
- 5. Updated the inputs needed to generate emissions modeling results;
- 6. Revised conformity determination timelines concurrent with current practices;
- 7. Added a duty to conduct project-level conformity analyses as a part of the National Environmental Policy Act process for MPO-sponsored federal projects. The introduced language originated from Section 2.1.6 of the Capital Area MOA and should have been incorporated into the MPOs duties for all other MOAs during the last revision cycle. Project-level conformity is required for all areas that are nonattainment/maintenance; however, the language was inserted to reduce the likelihood that a MOA would need to be revised in the unlikely event that the attainment status for the carbon monoxide (CO) or particulate matter (PM) National Ambient Air Quality Standards (NAAQS) changes. However, if the attainment status changes, the project sponsor would be responsible for conducting a hot-spot analysis (i.e. modeling runs) for these pollutants. As of now, no action is needed for this MOA provision since all areas of the State are attaining the CO and PM NAAQS.
- 8. Removed the term "particulate matter" under the DEQs duties for determining whether a project is an air quality concern since the MOA incorporates 40 CFR, Part 93, by reference and for the fact that 15A NCAC 02D .2000, *Transportation Conformity*, specifies the specific provisions to follow for particulates;
- 9. Added language in the "Modifications of Agreement" Section allowing the DEQ to make administrative amendments; and
- 10. Removed the "Termination and Renewal" Section to reduce the administrative burden for renewing the MOAs with each Party and completing a formal SIP revision on a cyclical basis.

The EPA designated the Triangle area "attainment" with the 1997 8-hour ozone NAAQS on December 26, 2007. The area will remain under a maintenance plan through December 26, 2027. Currently, the MPO is required to complete "short form" conformity for the 1997 8-hour ozone NAAQS. The TJCOG has coordinated the conformity process for the Triangle region over the last decade. In addition, it is important to have a formal consultation process in place for contingency purposes, should the area be designated for a future NAAQS.

2020 Program of Projects (FFY19 and FFY20 funds) - Section 5310 Grant

Program of Projects: Section 5310 FTA Grant Program

FTA/TrAMS Project ID: 1060-2018-1 (draft ID)

MPO Approval Date	Subrecipient / Type of Agency	Project Name	Description of the Service / Location of Service	Project Type	Total Cost	Local Share	Federal Share	% Federal	Point of Contact
Total Fed	eral Share Non-T	Traditional Proje	ect: \$152,035 (28.7% of Apportioned Federal Share)						
9.9.20	Chapel Hill Transit Public Transit	ADA Bus Stop Review and Design	The project will review existing busstops in Chapel Hill and Carrboro for compliance with ADA and provide all necessary design work to make stops more accessible for seniors and persons with disabilities. Location: Orange County	Operating	\$ 40,550	\$ 20,275	\$ 20,275	50%	Brian Litchfield 919-969-4908 6900 Millhouse Rd, Chapel Hill, NC 27516
9.9.20	Chapel Hill Transit Public Transit	EZ Rider Senior Shuttle	Chapel Hill Transit (CHT) will provide feeder service to the elderly and disabled population in the Chapel Hill/Carrboro area with the CHT EZ Rider Senior Shuttle service. Location : Orange County	Operating	\$ 263,520	\$ 131,760	\$131,760		Brian Litchfield 919-969-4908 6900 Millhouse Rd, Chapel Hill, NC 27516
Total Fed	eral Share Tradi	tional Projects:	\$334,200 (62.3% of Apportioned Federal Share)						
9.9.20	GoDurham Public Transit	GoDurham ACCESS ADA trips beyond 3/4 mile	The project will purchase service for passengers who are eligible for ADA services but reside outside the 3/4 mile ADA service area of GoDurham. Location: Durham County	Capital	\$ 125,000	\$25,000	\$100,000	80%	Pierre Osei-Owusu, 919-560-1535, 101 City Hall Plaza, Durham NC, 27701
9.20.20	Durham County Access Public Transit	GO' Durham County Access	The project will purchase demand-response service for residents of Durham County to destinations for health and health-related, work and personal needs. Location: Durham County	Capital	\$ 125,000	\$25,000	\$100,000	80%	Pierre Osei-Owusu, 919-560-1535, 101 City Hall Plaza Durham, NC 27701
9.9.20	Orange County Dept. on Aging Local Government Agency	Orange County STEAMM	The project will support an aging-related mobility manager responsible for educating older adults about public transportation systems, expand and manage a volunteer driver program, and purchase service from transportation operators to provide better access to community services. Location: Orange County	Capital	\$ 167,750	\$33,550	\$134,200		Alison Smith 919-245-4275, 2551 Homestead Rd., Chapel Hill, NC 27516
Admin is	8.1% of Apportion	ed Federal Share							Felix Nwoko.
9.9.20	DURHAM MPO Government	DCHC MPO- wide Admin.	Administration of the 5310 program Location: Orange, Durham, & Chatham Counties	Admin.	\$ 42,915	N/A	\$42,915	100%	919-560-4366, 101 City Hall Plaza, Durham, NC, 27701

Totals: \$ 764,735 | \$235,585 | **\$529,150**

2020 Program of Projects (FFY19 and FFY20 funds) - Section 5310 Grant

MEMORANDUM

To: DCHC MPO Board

From: DCHC MPO Lead Planning Agency

Date: August 12, 2020

Subject: Lead Planning Agency (LPA) Synopsis of Staff Report

This memorandum provides a summary status of tasks for major DCHC MPO projects in the Unified Planning Work Program (UPWP).

• Indicates that task is ongoing and not complete.

✓ Indicates that task is complete.

<u>Major UPWP – Projects</u>

Comprehensive Transportation Plan (CTP) – Amendment #2

- Release Amendment #2 for public comment September 2020
- Public hearing for Amendment #2 October 2020
- Adopt Amendment #2 November 2020

2050 Metropolitan Transportation Plan (MTP)

- Approve Public Engagement Plan August 2020
- Approve Goals and Objectives August 2020
- Approve land use model and Triangle Regional Model for use in 2050 MTP January 2021
- Release Deficiency Analysis April 2021
- Release Alternatives Analysis for public comment June 2021
- Release Preferred Option for public comments September 2021
- Adopt 2050 MTP and Air Quality Conformity Determination Report March 2021

Triangle Regional Model Update

- ✓ Completed
- Rolling Household Survey nearing completion

Prioritization 6.0 - FY 2023-2032 TIP Development

- ✓ LPA Staff develops initial project list March-April 2019
- ✓ TC reviews initial project list May 2019
- ✓ Board reviews initial project list (including deletions of previously submitted projects) June 2019
- ✓ SPOT On!ine opens for entering/amending projects October 2019
- ✓ MPO submits carryover project deletions and modifications December 2019
- ✓ Board releases draft SPOT 6 project list for public comment February 2020
- ✓ Board holds public hearing on new projects for SPOT 6 March 2020
- ✓ Board approves new projects to be submitted for SPOT 6 March 2020
- ✓ MPO submits projects to NCDOT July 2020

- LPA updates local ranking methodology August 2020
- Board approves local ranking methodology Fall 2020
- MPO applies local ranking methodology for Regional projects Winter 2021
- Board releases MPO initial Regional points list for local input/public comments March 2021
- Approval of Regional Impact points April 2021
- MPO applies local ranking methodology for Division projects Summer 2021
- Board releases MPO initial Division points list for local input/public comments September 2021
- Approval of Division Needs points October 2021
- Draft STIP Released February 2022
- Board of Transportation adopts FY2023-2032 STIP June 2022
- MPO Board adopts FY2023-2032 MTIP September 2022

US 15-501 Corridor Study

- ✓ 3rd public workshop: evaluate alternative strategies October 2019
- Stakeholder meetings to discuss Chapel Hill cross-section, northern quadrant road, New Hope Commons access ongoing
- 4th alternative for Chapel Hill cross-section September 2020
- MPO Board approval of final plan Fall 2020

Regional Intelligent Transportation System

- ✓ Project management plan
- ✓ Development of public involvement strategy and communication plan
- ✓ Conduct stakeholder workshops
- Analysis of existing conditions
- Assessment of need and gaps
- Review existing deployments and evaluate technologies
- Identification of ITS strategies
- Update Triangle Regional Architecture
- Develop Regional Architecture Use and maintenance
- Develop project prioritization methodology
- Prepare Regional ITS Deployment Plan and Recommendation

Project Development/NEPA

- US 70 Freeway Conversion
- NC 54 Widening
- NC 147 Interchange Reconstruction
- I-85
- I-40

Safety Performance Measures Target Setting

- ✓ Data mining and analysis
- ✓ Development of rolling averages and baseline
- ✓ Development of targets setting framework
- ✓ Estimates of achievements
- Forecast of data and measures

GIS Online (AGOL)/Data Management

- ✓ MPO Interactive GIS/Mapping Continuous/On-going
- ✓ Development of public portals for MPO applications Continuous/On-going
- ✓ Maintenance and updates Continuous/On-going
- ✓ Development of open data Continuous/On-going

MPO Website Update and Maintenance

- ✓ Post Launch Services Continuous/On-going
- ✓ Interactive GIS Continuous/On-going
- ✓ Facebook/Twitter management Continuous/On-going
- ✓ Enhancement of Portals Continuous/On-going

Upcoming Projects

- Mobility Report Card
- Congestion Management Process (CMP)
- State of Systems Report

ProgLoc Search Page 1 of 2

Technical Committee 8/26/2020 Item 13

Contract Number: C202581 Route: SR-1838 Division: 5 County: Durham TIP Number: EB-4707A

Length: 0.96 miles Federal Aid Number: STPDA-0537(2) NCDOT Contact: James M. Nordan, PE NCDOT Contact No: (919)220-4680

Location Description: SR-1838/SR-2220 FROM US-15/501 IN ORANGE COUNTY TO SR-1113 IN DURHAM COUNTY.

Contractor Name: S T WOOTEN CORPORATION

Contract Amount: \$4,614,460.00

Work Began: 05/28/2019 Letting Date: 04/16/2019

Original Completion Date: 02/15/2021 **Revised Completion Date:**

Latest Payment Thru: 07/07/2020

Latest Payment Date: 07/23/2020 Construction Progress: 10.52%

Contract Number: C203394 Route: I-885, NC-147, NC-98

US-70

Division: 5 County: Durham

TIP Number: U-0071

Federal Aid Number: Length: 4.009 miles

NCDOT Contact: Cameron D. Richards NCDOT Contact No: (919)835-8200

Location Description: EAST END CONNECTOR FROM NORTH OF NC-98 TO NC-147 (BUCK DEAN FREEWAY) IN DURHAM.

Contractor Name: DRAGADOS USA INC Contract Amount: \$141,949,500.00

Work Began: 02/26/2015 Letting Date: 11/18/2014 Original Completion Date: 05/10/2020 Revised Completion Date: 12/05/2020

Latest Payment Thru: 07/22/2020

Latest Payment Date: Construction Progress: 91.13%

Contract Number: C203567 Route: NC-55 Division: 5 County: Durham

TIP Number: U-3308

Federal Aid Number: STP-55(20) Length: 1.134 miles NCDOT Contact: James M. Nordan, PE NCDOT Contact No: (919)220-4680

Location Description: NC-55 (ALSTON AVE) FROM NC-147 (BUCK DEAN FREEWAY) TO NORTH OF US-70BUS/NC-98 (HOLLOWAY ST).

Contractor Name: ZACHRY CONSTRUCTION CORPORATION

Contract Amount: \$39,756,916.81

Work Began: 10/05/2016 Letting Date: 07/19/2016 Revised Completion Date: 02/11/2021 Original Completion Date: 03/30/2020

Latest Payment Thru: 07/15/2020

Latest Payment Date: 07/29/2020 Construction Progress: 71.64%

Contract Number: C204211 Route: I-40, I-85, NC-55

NC-98, US-15, US-501

US-70

County: Durham Division: 5

TIP Number: U-5968

Length: 0.163 miles Federal Aid Number: STBG-0505(084) NCDOT Contact: James M. Nordan. PE NCDOT Contact No: (919)220-4680

Location Description: CITY OF DURHAM.

Contractor Name: BROOKS BERRY HAYNIE & ASSOCIATES, INC.

Contract Amount: \$19,062,229.77

Work Began: 02/18/2020 Letting Date: 04/16/2019 Revised Completion Date: 04/09/2025 Original Completion Date: 08/01/2024

Latest Payment Thru: 06/30/2020

Latest Payment Date: 07/23/2020 Construction Progress: 10.03%

Contract Number: C204256 Route: NC-98, SR-1800, SR-1809

SR-1811, US-70

Division: 5 County: Durham **TIP Number:**

Federal Aid Number: STATE FUNDED Length: 15.89 miles

Location Description: 1 SECTION OF US-70, 1 SECTION OF NC-98, AND 3 SECTIONS OF SECONDARY ROADS.

Contractor Name: CAROLINA SUNROCK LLC

Contract Amount: \$3,782,133.02

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Work Began: 03/13/2020
Original Completion Date: 11/30/2019
Latest Payment Thru: 07/22/2020
Latest Payment Date:

Letting Date: 10/16/2018 Revised Completion Date: 07/15/2021

Construction Progress: 38.1%

Project ID	Description	R/W Acq Beings	Let Type	P Let Date	Let Date	Project Manager	Current Project Status	Shelved Status	Shelved Date	ROW \$	CONST \$ COMMENTS
17BP.5.R.83	BRIDGE 84 OVER CHUNKY PIE CREEK ON SR 1815		Division POC Let (DPOC)		03/13/30	Lisa Gilchrist					
17BP.5.R.134	BRIDGE 82 OVER LICK CREEK ON SR 1815 (N MINERAL SPRINGS ROAD)		Division POC Let (DPOC)		08/09/28	Lisa Gilchrist					
17BP.5.R.133	BRIDGE 49 OVER ENO RIVER ON SR 1401 (COLE MILL ROAD)		Division POC Let (DPOC)		07/26/28	Lisa Gilchrist					
17BP.5.R.126	BRIDGE 262 OVER A CREEK ON SR 1607 (BAHAMA ROAD)		Division POC Let (DPOC)		03/10/27	Lisa Gilchrist					
17BP.5.R.97	BRIDGE 89 OVER LICK CREEK ON SR 1902		Division POC Let		10/26/22	Lisa Gilchrist					
SM-5705I	Construct Left Turn Lane on US 15/501 Southbound Ramp at US 70 Bus (Hillsborough Road)		Division POC Let (DPOC)		04/27/22	Stephen Davidson					\$350,000 Letting delayed due to cash balance shortfall.
SM-5705X	Construct Turn Lanes at Intersection of US 15/501 Northbound and SR 1317 (Morreene Road)		Division POC Let (DPOC)		04/27/22	Stephen Davidson					\$550,000 Letting delayed due to cash balance shortfall.
SM-5705AA	Construct Right Turn Lane on US 15/501 Southbound Exit Ramp at SR 1317 (Morreene Road)		Division POC Let (DPOC)		04/27/22	Stephen Davidson					\$600,000 Letting delayed due to cash balance shortfall.
U-5774B	NC 54 FROM US 15/US 501 IN ORANGE COUNTY TO SR 1110 (BARBEECHAPEL ROAD) IN DURHAM COUNTY	10/18/24	Raleigh Letting (LET)	06/16/26	10/17/28	PAM R. WILLIAMS				\$11,000,000	\$30,900,000
U-5774C	NC 54 FROM SR 1110 (BARBEE CHAPEL ROAD) TO I-	10/18/24	Raleigh Letting (LET)	06/16/26	10/17/28	PAM R. WILLIAMS				\$3,000,000	\$23,700,000
U-5774F	NC 54 FROM I-40/NC 54 INTERCHANGE	10/18/24	Raleigh Letting	10/20/26	10/17/28	PAM R. WILLIAMS				\$54,800,000	\$39,300,000
U-6067	US 15/US 501 DURHAM COUNTY FROM I-40 TO US 15/US 501 BUSINESS IN DURHAM UPGRADE CORRIDOR TO EXPRESSWAY.	02/21/25	Raleigh Letting (LET)	02/16/27	07/18/28	PAM R. WILLIAMS				\$55,000,000	\$140,300,000
U-5720A	US 70 (MIAMI BLVD) FROM LYNN ROAD TO SR 1959 (SOUTH MIAMI BOULEVARD/SR 1811 (SHERRON ROAD)	12/15/23	Raleigh Letting (LET)	03/19/24	10/20/26	PAM R. WILLIAMS				\$35,800,000	\$57,000,000
U-5720B	US 70 (MIAMI BLVD) AT SR 1959 (SOUTH MIAMI BOULEVARD)/SR 1811 (SHERRON ROAD)INTERSECTION	12/15/23	Raleigh Letting (LET)	03/19/24	10/20/26	PAM R. WILLIAMS				\$17,321,000	\$25,300,000
U-5937	NC 147 DURHAM FREEWAY, DURHAM COUNTY FROM SR 1127 (WEST CHAPEL HILL STREET) TO BRIGGS AVENUE IN DURHAM. CONSTRUCT AUXILIARY LANES AND OPERATIONAL IMPROVEMENTS.	10/14/22	Raleigh Letting (LET)	03/21/23	10/20/26	PAM R. WILLIAMS				\$10,202,000	\$47,001,000
P-5706	NORFOLK SOUTHERN H LINE, EAST DURHAM RAILROAD SAFETY PROJECT. PROJECT WILL STRAIGHTEN EXISTING RAILROAD CURVATURE BETWEEN CP NELSON AND CP EAST DURHAM AND INCLUES A COMBINATION OFGRADE SEPARATIONS AND CLOSURES AT ELLIS ROAD SOUTH END CROSSING (734737A), GLOVER ROAD (734735L), AND WRENN ROAD (734736	02/28/21	Raleigh Letting (LET)		01/20/26	BRADLEY SMYTHE				\$9,000,000	\$33,173,000

Project ID	Description	R/W Acq Beings	Let Type	P Let Date	Let Date	Project Manager	Current Project Status	Shelved Status	Shelved Date	ROW \$	CONST \$	COMMENTS
I-6006	I-40 DURHAM/WAKE COUNTIES FROM NC 54 (EXIT 273) TO SR 1728 (WADE AVENUE). CONVERT FACILITY TO A MANAGED FREEWAY WITH RAMP METERING AND OTHER ATM / ITS COMPONETS.	01/21/25	Design Build Let (DBL)		01/21/25	PAM R. WILLIAMS				\$20,000	\$54,530,000	
I-5941	I-85 FROM ORANGE COUNTY LINE TO US 15 /US 501 IN DURHAM PAVEMENT REHABILITATION		Division Design Raleigh Let (DDRL)	12/19/23	12/17/24	CHRISTOPHER A. HOFFMAN					\$2,973,000	
I-5942	I-85 /US 15 FROM NORTH OF SR 1827 (MIDLAND TERRACE) IN DURHAM COUNTY TO NORTH OF NC 56 IN GRANVILLE COUNTY PAVEMENT REHABILITATION		Division Design Raleigh Let (DDRL)	12/19/23	12/17/24	CHRISTOPHER A. HOFFMAN					\$8,357,000	
B-5674	REPLACE BRIDGE 80 OVER SR 1308 IN DURHAM ON US 15-501 NORTHBOUND	09/16/22	Raleigh Letting (LET)		01/16/24	KEVIN FISCHER				\$110,000	\$2,209,000	
U-5934	NC 147 FROM I-40 TO FUTURE I-885(EAST END CONNECTOR)IN DURHAM ADD LANES AND REHABILITATE PAVEMENT	10/17/23	Design Build Let (DBL)	02/15/22	10/17/23	PAM R. WILLIAMS				\$2,148,000	\$177,100,000	
EB-5835	NC 55 (ALSTON AVE.) FROM SR 1171 (RIDDLE RD.) TO CECIL STREET IN DURHAM. CONSTRUCT SIDEWALK ON EAST SIDE TO FILL IN MISSING GAPS.	06/20/22	NON - DOT LET (LAP)		09/20/23	RAYMOND JOSEPH HAYES				\$50,000	\$525,000	
I-5707	I-40 - FROM NC 55 (ALSTON AVENUE) TO NC 147 (DURHAM FREEWAY/TRIANGLE EXPRESSWAY) IN DURHAM	10/16/20	Raleigh Letting (LET)		06/20/23	PAM R. WILLIAMS				\$323,000	\$7,600,000	
U-5516	AT US 501 (ROXBORO ROAD) TO SR 1448 (LATTA ROAD) / SR 1639 (INFINITY ROAD) INTERSECTION IN DURHAM. INTERSECTION IMPROVEMENTS.	04/16/21	Division Design Raleigh Let (DDRL)		05/16/23	JOHN W. BRAXTON JR		Shelved at Final Planning Document	09/30/19	\$6,501,430	\$12,400,000	Project is suspended due to cash balance shortfall.
U-5717	US 15 / US 501 DURHAM CHAPEL-HILL BOULEVARD AND SR 1116 (GARRETT ROAD) CONVERTING THE AT-GRADE INTERSECTION TO AN INTERCHANGE	04/23/19	Division Design Raleigh Let (DDRL)	04/20/21	04/18/23	JOHN W. BRAXTON JR		Shelved at R/W Plans Complete	09/30/19	\$53,500,000	\$32,000,000	ROW acquisition is suspended due to cash balance shortfall.
U-6021	SR 1118 (FAYETTEVILLE ROAD), FROM WOODCROFT PARKWAY TO BARBEE ROAD IN DURHAM. WIDEN TO 4-LANE DIVIDED FACILITY WITH BICYCLE / PEDESTRIAN ACCOMMODATIONS.	02/19/21	Division Design Raleigh Let (DDRL)		02/21/23	BENJAMIN J. UPSHAV	V			\$5,769,000	\$13,770,000	Project planning work was suspended in May.
I-5998	I-540 - DURHAM/WAKE COUNTIES FROM I-40 IN DURHAM TO US 70 IN RALEIGH. PAVEMENT REHABILITATION. COORDINATE WITH I-5999 &I-6000.		Division POC Let (DPOC)		01/25/23	CHRISTOPHER A. HOFFMAN					\$3,800,000	
W-5705AM	DURHAM TRAFFIC SIGNAL REVISIONS TO INSTALL "NO TURN ON RED"BLANK OUT SIGNS AT SIX LOCATIONS		Division POC Let (DPOC)		12/07/22	JEREMY WARREN					\$62,000	On hold due to cash balance shortfall. (Jeremy Warren is Project Manager)
W-5705S	US 15/501 AT NC 751 SOUTHBOUND ON RAMP - EXTEND RAMP		Division POC Let (DPOC)		09/21/22	STEPHEN REID DAVIDSON		Shelved at Final Planning Document	06/15/20		\$460,000	Letting delayed due to cash balance shortfall.
EB-5834	NC 157 / SR 1322 (GUESS RD.) FROM HILLCREST DRIVETO SR 1407(WEST CARVER STREET) IN DURHAM. CONSTRUCT SIDEWALKS ON BOTHSIDES.	06/30/21	NON - DOT LET (LAP)		09/20/22	RAYMOND JOSEPH HAYES				\$204,000	\$589,000	

Project ID	Description	R/W Acq Beings	Let Type	P Let Date	Let Date	Project Manager	Current Project Status	Shelved Status	Shelved Date	ROW \$	CONST \$ COMMENTS
EB-5904	DUKE BELT LINE TRAIL - PETTIGREW STREET TO AVONDALE STREET IN DURHAM, CONSTRUCT A MULTI-USE TRAIL ON FORMER RAIL CORRIDOR	09/04/18	NON - DOT LET (LAP)		07/14/22	RAYMOND JOSEPH HAYES				\$7,100,000	\$3,750,000
P-5717	NORFOLK SOUTHER H LINE CROSSING 734742W AT SR 1121 (CORNWALLIS ROAD) IN DURHAM. CONSTRUCT GRADE SEPARATION.	09/01/20	Raleigh Letting (LET)		06/21/22	KUMAR TRIVEDI				\$4,378,000	\$23,100,000
EB-5703	DURHAM - LASALLE STREET FROM KANGAROO DRIVE TO SPRUNT AVENUE IN DURHAM. CONSTRUCT SIDEWALKS ON BOTH SIDES FROM KANGAROODRIVE TO US 70 BUSINESS (HILLSBOROUGH ROAD) AND ON ONE SIDEFROM HILLSBOROUGH ROAD TO SPRUNT AVENUE.	09/30/19	NON - DOT LET (LAP)		05/31/22	RAYMOND JOSEPH HAYES				\$515,000	\$1,440,000
EB-5708	NC 54 FROM NC 55 TO RESEARCH TRIANGLE PARK WESTERN LIMIT INDURHAM CONSTRUCT SECTIONS OF SIDEWALK ON SOUTH SIDE	09/30/19	NON - DOT LET (LAP)		05/30/22	RAYMOND JOSEPH HAYES				\$177,000	\$491,000
W-5705T	SR 1815 / SR 1917 (SOUTH MINERAL SPRINGS ROAD) AT SR 1815 (PLEASANT DRIVE)	06/01/20	Division POC Let (DPOC)		04/13/22	STEPHEN REID DAVIDSON				\$85,000	\$800,000 PE work was suspended in May.
W-5705AI	US 501 BUSINESS (ROXBORO STREET) AT SR 1443 (HORTON ROAD) /SR 1641 (DENFIELD STREET)	01/30/21	Division POC Let (DPOC)		03/23/22	STEPHEN REID DAVIDSON				\$210,000	\$630,000 Project surveys requested.
I-6000	I-540 - DURHAM/WAKE COUNTIES FROM I-40 IN DURHAM TO US 1 INRALEIGH. BRIDGE PRESERVATION/REHABILITATION. COORDINATE WITH I-5998 & I-5999.		Division POC Let (DPOC)		01/26/22	CHRISTOPHER A. HOFFMAN					\$4,541,000
EB-5715	US 501 BYPASS (NORTH DUKE STREET) FROM MURRAY AVENUE TO US 501 BUSINESS (NORTH ROXBORO ROAD) IN DURHAM CONSTRUCT SIDEWALK ON EAST SIDE TO FILL IN EXISTING GAPS	01/31/20	NON - DOT LET (LAP)		01/21/22	RAYMOND JOSEPH HAYES				\$829,000	\$2,680,000
I-5993	I-40 - DURHAM COUNTY FROM US 15/US 501 TO EAST OF NC 147 (COMB W/I-5994).		Division Design Raleigh Let (DDRL)		01/18/22	CHRISTOPHER A. HOFFMAN					\$18,000,000 On hold due to cash balance shortfall.
I-5994	I-40 - DURHAM COUNTY FROM US 15/US 501 TO EAST OF NC 147 (COMB W/I-5993).		Division Design Raleigh Let (DDRL)		01/18/22	CHRISTOPHER A. HOFFMAN					\$9,100,000 On hold due to cash balance shortfall.
I-5995	I-40 - DURHAM/WAKE COUNTIES FROM EAST OF NC 147 TO SR 3015 (AIRPORT BOULEVARD). PAVEMENT REHABILITATION.		Division Design Raleigh Let (DDRL)		01/18/22	CHRISTOPHER A. HOFFMAN					\$5,272,000
U-4726HN	CONSTRUCT BIKE LANES/SIDEWALKS IN DURHAM - HILLANDALE ROAD	04/30/20	NON - DOT LET (LAP)		10/30/21	RAYMOND JOSEPH HAYES					\$2,860,000
C-4928	SR 1317 (MORREENE ROAD) FROM NEAL ROAD TO SR 1320 (ERWIN ROAD) IN DURHAM. CONSTRUCT BIKE LANES AND SIDEWALKS.	04/30/20	NON - DOT LET (LAP)		09/30/21	RAYMOND JOSEPH HAYES				\$7,000	\$5,783,000
EB-5720	BRYANT BRIDGE NORTH/GOOSE CREEK WEST TRAIL, NC 55 TO DREW-GRANBY PARK IN DURHAM. CONSTRUCT SHARED-USE PAHT AND CONNECTING SIDEWALKS.	09/30/20	NON - DOT LET (LAP)		09/30/21	RAYMOND JOSEPH HAYES				\$14,000	\$4,432,000

Project ID	Description	P/W Aca	Let Type	P Let Date	Lot Date	Project Manager	Current Project	Shelved Status	Shelved Date	ROW \$	CONST	COMMENTS
oject ib	Description	Beings	Let Type	r Let Date	Let Date	Froject Manager	Status	Sileiveu Status	Sherved Date	ROW \$	CONST	COMMENTS
4724	DURHAM - CORNWALLIS RD (SR 1158) FROM SR 2295 (SOUTH ROXBORO STREET) TO SR 1127 (CHAPEL HILL ROAD) IN DURHAM. BIKE AND PEDESTRIAN FEATURES.	09/30/20	NON - DOT LET (LAP)		09/30/21	RAYMOND JOSEPH HAYES					\$4,978,000	
4726HO	CARPENTER - FLETCHER ROAD BIKE - PED; CONSTRUCT BIKE LANES / SIDEWALKS (CITY MAINTAINED) FROM WOODCROFT PARKWAY (CITY MAINTAINED) TO ALSTON AVENUE (SR 1945).	03/31/20	NON - DOT LET (LAP)		09/30/21	RAYMOND JOSEPH HAYES					\$4,413,816	
5823	WOODCROFT PARKWAY EXTENSION. FROM SR 1116 (GARRETT ROAD) TONC 751 (HOPE VALLEY ROAD) IN DURHAM. CONSTRUCT ROADWAY ON NEW ALIGNMENT.	01/27/20	NON - DOT LET (LAP)		08/30/21	RAYMOND JOSEPH HAYES				\$421,000	\$1,798,000	
3-5704	DURHAM - RAYNOR STREET FROM NORTH MIAMI BOULEVARD TO NORTH HARDEE STREET	09/16/19	NON - DOT LET (LAP)		06/30/21	RAYMOND JOSEPH HAYES					\$510,000	
3-5837	THIRD FORK CREEK TRAIL FROM SOUTHERN BOUNDARIES PARK TO THEAMERICAN TOBACCO TRAIL IN DURHAM	06/30/20	NON - DOT LET (LAP)		06/30/21	RAYMOND JOSEPH HAYES				\$161,000	\$2,546,000	
/-5601EM	SR 1118 (FAYETTEVILLE ROAD) AT PILOT STREET AND CECIL STREET IN DURHAM		On Call Contract (OCC)		12/03/20	JEREMY WARREN					\$14,000	On hold due to cash balance shortfall.
-5705M	I-40 WESTBOUND AT NC 147 SAFETY IMPROVEMENTS (MP: 9.359 - 9.359)		On Call Contract (OCC)		10/07/20	JEREMY WARREN					\$80,000	On hold due to cash balance shortfall.
-5605E	DURHAM BIKE LANE STRIPING		NON - DOT LET (LAP)		09/10/20	RAYMOND JOSEPH HAYES					\$504,000	
-5605H	DOWNTOWN DURHAM WAYFINDING PROGRAM TO INSTALL SIGNS & KIOSKS TO FACILITATE NAVIGATION AND PARKING		NON - DOT LET (LAP)		09/10/20	RAYMOND JOSEPH HAYES					\$605,000	
-56051	NEIGHBORHOOD BIKE ROUTES IN CENTRAL DURHAM		NON - DOT LET (LAP)		09/10/20	RAYMOND JOSEPH HAYES					\$540,883	
′-5705U	US 70 BUSINESS (MORGAN STREET) AT CAROLINA THREATRE		On Call Contract (OCC)		09/04/20	JEREMY WARREN					\$20,000	On hold due to cash balance shortfall.
-5705V	NC 54 AT HUNTINGRIDGE ROAD		On Call Contract (OCC)		09/04/20	JEREMY WARREN					\$80,000	On hold due to cash balance shortfall.
C-5183B	SR 1945 (S ALSTON AVENUE) FROM SR 1171 (RIDDLE ROAD) TO CAPPS STREET. CONSTRUCT SIDEWALKS IN DURHAM		NON - DOT LET (LAP)		08/18/20	RAYMOND JOSEPH HAYES				\$99,000	\$706,000	

NCDOT DIV 7 PROJECTS LOCATED IN DCHCMPO - UNDER DEVELOPMENT Photocal Committee 8/26/2020 Item 13

TIP/WBS#	Description	LET/Start Date	Completion Date	Cost	Status	Project Lead
W-5707K 48283	Remove and replace existing curb & gutter and sidewalk, add pedestrian signals, concrete island, and signal modifications on SR 1010 (E. Main St / W. Franklin St) from Brewer Ln to Graham St. in Chapel Hill and Carrboro	5/31/2019	Jul. 2020	\$350,000	Construction - 100% complete, RTE final inspection pending	Chris Smitherman Derek Dixon
SM-5707H 48912.3.1	"To Pass Bicycles, 4 ft Min Clearance or Change Lane" sign installations on portions of no passing zones on SR 1107 (Hillsborough Road) and SR 1104 (Dairyland Road).	Oct. 2019	Jun. 2020	\$5,000	Signs installed 10/17/19 - 100% complete, RTE final inspection pending	Dawn McPherson
SS-6007C 48888.1.1 48888.3.1	Guardrail installation on NC 86 just north of SR 1839 (Alexander Drive).	Oct. 2020	Apr. 2021	\$50,400	Funds approved 9/5/19 but not released	Chad Reimakoski Derek Dixon
P-5701 46395.1.1 46395.3.1	Construct Platform, Passenger Rail Station Building at Milepost 41.7 Norfolk Southern H-line in Hillsborough	6/30/2021	FY2023	\$7,200,000	PE funding scheduled 7/1/2020, Coordinate with U-5848	Matthew Simmons
I-3306AB 34178.1.5 34178.2.4 34178.3.8	I-40 widening from NC86 to Durham Co. line (US 15/501 Interchange). Includes a portion of interchange improvements I-3306AC in Chapel Hill	3/15/2022	FY2024	\$37,635,000	Planning and design activities underway, Environmental document completed 3/21/19 under I-3306A, LET combined with I-3306AC and W-5707C	Laura Sutton
I-3306AC 34178.1.6 34178.2.5 34178.3.9	Interchange improvements at I-40 and NC86 in Chapel Hill	3/15/2022	FY2024	\$15,200,000	Planning and Design activities underway, Environmental document completed 3/21/19 under I-3306A, LET combined with I-3306AB and W-5707C	Laura Sutton
W-5707C 44853.1.3 44853.3.3 47490	Revise pavement markings and overhead lane use signs for removal of inside lane drop configuration on I-40 Westbound in vicinity of US 15-501 interchange in Chapel Hill . Resurfacing I-40 WB by use of contingency funds	3/15/2022	FY2022	\$425,000	No bids on most recent letting, LET combined with I-3306AB and AC	Chad Reimakoski
SS-4907CD 47936.1.1 47936.2.1 47936.3.1	Horizontal curve improvements on SR 1710 (Old NC 10) west of SR 1561/SR 1709 (Lawrence Road) east of Hillsborough. Improvements consist of wedging pavement and grading shoulders.	Jun. 2022	Nov. 2022	\$261,000	Planning and design activities underway	Chad Reimakoski

NCDOT DIV 7 PROJECTS LOCATED IN DCHCMPO - UNDER DEVELOPMENT Photocal Committee 8/26/2020 Item 13

TIP/WBS #	Description	LET/Start Date	Completion Date	Cost	Status	Project Lead
SS-6007E 49115.1.1 49115.3.1	All Way Stop installation and flashing beacon revisions at the intersection of SR 1005 (Old Greensboro Road) and SR 1956 (Crawford Dairy Road/Orange Chapel Clover Garden Road)	Jun. 2022	Sept. 2022	\$28,800	Funds approved 3/5/20 but not released	Dawn McPherson
R-5821A 47093.1.2 47093.2.2 47093.3.2	Construct operational improvements including Bicycle/Pedestrian accommodations on NC 54 from SR 1006 (Orange Grove Road) to SR 1107 /SR 1937 (Old Fayetteville Road).	6/21/2022	FY2024	\$3,194,000	Planning and design activities underway, coordinating with NC54 West Corridor Study	Chris Smitherman
I-3306AA 34178.1.4 34178.2.3 34178.3.7	I-40 widening from I-85 to NC86 in Chapel Hill	3/21/2023	FY2025	\$88,000,000	Planning and Design activities underway, Environmental document completed 3/21/19 under I-3306A	Laura Sutton
I-5958 45910.1.1 45910.3.1	Pavement Rehabilitation on I-40/I-85 from West of SR 1114 (Buckhorn Road) to West of SR 1006 (Orange Grove Road)		FY2025	\$7,455,000	Funding approved 10/10/17	Chris Smitherman
U-5845 50235.1.1 50235.2.1 50235.3.1	Widen SR 1009 (South Churton Street) to multi-lanes from I-40 to Eno River in Hillsborough	7/16/2024	FY 2027	\$39,390,000	Planning and Design activities underway, Coordinate with U-5848 and I-5967	Laura Sutton
I-5967 45917.1.1 45917.2.1 45917.3.1	Interchange improvements at I-85 and SR 1009 (South Churton Street) in Hillsborough	10/15/2024	FY2027	\$16,900,000	Planning and Design activities underway, Coordinate with I-0305 and U-5845	Laura Sutton
I-5959 45911.1.1 45911.3.1	Pavement Rehabilitation on I-85 from West of SR 1006 (Orange Grove Road) to Durham County line	11/19/2024	FY2026	\$11,155,000	Funding approved 10/10/17, Coordinate with I-5967, I-5984 and I-0305	Chris Smitherman
I-5984 47530.1.1 47530.2.1 47530.3.1	Interchange improvements at I-85 and NC 86 in Hillsborough	11/18/2025	FY2027	\$11,000,000	Planning and Design activities underway, Coordinate with I-0305 and I-5959	Laura Sutton
I-0305 34142.1.2 34142.2.2 34142.3.2	Widening of I-85 from west of SR1006 (Orange Grove Road) in Orange Co. to west of SR 1400 (Sparger Road) in Orange Co.	10/17/2028	FY2032	\$132,000,000	Planning and design activities underway, Project reinstated per 2020-2029 STIP (funded project) and delete project I-5983	Laura Sutton

North Carolina Department of Transportation

6/8/2020

Active Projects Under Construction - Orange Co.

Contract Number		Location Description	Contractor Name	Resident Engineer	Contract Bid Amount	Availability Date	Completion Date			Progress Schedule Percent	Completion Percent
C202581	EB-4707A	IMPROVEMENTS ON SR-1838/SR-2220 FROM US-15/501 IN ORANGE COUNTY TO SR-1113 IN DURHAM COUNTY. DIVISION 5	S T WOOTEN CORPORATION	Nordan, PE, James M	\$4,614,460.00	5/28/2019	2/15/2021	5/28/2019	2/15/2021	0	1.98
C204078	B-4962	REPLACE BRIDGE #46 OVER ENO RIVER ON US-70 BYPASS.	CONTI ENTERPRISES, INC	Howell, Bobby J	\$4,863,757.00	5/28/2019	12/28/2021	6/19/2019	12/28/2021	24	26.36
DG00393		RESURFACE FOLLOWING SR'S: SR 1101, SR 1118, SR 1119, SR 1124, SR 1125, SR 1127,SR 1128 SR 1130, SR 1134, SR 1135, SR 1137, SR 1141, SR 1143, ETC.	RILEY PAVING INC	Howell, Bobby J	\$1,084,520.40	4/2/2018	10/12/2018	6/18/2018	12/7/2018	100	99.97
DG00435		AST RETREATMENT ON 22 SECONDARY ROADS	WHITEHURST PAVING CO INC	Lorenz, PE, Kris	\$846,340.66	4/1/2019	10/11/2019	43977			
DG00445		INSTALLATION OF ADA COMPLIANT CURB RAMPS AT VARIOUS INTERSECTIONS	LITTLE MOUNTAIN BUILDERS OF CATAWBA COUNTY INC	Howell, Bobby J	\$319,319.80	6/25/2018	2/15/2020	8/6/2018	2/15/2020	100	92.94
DG00461		REHAB. BRIDGE #031 ON SR 1010 (E. FRANKLIN ST.) OVER BOLIN CREEK & BOLIN CREEK TRAIL	M & J CONSTRUCTION CO OF PINELLAS COUNTY INC	Howell, Bobby J	\$2,456,272.12	11/12/2018	7/15/2019	3/15/2019	11/26/2020	73.86	56.95
DG00462		REHAB. BRIDGES 264, 288, 260, 543 IN GUILFORD COUNTY AND BRIDGE 031 IN ORANGE COUNTY	ELITE INDUSTRIAL PAINTING INC	Snell, PE, William H	\$967,383.15	8/1/2019	1/1/2020				
DG00478		RESURFACE PORTIONS OF 41 SECONDARY ROADS IN ORANGE COUNTY	CAROLINA SUNROCK LLC	Hayes, PE, Meredith D	\$3,270,144.99	7/8/2019	10/30/2020	12/9/2019	10/30/2020	19.8	60.89
DG00483		RESURFACE SR 1010 (MAIN STREET/FRANKLIN STREET) FROM SR 1005 (JONES FERRY ROAD) TO NC 86 (COLUMBIA STREET)	CAROLINA SUNROCK LLC	Howell, Bobby J	\$845,631.59	5/18/2019	8/7/2020				
DG00485	U-5846	SR 1772 (GREENSBORO STREET) AT SR 1780 (ESTES DRIVE), CONSTRUCT ROUNDABOUT	FSC II LLC DBA FRED SMITH COMPANY	Howell, Bobby J	\$3,375,611.30	5/28/2019	3/1/2022	7/29/2019	6/10/2022	36	33.65

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	Chatham County - DCHC MPO - Upcoming Projects - Planning & Design, R/W, or not started - Division 8August 2020											
Contract # or WBS # or TIP # Route Description Let Date Completion Date Contractor Project Admin. STIP Project Cost Notes												
U-6192		Add Reduced Conflict Intersections - from US 64 Pitts. Byp to SR 1919 (Smith Level Road) Orange Co.	FY 2027	TBD		Greg Davis (910) 773-8022	\$45,640,000	Right of Way FY 2025				
R-5825	NC 751 at SR 1731 (O'Kelly Chapel Road)	Upgrade and Realign Intersection	11/8/2022	TBD	TBD	Greg Davis (910) 773-8022	\$759,000					