AGENDA
Orange Unified Transportation Board
April 17, 2013
7:00 p.m.

You can bring your laptops/tablets if you would like to use them.

Conference Room 004 (Lower Floor) Orange County West Campus
131 West Margaret Lane, Hillsborough

Time	Item	Page	Title
7:00	**1.**		**Call to Order and Roll Call**
7:05	**2.**		**Approval of Minutes**
		3-8	Minutes from February 20, 2013
		9-12	Minutes from March 20, 2013
7:08	**3.**		**Consideration of Additions to the Agenda**
7:10			**Regular Agenda**
	4.	**13-20**	a. Next Steps for Safe Routes to School (SRTS) Plan Adoption and Implementation. The Planning staff has received authorization from the BOCC to proceed with initial SRTS Action Plan adoption steps. Following adoption, the staff is recommending that the future SRTS Advisory Committee be a sub-committee of the OUTBoard, supplemented by additional staff as needed from the County, Orange County Schools, and the Town of Hillsborough.
			OUTBoard Action: To receive information in preparation for future OUTBoard role
7:35	**5.**	**21-66**	b. WalkBike NC Plan – a North Carolina Statewide Pedestrian and Bicycle Plan WalkBike NC is North Carolina's first statewide master plan to define a vision, goals and strategies for improving walking and bicycling for residents and visitors. The Plan identifies current conditions for walking and bicycling in North Carolina and serves as a policy guide for state agencies, local governments, and private sector interests to develop a transportation system that safely and efficiently accommodates walking and bicycling. The review period is short and the State is only accepting comments until April 30th. Therefore, the Plan has been pre-reviewed by OUTBoard Vice-Chair, Jeff Charles, and by Planning staff member Abigaile Pittman. Related documents, including Draft Plan Summary, Full Draft Plan, on-line comment form, and community engagement forum (survey): http://www.ncdot.gov/bikeped/planning/walkbikenc/
			OUTBoard Action: To receive review comments suggested by Jeff Charles and Abigaile Pittman, and consider recommended comments to be provided to NCDOT.
8:00	**6.**		**Staff Updates**
		67-75	a. Update on staff meeting with NCDOT Rail Division regarding the three proposed railroad private crossing closures in Orange County. Related documents: http://orangecountync.gov/planning/RRCrossingClosure.asp
		76-81	b. Update on proposed Old Well to Jordan Lake Scenic Byway.

Time	Item	Page	
		82-106	c. Update on the Triangle Air Quality Report released on 4-3-13 for public comment. Related documents: http://www.triangleair.org/topics.htm#transconf
		107-110	d. Update on changes to the DCHC MPO 2040 MTP Bicycle Map based on comments by Orange County Planning staff.
		111	e. Update on workshop for TARPO Locally Coordinated Human Service Public Transportation Plan.
		112-116	f. Update on the upcoming development of the Eno Economic Development District (EDD) Access Management Plan.
			OUTBoard Action: Receive updates
8:40	**7.**		Upcoming Agenda Items of Interest on Other Regional Transportation Related Board Agendas
			OUTBoard Action: Receive information as a handout
8:50	**8.**		**Items for May 15, 2013 Meeting**
			OUTBoard Action: Receive information
8:55	**9.**		**Board Comments**
			OUTBoard Action: Receive comments
9:00	**10.**		**Adjournment**

D R A F T

MINUTES
ORANGE UNIFIED TRANSPORTATION BOARD
FEBRUARY 20, 2013

MEMBERS PRESENT: Paul Guthrie, Chapel Hill Township; Jeff Charles, Bicycle Advocate; Alex Castro, Bingham Township; Sam Lasris, Cedar Grove Township; Ted Triebel, Little River Township; Jeff Miles, Pedestrian Access & Safety Advocate; Annette Jurgelski, Eno Township; Alan Campbell, Planning Board Representative; Amy Cole, Transit Advocate

MEMBERS ABSENT: Susie Enoch, Cheeks Township; Bryant Warren, Hillsborough Township; Economic Development Commission - Vacant; CfE Representative-Vacant;

STAFF PRESENT: Abigaile Pittman, Transportation/Land Use Planner; Tom Altieri, Comprehensive Planning Supervisor; Tina Love, Administrative Assistant II

OTHERS PRESENT: Matthew Day, Senior Planner, TARPO; and Scott Walston, PE, NCDOT Transportation Planning Branch

AGENDA ITEM I: CALL TO ORDER AND ROLL CALL

AGENDA ITEM II: INTRODUCTION OF GUESTS: Matthew Day, Senior Planner, TARPO; and Scott Walston, PE, NCDOT Transportation Planning Branch

Abigaile Pittman introduced Matthew Day and Scott Walston.

AGENDA ITEM III: APPROVAL OF MINUTES FOR JANUARY 16, 2013

The January 16, 2013 minutes were approved with correction by consensus.

AGENDA ITEM IV: CONSIDERATIONS OF ADDITIONS TO THE AGENDA

AGENDA ITEM V: REGULAR AGENDA

January 24, 2013 Public hearing Draft of Comprehensive Transportation Plan (CTP) http://www.ncdot.gov/doh/preconstruct/tpb/planning/ orangecounty.html

- Copy of Draft CTP sent to OUTBoard on 02/06/2013 (please bring this copy to the OUTBoard meeting on 02/20/2013)
- Abstract providing history, background, and intro to CTP
- Highway Map and Projects (Attachment 1)
- Public Transportation and Rail Map and Projects (Attachment 2)
- Bicycle Map and Projects (Attachment 3)
- Pedestrian Map and Projects (Attachment 4)
- Draft CTP Adoption Map (Attachment 5)
- OUTBoard and Staff Draft CTP Comments (Attachment 6)

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- BOCC CTP Public Hearing Comments (Attachment 7)

ADDITIONAL ATTACHMENTS FOR REFERENCE:

- Composite Countywide Bicycle Map (Prepared by Planning Staff) (Attachment 8)
- Proposed Orange County Rural Connectivity Pedestrian Plan (Prepared by CTP Steering Committee Subcommittee) (Attachment 9)

OUTBoard Action: To make a recommendation to the Board of County Commissioners for consideration at its March 7, 2013 meeting

Paul Guthrie noted that the Comprehensive Transportation Plan (CTP) is winding its way through the process and the OUTBoard needs to finish its review of the plan and send comments to the BOCC. He noted that at the BOCC retreat it was indicated that they are quite interested in the OUTBoard's comments.

Abigaile Pittman reviewed the CTP background and maps.

Ted Triebel asked how the plans move from being essentially a vision without budget and priorities, as it is not fiscally constrained, to eventually being prioritized and budgeted.

Matthew Day, TARPO explained that essentially the RPO submits a list of projects to NCDOT that it would like to see funded. Those projects are pulled from the CTP. Then there is a very elaborate scoring process and the RPO gets to assign some points, DOT gets to assign some points, and then how a project scores goes into the decision on what gets funded.

Scott Walston, NCDOT explained the difference between the RPO and MPO transportation project planning steps, illustrating with a drawing on the white board for the group.

Paul Guthrie noted that it is important to know what is coming into the area from other surrounding RPO and MPO jurisdictions and not knowing what is happening in other places is a limitation. He noted that everyone is at a different stage and/or uses a different format so coordination is difficult, but the planning itself is simpler than what many other more urban jurisdictions are dealing with. He noted that several of the Commissioners sit on boards of other planning jurisdictions and that becomes significant as they need some background from the OUTBoard.

Paul Guthrie commented that he thinks the projections for the rural numbers for the Durham – Chapel Hill population is under estimated. He thinks NC 54 will need more improvements all the way to Orange Grove Road than what the CTP calls for.

Scott Walston, NCDOT noted that the CTP Plan gets adjusted along the way to account for changes in information.

Alex Castro noted that there are very few commuter corridors into Chapel Hill and UNC like NC 54. When you assess the population using NC 54 to commute, it does not all originate within Orange County, but a large percentage is from people coming through from outside the County and using it a link to get to their jobs. He is concerned with how few commuter links there are. He observed that Chapel Hill is difficult to get to and asked how to factor the commuting pattern into the calculations of traffic growth on NC 54.

Scott Walston, NCDOT advised that two things were looked at, past traffic trends and also the Triangle Regional Model, which is a travel demand model that replicates the travel patterns that both DCHC and CAMPO use to predict their traffic patterns.

Matthew Day, TARPO added that Alamance County has no plans to extend their 4 lanes of NC 54 farther down than it is now.

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Jeff Charles added that at the bicycle committee meeting in Chapel Hill it was reported there were 51,000 jobs in Chapel Hill, noting that this puts some perspective on how many people are coming into Chapel Hill for work.

Highway Map Comments:

Jeff Charles commented on the improvements regarding making improvements to Old NC 86 that include four-foot wide shoulders for use by bicyclists. He stated that Old NC 86 will never make a good commuter bike route because of the line of sight deficiency. He noted that no one is going to ride on a road that is as dangerous as Old NC 86 is to bicyclists. The only way it would work is if you straighten it and make elevation changes which is unlikely due to the investment it would require. Additionally, Jeff commented that improvement for cars would be favorable but no monies should be spent on it to install 4 foot shoulders to accommodate bicyclists. Cars travel too fast and it makes no sense to invest money there and it is not a necessary connector. There are other roads for recreation and commuter cyclists in that area, such as new 86. The exception to that is the one project that is a pet project of the cycling community which is Calvander, the one section of Old NC 86 between Carrboro and the Homestead/Dairyland intersection. Jeff noted the natural place to stop improvement on the Highway Map in regard to accommodating bicycles/pedestrians is at the Dairyland/Homestead intersection.

Sam Lasris commented that there may be a need to have some traffic calming measures, i.e. flashing lights, posted speed limits on the improvements suggested on Efland-Cedar Grove Rd in addition to extending the project to the Post Office.

Scott Walston, NCDOT advised that traffic calming measures is something that needs to be discussed with the Division 7 office.

Paul Guthrie commented that what goes on regarding the Rail Map will increase traffic in the rural areas at certain times of the day. You could have feeder transportation needs to those stations that may be along the rail line. Paul suggested there should be some sort of footnote in the comments. He noted that while there is no public transportation rail in Orange County's territory, there will be.

Public Transportation and Rail Map Comments:

Paul Guthrie referred back to his previous comment on the Highway Map regarding the need of a footnote.

Bicycle Map Comments:

Jeff Charles noted he thinks the Bicycle Map is really quite good. He referred back to his comment on the Highway Map about the widening project on Old NC 86 that proposes four-foot shoulders for bicyclists. He noted that in actuality the Bicycle Map shows that there is no recommendation for a bike route improvement in our plan but if you go the Composite Map (prepared by the Planning Staff), Durham/Chapel Hill has the route on either side of it and then DOT comes in and says now we are going to link it. Then it becomes part of the CTP and it is wrong thinking and needs to be pointed out the County Commissioners because they must have some input on the DCHC part of these recommendations. The Commissioners need to recognize that this project would be spending a lot of money for bicycles on Old NC 86 while also spending money on the DCHC plan on NC 86. It is basically from Eubanks Road to Hillsborough where they are going to put four-foot bike lanes on 86. Jeff added that he questions it but at least on new NC 86 you have line of sight and 86 is the way to commute from Hillsborough as opposed to Old NC 86 which is too dangerous.

Amy Cole noted that while she understands Jeff's comments on Old NC 86 between Arthur Minus and Davis, and stated that she clearly sees the safety issue. But she is looking at it from a connectivity point of view and leaving that out bothers her but the safety of having a four-foot shoulder makes no sense. Would it be possible to have the CTP designate this bike path as an off-road facility?

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Jeff Charles responded that it would require doing all of Old NC 86 and not just the rural section. He questions the financial input of that versus just going to new NC 86 and going up that way. Jeff noted he could see that it would benefit pedestrians.

Paul Guthrie commented again on the problems of assessing projects without full information on connectivity with other jurisdictions. For example, referencing that on the little segment of Jones Ferry Road which is marked up, he understands what it connects to because of what is down in Chatham County, but to someone in Orange County looking at this map, without reference to Chatham County's map, may not have any idea why that piece is there.

Abigaile Pittman asked for a summary of the Board's final comment on the Old NC 86 project. It was summarized that the investment in the wide shoulders should be dropped unless needed for vehicle safety, that the commuting bike route would be best on new NC 86, and that the only way that a bike route should be included along Old NC 86 was if it was an off-road facility.

Pedestrian Map Comments:
Sam Lasris commented that he would like to see better identification of the MPO boundary lines and road names on the map. He said that he kept getting confused on what was a boundary line and what was a proposed pedestrian trail. Multiple other members of the OUTBoard agreed, saying that the boundary lines should be labeled on all of the CTP maps.

Motion by Alex Castro that the OUTBoard recommend the comments discussed in the presentation and the additional comments discussed here tonight. Seconded by Jeff Charles
Vote: Unanimous

AGENDA ITEM VI: STAFF UPDATES

a. Update on Orange County Master Aging Plan 2012-2017 transportation strategies (Alex Castro)
b. Update on BOCC review of a second County comment letter to NCDOT Rail Division regarding the three proposed railroad private crossing closures in Orange County. Related documents: http://orangecountync.gov/planning/RRCrossingClosure.asp
c. Update on NCDOT Annual Statement for 2012 secondary road construction (Attachment 10).
d. Update on proposed Mebane and Gibsonville Bicycle and Pedestrian Plans
e. 2013 BG MPO TAC Commissioner Appointments from Orange County (Barry Jacobs and Earl McKee)
f. 2013 DCHC MPO TAC Commissioner Appointments from Orange County (Alice Gordon and Bernadette Pelissier)
g. 2013 TARPO RTAC Commissioner Appointments from Orange County (Renee Price and Bernadette Pelissier)
h. NCDOT new appointments to the Board of Transportation
i. TARPO updates from Matt Day
j. Specifics on roundabout project from DCHC list provided at January 16th meeting (to answer questions raised by Board members)
k. BOCC's 2013 Boards and Commissions Work Session held on January 29, 2013 and was attended by Paul Guthrie, Jeff Charles, and Ted Triebel.

OUTBoard Action: Receive updates

Alex Castro updated the OUTBoard on the Master Aging Plan that pertains to transportation and navigation including 2 handouts. He noted that Craig Benedict is a member of the steering committee, so the Planning Department is represented in those efforts and Commissioner Bernadette Pelissier is also on the steering committee. In reviewing

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one of the handouts, he noted that it contains objectives, strategies, and indicators. He advised that in year two fiscal needs will be addressed. He referred the members to review the handouts and to email him with any inquiries. He would love to have anyone interested get involved in workgroups as they are developed to work with transportation issues. He added that the focus in this area is the rural areas.

Abigaile Pittman suggested that when Craig Benedict presents the BRIP to the OUTBoard in March that perhaps he could give some thought to those issues aired in the course of the OPT analysis with the input of the OUTBoard.

Alex Castro advised the members that the Department on Aging has applied for a grant to staff a Mobility Manager that would be working from the Department on Aging but coordinating with the Planning Department.

Abigaile Pittman updated the Board on the status of the proposed railroad closures. She advised that the BOCC approved a second comment letter on 2/21/13 which will be posted to the website by 2/23/13. The next step is for Orange County to provide comments to NCDOT. NCDOT will be meeting with Planning staff in the next month to try to clear up some issues for the public and the BOCC. Abigaile noted that there is a proposed interchange design at 70 and 85 that needs to be redone and it hasn't been slated as a project yet but she has a draft drawing.

Abigaile Pittman referred the members to the information regarding the annual statement for 2012 from NCDOT on secondary road construction. She noted some of the completed roads are Buckhorn Rd. and Dairyland Rd.

Jeff Charles commented that the 2-foot extensions to the shoulders are not 2 feet in many areas. They go from 3 feet extensions down to 6 inches in places. Jeff Charles would like NCDOT to be asked why the signed off on the project and would like Chuck Edwards to visit the OUTBoard. Jeff would like staff to get information about new construction this year. It is his understanding that they are going to do repair on New Hope Church Rd. replacing a bridge and he would like to know when that construction is going to begin as it will require shutting down New Hope Church Rd between Old 86 and Union Grove Church Rd. It is going to have a dramatic impact on the bicycling community and he would like to get the word out.

Abigaile Pittman informed the Board of the updates in the Burlington-Graham Metropolitan Planning Organization (BGMPO) including appointments to that group and to DCHC MPO and TARPO. She also advised that Dwight Stone of Greensboro has been appointed as the Orange County representative on the NC Board of Transportation.

Ted Triebel noted that while 50% of the drivers using the highway are female and that 10 men were appointed by the Governor which seems to be a lack of gender diversity on his part.

Matt Day gave the Board some updates on items being discussed at the next TARPO meeting including reviewing a map of the whole TARPO region showing all of the current plans. It puts about 15 plans into one map. He noted that a project coming up is the locally coordinated Transit Tlan that they will be working with the transit agencies in the four counties and this is a federal requirement. Matt informed the group that a 15-501 Corridor Study by DOT is getting ready to start it will be on 15-501 from 54 in Chapel Hill down to 64 in Pittsboro and they will be looking at how the roadways function in terms of traffic operations, placement of traffic lights, and improvement that can be done to make that function better from an operational perspective.

Paul Guthrie asked Matt Day to provide a summary of the 15-501 Corridor Study to Abigaile. He noted it is fairly crucial to southern Orange County.

.Abigaile Pittman referred the group to the handout regarding the roundabout project on Erwin Road requested by Jeff Charles at the January OUTBoard meeting.

Abigaile Pittman reviewed the outcome of the BOCC retreat with regard to the OUTBoard goals for 2013.

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AGENDA ITEM VII: BOARD MEMBERS' DISCUSSION OF AREAS OF SPECIAL INTEREST

OUTBoard Action: Finalization of list of members' areas of special interest and assignments for monitoring other boards' websites and/or agendas for transportation related information and activities

The OUTBoard had some general discussion.

AGENDA ITEM VIII: UPCOMING AGENDA ITEMS OF INTEREST ON OTHER REGIONAL TRANSPORTATION RELATED BOARD AGENDAS:

OUTBoard Action: Receive information

AGENDA ITEM IX: LISTING OF ITEMS FOR MARCH 20, 2013 MEETING

a. Next steps for implementing the Bus and Rail Investment Plan (Craig Benedict)
b. Update on BOCC consideration of Comprehensive Transportation Plan
c. Next steps for Safe Routes to School (SRTS) Plan adoption and implementation
d. Update on BG MPO activities
e. Update on DCHC MPO activities
f. Update on TARPO activities

OUTBoard Action: Receive information

AGENDA ITEM X: BOARD COMMENTS

AGENDA ITEM XI: ADJOURNMENT

The meeting was adjourned by consensus.

Items for future meetings:

- Discuss with Craig Benedict the possibility of touching on the transportation portion of the Master Aging Plan and potential mobility manager along with OPT's plans to address needs in the rural portions of the county.
- Arrange for Chuck Edwards to attend a meeting in the May/June timeframe.
- Find out when construction on New Hope Church Rd is scheduled to begin.
- Summary from Matt Day regarding 15-501 study

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D R A F T

MINUTES
ORANGE UNIFIED TRANSPORTATION BOARD
MARCH 20, 2013

MEMBERS PRESENT: Paul Guthrie, Chapel Hill Township; Jeff Charles, Bicycle Advocate; Alex Castro, Bingham Township; Annette Jurgelski, Eno Township;

MEMBERS ABSENT: Susie Enoch, Cheeks Township; Bryant Warren, Hillsborough Township; Sam Lasris, Cedar Grove Township; Ted Triebel, Little River Township; Jeff Miles, Pedestrian Access & Safety Advocate; Amy Cole, Transit Advocate; Economic Development Commission - Vacant; CfE Representative-Vacant; Planning Board Representative- Vacant;

STAFF PRESENT: Craig Benedict, Planning Director; Abigaile Pittman, Transportation/Land Use Planner; Al Terry, Transportation Manager; Tina Love, Administrative Assistant II

OTHERS PRESENT: Tamra Shaw, NCDOT; David Bonk, Town of Chapel Hill

AGENDA ITEM I: CALL TO ORDER AND ROLL CALL

AGENDA ITEM II: INTRODUCTION OF GUESTS: Craig Benedict, Planning Director; Al Terry, Orange County Transportation Manager; Tamra Shaw, Senior Mobility Development Specialist NCDOT Public Transportation Division; David Bonk, Town of Chapel Hill Senior Transportation Manager

Paul Guthrie welcomed and introduced the guests.

Tamra Shaw advised the group that her office had just had a call for projects which has ended but there is an annual call for projects and she would like to talk about that when the time rolls around, probably around August or September. She would like to come and talk about the funding opportunities. The big thing her department is dealing with right now is the locally coordinated human services transportation plan, developed by working with the local councils of government. It is an assessment of unmet needs in the county.

Craig Benedict introduced David Bonk from the Town of Chapel Hill and noted that David is the Durham-Chapel Hill-Carrboro MPO Vice-Chair and is the primary conduit to the MPO for matters dealing with transportation and funding for a variety of public transit initiatives.

AGENDA ITEM III: APPROVAL OF MINUTES FOR FEBRUARY 20, 2013

Approval of minutes for the February 20, 2013 meeting were moved to the April 17, 2013 OUTBoard meeting due to lack of a quorum.

AGENDA ITEM IV: CONSIDERATIONS OF ADDITIONS TO THE AGENDA

AGENDA ITEM V: REGULAR AGENDA
Next Steps for Implementing the Bus and Rail Investment Plan (BRIP)
OUTBoard Action: To receive information in preparation for future OUTBoard role.

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Craig Benedict gave an overview of the plan and map. Highlights include the creation of a rail station in Hillsborough, 10% will come the BRIP and the rest would come from state and federal funds. New and expanded bus services is part of the plan and will amount to an additional 40,000 hours by 2026 with 8,000 hours to be used in the first five years.

Craig Benedict told the OUTBoard that its role may come when monies come in to TTA or OPT to suggest or prioritize where funds may best be spent. Craig also talked about the implementation agreement which is between three parties, Orange County, Triangle Transit who is the implementing agency, and the DCHC and BG MPOs. Triangle Transit will be receiving all monies collected but each year they will report to the Commission and participants will be invited, municipalities, etc. and the questions can be asked at that time. Craig discussed an east-west route to connect the western side of Orange County to Hillsborough, Chapel Hill and Durham and coordinating with Piedmont Area Rapid Transit (PART).

Alex Castro asked if there are any plans to combine the Chapel Hill Transit EZ Rider with OPT that makes more sense in terms of staging and shorter trip times, etc.

Craig Benedict responded that the both the boards of Chapel Hill and Orange County have responded that they would like to take a look at a potential OPT/CHT consolidation between those two agencies for efficiency. There is a grant that was acquired from DOT/Public Transit Division to study that issue and a consulting firm was hired to analyze both systems and it has taken over two years to produce a draft report. Craig remarked that at some point he would like the consultant to come and speak to the OUTBoard.

Jeff Charles suggested that if you use percentages of rider increase, etc. it means more to the public than saying that there will be X more hours added, X more buses, etc.

David Bonk gave an update on the proposed Bus Rapid Transit (BRT) noting that an alternatives analysis will be done and a Request for Proposals (RFP) will be out in April. and once selected it will take about 18 months for the consultants to perform that work. He also noted that the Town of Chapel Hill has initiated a Small Area Plan for the area around Estes Drive/Martin Luther King Blvd. and through that process they are very aware of the fact that they are adjacent to that BRT corridor and what decisions they make about land use will have a direct impact on the Town's ability to meet the federal requirements. Those requirements have a very heavy emphasis on not simply having good intentions with regard to coordinating land use and transportation but actually adopting plans and in the best case scenario, actually having projects that have been built based on those plans.

Paul Guthrie noted that while everyone thinks light rail is a wonderful thing and in his opinion a necessary thing by 2030, we don't have to go there at this point but what can have a major impact is how we carefully decide where to put in bus services, where the connection points are located between routes so all this interchange can be made to expedite and also look at a few things relative to the light rail system that perhaps need to be worked on such as terminating the light rail system at memorial hospitals. It would have been smarter to curl it around so that it came up somewhere near the rail route and come in to Carrboro on the hard rail system, because sooner or later hard rail will run between Greensboro and Raleigh. The major work that is already underway on the track between Durham and Raleigh tells you that. One of the key ingredients for Orange County is to get the rail station in Hillsborough done and use the parking facilities as a connection point for bus service and other kinds of services for connections. Build that into the fabric of the community and then you are ready for the more sophisticated systems. Paul continued that 54 is a major feeder and as PART can't service it, the area of Mt. Carmel Rd./Stagecoach Rd. is becoming the bypass for commuters and truckers to skip around the problems on I-40 and Chatham County. This is going to be increasing, sending traffic northbound and needs to be considered.

AGENDA ITEM VI: REGULAR AGENDA
Next Steps for Safe Routes to School (SRTS) Plan Adoption and Implementation.
OUTBoard Action: To receive information in preparation for future OUTBoard role.

This item was moved to the April meeting due to time constraints.

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AGENDA ITEM VII: STAFF UPDATES

a. Update on BOCC action on Comprehensive Transportation Plan (CTP)
b. Update on staff meeting with NCDOT Rail Division regarding the three proposed railroad private crossing closures in Orange County.
c. Update on BG MPO activities.
d. Update on DCHC MPO 2040 MTP and CTP.

OUTBoard Action: Receive updates

Abigaile Pittman updated the OUTBoard that the BOCC completed the public hearing on the CTP and adopted the Highway Map, Public Transportation and Rail Map, the Bicycle Map, the Pedestrian Map and the overall Adoption Map subject to the comments and recommendations of the OUTBoard and Planning staff. The BOCC also made recommendations on the technical report included in the CTP. The technical report will not be considered for adoption by the BOCC until the fall, after TARPO and NCDOT complete their review and adoption of all five maps. The BOCC adopted the maps with the OUTBoard recommendations.

Abigaile Pittman updated the group regarding the proposed rail crossings showing proposed routes on map and the timeline going forward with a deadline for completion by 2017.

Abigaile Pittman noted that she attended the BG MPO meeting and reviewed that meeting and gave the group a handout on those activities and reports.

Abigaile Pittman gave an update and handouts on Orange County bridge projects and the adopted DCHC MPO MTP and CTP. She also advised that the Riverwalk project in Hillsborough is scheduled to begin in June.

Abigaile Pittman advised that she would be giving a briefing on Safe Routes to School to the BOCC on April 9th. She will brief the OUTBoard on April 17th and advised that the OUTBoard should be involved in it by the fall.

AGENDA ITEM VIII: UPCOMING AGENDA ITEMS OF INTEREST ON OTHER REGIONAL TRANSPORTATION RELATED BOARD AGENDAS:

OUTBoard Action: Receive information as handout.

AGENDA ITEM IX: LISTING OF ITEMS FOR APRIL 17, 2013 MEETING

OUTBoard Action: Receive information

AGENDA ITEM X: BOARD COMMENTS

OUTBoard Action: Receive comments

AGENDA ITEM XI: ADJOURNMENT

The meeting was adjourned by consensus.

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ITEM 4

Safe Routes to Schools (SRTS) Action Plan OVERVIEW
April 17, 2013

SRTS PROGRAM BACKGROUND AND PURPOSE

The Safe Routes to School (SRTS) Program was established in the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). It is a federally-funded grant reimbursement program providing an opportunity for communities to improve conditions for bicycling and walking to school. Section 1404 of SAFETEA-LU mandates that the North Carolina Department of Transportation (NCDOT) administer this program within the state, providing financial assistance to state, local, and regional agencies, including non-profit organizations that demonstrate an ability to meet the requirements of the program.

The purpose of the SRTS program is to:

- Enable and encourage children, including those with disabilities, to walk and bicycle to school.
- Make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age.
- Facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools.

The NC SRTS Program works with schools, local governments and agencies, advocacy and non-profit organizations, and public health professionals at a grassroots level to identify improvements that can help make bicycling and walking to and from school a safe and healthy transportation alternative.

ORANGE COUNTY SRTS ACTION PLAN BACKGROUND

Orange County received a Safe Routes to School (SRST) Action Plan Service Award in July 2008 for planning assistance to prepare an Action Plan for Grady A. Brown Elementary School, Cameron Park Elementary School and C.W. Stanford Middle School.

In 2009 NCDOT contracted Greenways, Incorporated and Greene Transportation Solutions to work with County staff, local agency representatives, School Team leaders and principals of the three schools to identify non-motorized infrastructure improvements that enhance safety for walking and bicycling.

The Plan development process included a visioning and goals session and map working session with the project staff, steering committee, and consultants. This was followed by comprehensive fieldwork and a public workshop that sought input from residents,

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including parents, teachers, principals, children, Town of Hillsborough staff, and Orange County staff. This input and analysis led to the development of a draft plan that consisted of an analysis of existing conditions, and recommendations in the areas of engineering, education, encouragement, enforcement, and evaluation (the essential '5 E's' of the program).

A draft Plan was completed, reviewed locally, and comments were submitted to Greenways, Incorporated for inclusion in the final draft.

The draft Plan was reviewed by the NCDOT Bicycle and Pedestrian Division and a final draft was completed and returned to the Planning Staff in December 2012.

Staff has been reviewing the final draft and developing recommended initial actions for adoption.

Orange County Schools, the Town of Hillsborough, and Orange County will be asked to adopt the Plan. Following adoption, the next recommended step in the Plan will be to establish a SRTS Action Plan Advisory Committee that would be responsible for advocating plan implementation and assist with programming and grant writing, evaluating plan progress, and assessing plan priorities.

SRTS Action Plan Framework and Goals

The Action Plan with its recommendations was developed with a comprehensive, framework approach addressing all 5 E's of the SRTS program – engineering, education, encouragement, enforcement, and evaluation.

CONSIDERATIONS FOR CHOSEN SCHOOL SITES

The three schools chosen for the SRTS Action Plan are part of the Orange County school system, and all are located inside or adjacent to the Town of Hillsborough: Grady Brown Elementary School; CW Stanford Middle School; and Cameron Park Elementary School. A comprehensive, multi-faceted approach was taken to examine existing conditions including the collection of data from parent surveys and student travel tallies, site work and field interviews, and area mapping. A thorough inventory of existing conditions was assembled at each school site to provide a baseline by which to measure the results and outcome of the SRTS Program at the community, school and street levels.

Grady Brown Elementary School – located on New Grady Brown School road just off Orange Grove Road

- The school is south of I-40 and the roadway bridge has very narrow shoulders
- There are multiple two-lane rural roadways that pose safety barriers for school-age cyclists and pedestrians

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- There are no sidewalks or pedestrian sidewalks or pedestrian facilities of any kind leading to and away from the school
- There are no bicycle racks on campus
- There are no crossing guards
- Tallies: 240 students were driven by their parents; 225 students took the bus; 0 students walked; and 0 students bicycled
- Unofficial bus stops lack clear designation and safe harbor in some locations
- Existing safety concerns expressed by parents: distance; traffic speeds along routes (45 and 55 mph); traffic volumes along routes; lack of sidewalks or pathways; and unsafe intersections and crossings
- Crime not a significant issue of concern based on field analysis and public input
- Motorist's behaviors observed as "good" on campus and "fair" along Orange Grove Road.
- Pedestrian behaviors observed to be generally safe around the school
- Minor backups of automobile traffic during drop-off times, with more congested backups during pickup times (causing some thru-traffic weaving and blind spots)
- There is a clear school zone and pedestrian crossing signage along New Grady Brown School Road
- There are on-campus sidewalks along the building front, adjacent to the car drop-off line

<u>CW Stanford Middle School</u> – located next to Orange High School inside a neighborhood with residential roads

- The school is flanked by US 70 and Orange High School Road
- There is no sidewalk connectivity to neighborhoods and streets in the vicinity of the school; and the residential land use and street pattern on the eastern side of the school prevents a direct connection to the school, currently requiring students to use US 70
- There are no bicycle racks on campus
- US 70 presents a serious safety threat for pedestrians and bicyclists because of its lack of infrastructure, high speeds, and high traffic volumes.
- There are very few traffic calming facilities in the area of the school
- Tallies: 357 students were driven by their parents; 211 students took the bus; 3 students walked; and 0 students bicycled

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- Existing safety concerns expressed by parents: distance; traffic volumes along routes; traffic speeds along routes; safety of intersections and crossings; and the lack of sidewalks or pathways
- Motorist's behaviors observed as "good" on campus, "fair" along Orange High School Road, and "bad" on US 70
- Crime not a significant issue of concern based on field analysis and public input
- Minor backups of automobile traffic during drop-off and pickup times
- There are possibilities of connecting neighborhoods to the school using trails and greenways along current easements and "cut throughs"
- On-campus sidewalks and crosswalks are adequate

Cameron Park Elementary School – located next to St. Matthews Episcopal Church on St. Mary's Road near downtown Hillsborough, with adjacent small businesses and low density residential development

- The traffic volumes are very high on St. Mary's Road, especially during commuter hours
- There are no sidewalks or bicycle lanes in the vicinity of the school
- There are multiple roadways that pose safety barriers and challenges for elementary school age pedestrians and bicyclists
- Tallies: 237 students were driven by their parents; 187 students took the bus; 19 students carpooled; 3 students walked; and 0 students bicycled
- Existing safety concerns expressed by parents: traffic speeds along routes; traffic volumes along routes; distance; safety of intersections and crossings; and the lack of sidewalks or pathways
- Motorist's behaviors observed as "fair" on campus, and "bad" on St. Mary's Road
- Significant backups of automobile traffic during drop-off and pickup times that impact off and on-site traffic, turning movements, and relate to dangerous vehicular maneuvers
- Not all curb ramps comply with ADA regulations
- The existing bicycle rack on the school's campus is situated where only one side can be used and is not covered
- There is a clearly defined school zone on St. Mary's Road
- Besides the crossing on St. Mary's Road at Thomas Ruffin Road, there are no marked crosswalks in the vicinity of the school
- There is an established trail connecting to the adjacent property to the school grounds that can give children access without having to walk along St. Mary's Road

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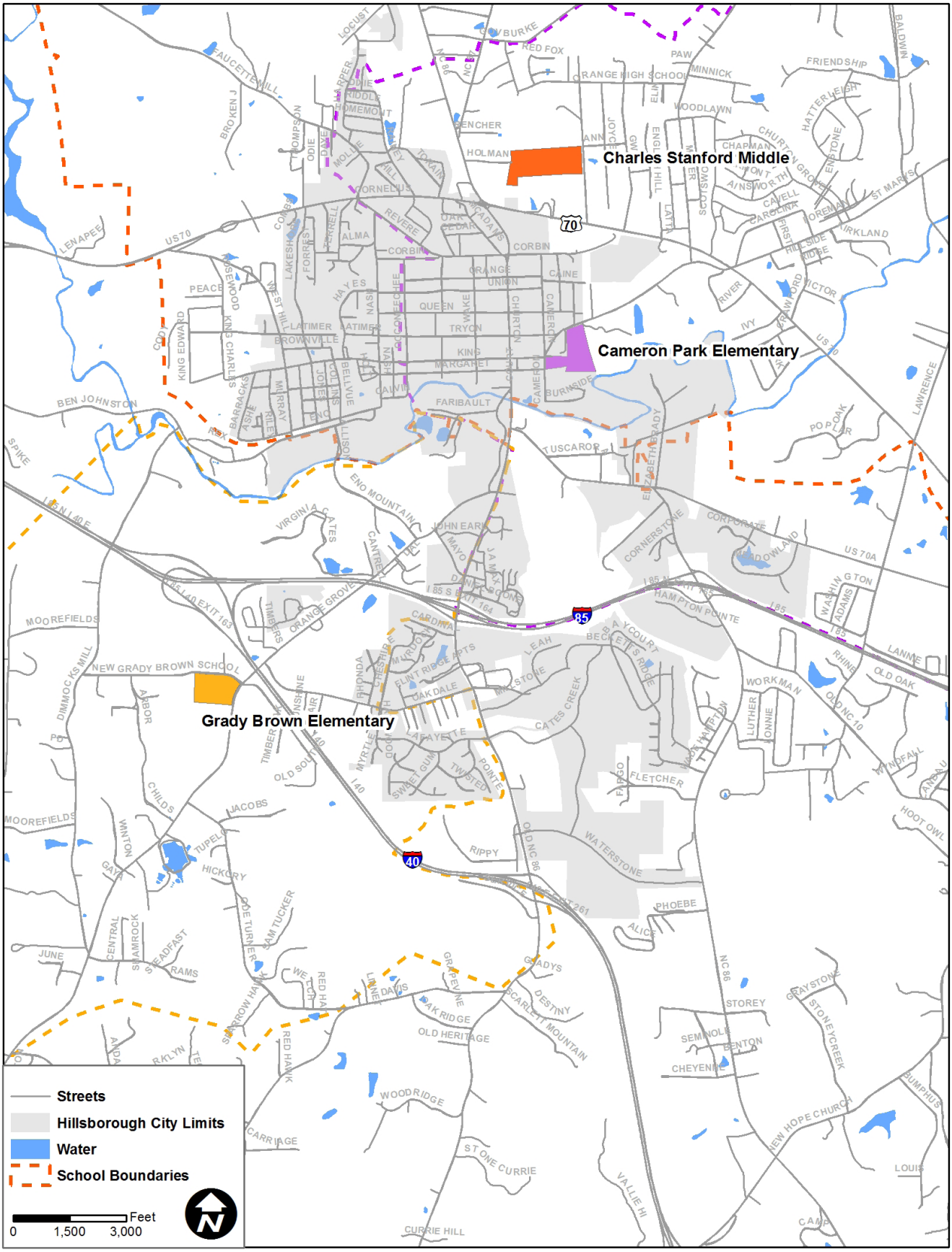
2

Map 2.1 School Service Boundary Map



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SRTS PROJECTS

The SRTS program allows for a great variety of programs that can be implemented. Eligible SRTS projects can be bundled as infrastructure and non-infrastructure. Funding can include training volunteers, street crossings, safety and Intelligent Transportation Systems (ITS), bicycle/pedestrian lanes, etc. All projects must be within two miles of a K-8 school.

However, there are projects that are not allowed. The following are ineligible activities:

- Recurring costs, such as school crossing guards
- Pick-up and drop-off sites
- Educational focus buses
- Bus stop improvements

The NCDOT SRTS Program will fund only those activities that specifically plan for improvements and programs that promote safe, active travel to K-8 schools and while project inclusion in the adopted plan is encouraged, not all projects must be included in the adopted SRTS plan.

A variety of sources were consulted during the development of the infrastructure recommendations:

- Plans and studies
- Existing conditions
- The Consultant's fieldwork inventory
- Public input
- Noted patterns of development

<u>Grady Brown Elementary Projects Identified in the SRTS Action Plan</u>:

- Project #1: New Grady Brown School Road Sidewalk and Midblock Crossing
- Project #2: Orange Grove Road / I-40 Bridge Pedestrian Facilities
- Project #3: Oakdale Road Safety Improvements
- Project #4: Patriots Pointe Trail Connection

<u>CW Stanford Middle School Projects Identified in the SRTS Action Plan</u>:

- Corridor Improvement Projects (8) (sidewalks, multi-use paths) along Orange High School Road, US 70, Harold Latta Road, Miller Road, NC 86, NC 57, and along new off-road multi-use paths.
- Crossing Improvement Projects (9) along US 70, Orange High School Road, NC 86, and Gwen Road.
- Traffic Calming Measures along US 70.
- On-campus Improvements (sidewalks, crosswalks, bicycle racks, curb ramps).
- Enhance 'cut throughs' to school from neighborhoods to the north and west.
- Follow Town of Hillsborough's sidewalk/greenway planning.

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Cameron Park Elementary School Projects Identified in the SRTS Action Plan:

- Corridor Improvement Projects (11) (sidewalks, bicycle lanes, greenway trails) along Cameron Street, St. Mary's Road, US 70, Queen Street, Thomas Ruffin Street, and several new off-road sites.
- Crossing Improvement Projects (4) along Thomas Ruffin Street, St. Mary's Road, Cameron Street, and Churton Street.
- Traffic Calming Measures along Queen Street, Thomas Ruffin Street, Cameron Street, and St. Mary's Road.
- Off-campus Improvements (bicycle racks, crossing guards, left-turn restrictions, alleviating conflicts with parking areas).
- Pedestrian signals at signalized intersections along Churton Street.

PROJECT FUNDING

The adopted plan will enhance opportunities for Orange County and the Town of Hillsborough for obtaining Safe Routes to School (SRTS) grants to implement the Action Plan. While adoption is not a requirement for project funding, it does demonstrate to NCDOT local commitment to the objectives of the SRTS program, and would serve to enhance project funding consideration in a competitive atmosphere.

There were some revisions to federal and state funding sources in December 2012 that will impact the funding sources for the Safe Routes to School program. Specifically, the federal Moving Ahead for Progress in the 21st Century Bill (MAP-21) SRTS program direct allocation funds were removed. However, NCDOT staff has advised the Planning staff that there will continue to be SAFETEA-LU funds available for the program under its non-competitive rolling grant cycle. It is anticipated that these funds will be continued on an annual basis. The SRTS program is a reimbursement program that does not require a local match (100% federally funded). When applying for federal reimbursement grants, the County and the Town should budget funds for projects within their respective jurisdictional limits, and set up accounts for expending those funds until NCDOT has reimbursed project costs. Although no local match is permitted, local governments are allowed to contribute to a project.

After identifying projects from the Plan to implement, the County would apply through the NCDOT Division 7 office. Project funding is based on project priority with as much local support as possible (Schools, PTA, Superintendent, municipalities, BOCC, supporting plans, etc.), and projects from the Plan with multiple purposes/greater impact are favored. If, for example, a proposed project for CW Stanford Middle School met the objectives of the SRTS program, but also happened to provide a benefit to the Orange High School, that is acceptable and even encouraged.

IMPLEMENTATION

The SRTS Action Plan emphasizes that successful implementation will require the dedication of local government staff, commitment of the school system and local schools, the creation of a SRTS Advisory Committee, and the continued support of local

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advocates and parents. The recommended first step is the adoption of the Plan by Orange County, Orange County Schools, and the Town of Hillsborough. Adoption of the SRTS Action Plan demonstrates local commitment and incentivizes NCDOT to fund local projects. The second recommended step is to establish a SRTS Action Plan Advisory Committee (SRTS APAC). Planning staff's initial thought is that the SRTS Advisory Committee be a sub-committee of the OUTBoard, supplemented by additional staff from other agencies/jurisdictions as needed. The Advisory Committee would be responsible for advocating plan implementation and assist with programming and grant writing, evaluating plan progress, and assessing plan priorities. Multiple subsequent implementation action steps are outlined and prioritized in the Plan, the fruition of which would be subject to the recommendations of the Advisory Committee and the approval of the BOCC, School Board, and Town of Hillsborough.

Lead Planning Agency Role

NCDOT recommends that the County serve as the Lead Planning Agency, but the details of this responsibility will need to be worked out between Orange County, Orange County Schools, and the Town of Hillsborough as an initial step in advancing implementation of the SRTS Action Plan.

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Item 5

WalkBikeNC

NORTH CAROLINA STATEWIDE PEDESTRIAN AND BICYCLE PLAN

Mobility

Safety

Health

Economy

Environment

Summary Document

March 2013 - DRAFT for public and stakeholder review

turn to Agen

Acknowledgements

Anthony J. Tata, Secretary of Transportation, NC Department of Transportation

Listed alphabetically

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PROJECT FUNDING

» **Blue Cross/Blue Shield of North Carolina**
» **Davis Wealth Management Advisors**
» **NC Department of Commerce**
» **NC Department of Environment and Natural Resources**
» **NC Department of Health and Human Services**
» **NC Department of Transportation**
» **Federal Highway Administration**

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- **Representative Becky Carney**, NC General Assembly
- **Senator Chris Carney**, NC General Assembly
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- **Loretta Barren**, Federal Highway Administration
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- **Elizabeth Wharton**, Davis Wealth Management Group
- **Ralph Womble,** NC Board of Transportation

Special Thanks

Thank you to the hundreds of North Carolina residents, business owners, and government employees who participated in-person at committee meetings, focus group meetings, regional workshops, community events, and other activities.

Thank you also to the more than 10,000 people who were involved via e-mail and the WalkBikeNC website.

Consultant Team

- **Alta Planning + Design (Lead Consultant)**
- Active Living by Design
- Community Design Group
- Econsult Corporation
- Planning Communities, LLC
- Stantec Inc.
- Toole Design Group, LLC

Introduction

Plan Purpose: Why a Statewide Pedestrian and Bicycle Plan?

WalkBike NC is North Carolina's first statewide master plan to define a vision, goals and strategies for improving walking and bicycling for residents and visitors. North Carolina is ideally positioned to increase its walking and bicycling activity. We are blessed with weather favorable to outdoor activity; the core of our towns and cities were developed with dense street grid networks that create acceptable travel distances for pedestrians and cyclists; we have the nation's oldest state agency-led pedestrian and bicycle program, which has been working for the past four decades to improve conditions for walking and biking; and most importantly, **our residents (NCDOT's customers) want to walk and bike more.**

Bicycling has been part of transportation in North Carolina for more than 100 years. Bicyclists helped champion North Carolina's "Good Roads" movement in the early 1900's. Formal planning for bicycle accommodation in North Carolina began in 1974 with passage of the Bicycle and Bikeway Act. In the past two decades, more attention has also been given to improving conditions for walking. For example, the Safe Routes to School Program promotes walking to and from school as a way of improving the health and wellness of our children.

North Carolina, however, faces significant challenges in becoming more friendly to pedestrian and cycling activities. First and foremost, **walking and bicycling are not equivalent quality transportation choices for the vast majority of North Carolinians.** Most people prefer to transport by automobile because that is the highest quality choice and is where the vast majority of investment has been made in our transportation network. Given present conditions throughout our state, it is often not safe, convenient, nor efficient for residents and visitors to walk and bike within or between our communities. We also have not invested enough in programs that inform, educate and promote walking and bicycling.

Despite the obstacles, there has never been a better time than the present to build on prior achievements and define the future for walking and bicycling. WalkBike NC is for all North Carolinians, and it is a call to action. **This Plan identifies current conditions for walking and bicycling in North Carolina and serves as a policy guide for state agencies, local governments, and private sector interests to develop a transportation system that safely and efficiently accommodates walking and bicycling.** This Plan bridges the gap between current conditions and what North Carolinians desire for walking and bicycling, in terms of safety, mobility, and connectivity. This Plan defines the walking and bicycling needs of North Carolinians, as well as the policies, projects, and programs that must be implemented to meet these needs. WalkBike NC also defines appropriate infrastructure standards and defines a method for measuring success.

Contents

2 Introduction
7 Trends and Challenges
18 Needs and Metrics
30 Strategies for Implementing WalkBike NC
40 Funding

About this document:

This 50-page summary of the full plan provides an overview of the key findings and recommendations. The full Plan document is available for review and can be downloaded at www.WalkBikeNC.com.

Two-page handouts were also developed for the five goals and core values of the plan and are also available at www.WalkBikeNC.com.

Vision and Goals

Based on input received from thousands of North Carolinians, it is clear that there is a high level of interest and desire to embrace all of the benefits that are derived from walking and bicycling. The vision and goals for WalkBike NC have been shaped by this input.. The vision is also built on a foundation established by NCDOT to improve the quality of transportation for all North Carolinians:

NCDOT Mission Statement:

"Connecting people and places safely and efficiently, with accountability and environmental sensitivity to enhance the economy, health, and well-being of North Carolina."

Working committees, established by NCDOT, that included representatives from the North Carolina General Assembly, state agencies that championed and partnered to craft this Plan, and advocates in the fields of health, economic development, public safety, environmental stewardship and mobility, contributed to defining the vision and goals for WalkBike NC.

WalkBike NC Vision Statement:

"North Carolina is a place that incorporates walking and bicycling into daily life, promoting safe access to destinations, physical activity opportunities for improved health, increased mobility for better transportation efficiency, retention and attraction of economic development, and resource conservation for better stewardship of our environment."

WalkBike NC Pillars/Principles:

Five main principles, or plan 'pillars', are derived from the vision statement, defining major themes of interest and emphasis within the Plan:

Improve mobility and accessibilty and reduce traffic congestion through with greater investment in walking and biking infrastructure (through a Complete Streets approach), improved transportation equity and choice, connectivity among transportation modes, and reduced traffic congestion through coordinated land use and transportation planning.

Goal: Double state pedestrian and bicycle mode share by 2020 and double each decade thereafter.

Promote safety for all roadway users through strategic, consistent, and coordinated pedestrian and bicycle facility improvements, education, and enforcement strategies.

Goal: Reduce per capita pedestrian and bicycle crash rate by 10% by 2020 and by 10% each decade thereafter.

Health

Contribute to improved public health by providing active living environments with safe, connected, accessible facilities along with programs that encourage walking and bicycling.

Goal: Reduce inactivity rates by 10% by 2020 and by 10% each decade thereafter.

Economy

Maximize economic competitiveness, return on investment and employment opportunities by creating more attractive walkable and bikable communities through increased public and private funding.

Goal: Increase investment in pedestrian and bicycle projects and programs by 25% and thus return on investment.

Environment

Be good stewards of our environment by reducing automobile dependence, completing a Greenprint Plan for North Carolina, and linking together the state's natural and cultural resources through a statewide network of greenways.

Goal: Increase mileage of greenways by 10% by 2020 and by 10% each decade thereafter.

Goal: Double state pedestrian and bicycle mode share by 2020 and double each decade thereafter.

The Planning Process

WalkBike NC was completed over twelve months, informed by a robust public engagement process. NCDOT, the consultant team, and stakeholders used a variety of methods to reach out to citizens and stakeholders across North Carolina to engage them in a meaningful dialogue and process of public input. NCDOT sponsored a special project web site, WalkBikeNC.com, that featured a welcome and introductory video by Deputy Secretary for Transit Paul Morris, FASLA. The website was linked to Facebook, Linkedin, Google, and Twitter in order to capture a broader range of interests, and to NCDOT's primary transportation web portal. Additional links were made to partner web sites.

NCDOT and its consultants also hosted 15 focus group meetings, 3 regional workshops, and attended 16 festivals and events across North Carolina whose total attendance exceeded 600,000 participants. Additionally, more than 30 organizations and groups from a variety of disciplines including health, safety, environment, mobility, and economic development were also engaged in the planning process. The result of this broad participation is the development of a statewide pedestrian and bicycle master plan that truly reflects the vision, ideas, concerns, and recommendations of North Carolinians.

Project Funders and Key Stakeholders

The WalkBike NC Plan was jointly funded by the North Carolina Department of Transportation (NCDOT), Department of Environment and Natural Resources (DENR), Department of Commerce, Department of Health and Human Services (DHHS), Blue Cross Blue

Timeline of Plan Development

Key steps in the development of the plan are outlined below. The process included weekly NCDOT staff & consultant meetings, plus Steering Committee and Advisory Committee meetings at every stage.

2012 July-Aug

Begin project

Meet with committees to discuss the project vision and current conditions

Launch web site, social media & online input map

Begin evaluation and interviews for updating the State Bicycle Route

Project web site

2012 Sept-Oct

Conduct outreach at 3 Regional Workshops, 7 Focus Group Meetings, and 16 public events across North Carolina

Public outreach

2012 Nov-Dec

Develop the first draft of the WalkBikeNC Plan

Collect comments from staff and committee members

Launch the WalkBikeNC Blog

Draft plan & blog

2013 Jan-Feb

Revise the Draft Plan and develop additional plan products

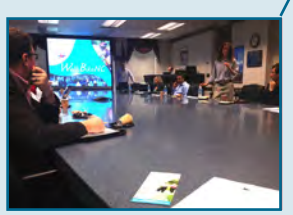
Plan summary & topic area summaries

2013 Mar-April

Second round of focus group meetings and stakeholder meetings

Final plan meetings & presentations

Final revisions to plan products



Focus group/Stakeholder Meetings

2013 May

Plan Approval & Adoption

Plan approval and adoption

Bicycle advocacy groups from across the state met with WalkBikeNC project planners in 2012, one of many similar outreach meetings held throughout the planning process.

Shield of North Carolina Foundation, and the Davis Wealth Management (DWM) Foundation. NCDOT assembled a Steering Committee and an Advisory Committee that were comprised of legislators, agency staff, Division of Bicycle and Pedestrian Transportation staff, NCDOT divisions, MPO/RPO staff, bike/ped advocacy groups, funding partners, and county and municipal representatives. Intradepartmental and interdepartmental efforts were instrumental in guiding the development of this plan and laid the foundation for future coordination.

What does the plan include?

WalkBikeNC provides a review of walking and bicycling in North Carolina today, including the history of pedestrian and bicycle planning in North Carolina, relevant reports and surveys, current trends, people and processes involved in pedestrian and bicycle planning, and a review of current pedestrian and bicycle facilities around the state. The Plan includes a guide for addressing statewide pedestrian and bicycle policy in North Carolina. This information, along with public input and the guidance of the Steering Committee, was used to inform the recommendations for North Carolina pedestrian infrastructure and bicycle infrastructure. Chapters on NCDOT design standards and programming for health, safety, and active living provide a comprehensive guide on how pedestrian and bicycle planning and design can more specifically support the goals of safety, health, economics, transportation efficiency, and stewardship. The implementation and tools for benchmarking and accountability sections then provide a blueprint of the steps and evaluation tools needed to monitor the plan's progress and turn its vision and goals into reality. The Plan is described through nine chapters devoted to these topics. There is also an extensive appendix that covers additional topics.

Trends and Challenges

North Carolina is Growing and Changing

North Carolina's communities have undergone significant change in the 21st century. In the coming decades, changes in population and land use development will unfold that will create opportunities and challenges for the state. One of the most important influences on North Carolina's future will be population growth, fueled primarily by immigration from other states and countries. **In 2010, North Carolina ranked as the tenth most populous state in the country with 9.5 million people.[1] By 2030, it will be home to an estimated 12.2 million people, surpassing Michigan, Ohio, and Georgia to become the seventh most populous state.[2]**

This growth will be coupled with a continued population shift from rural to urban areas. **In 1990, 50.3% of North Carolina's population resided in urban areas. By 2000, that percentage had increased to 60.3% and is expected to reach over 75% by 2040.[2]** In addition, population density has reversed its downward trend in North Carolina's major cities. Population density (number of people living per square mile) and migration from rural areas to urban centers has increased. A larger, increasingly urban population will influence the mobility, health, lifestyle, and economic vitality of North Carolinian customers and our communities. These trends of more people living in more densely populated communities are pointing the way towards the need for better places for North Carolina residents to walk and bike.

Another trend that illustrates a need for improved walking and bicycling options is our changing age composition. One of the most important emerging trends in our state is the increasing number of **North Carolinians age 65 or older: this segment of the population is anticipated to increase from 13% in 2010 to nearly 20% by 2032, an increase of more than 2.3 million people.[2]** An estimated one in five (21%) Americans age 65 or older do not drive due to declining health, declining mental capacity, safety concerns, lack of access to an automobile, or personal preference.

An increase in the percentage of households with a single occupant is another change that will affect the transportation needs and preferences of North Carolina's population. The rise in single person households will influence where people choose to live, the types of housing they prefer, and how they get around their community. Smaller housing units in more walkable neighborhoods will be in greater demand, and households with a single income will likely desire more affordable transportation options

than the private automobile. Two-thirds of Americans already consider the walkability of an area in their housing decision, with grocery stores, pharmacies, hospitals, and restaurants being the most-desired places within a short walk from home.[3] North Carolina can accommodate this growing demographic by creating communities where residents can safely and regularly walk and bike for fun or utility.

These trends, in addition to health, economics, and safety, underscore the need for targeted, forward-thinking investments that will make North Carolina's communities safer, healthier, more economically robust, and more accessible for everyone.

North Carolina Population Pyramids, 2010 and 2032

Age Group	2010	Percentage
Under 18	2,281,635	23.9%
18-24	938,618	9.9%
25-44	2,573,744	27.0%
45-64	2,507,407	26.3%
65+*	1,234,079	12.9%

Age Group	2032	Percentage	Change from 2010
Under 18	2,614,632	22.1%	14.6%
18-24	1,083,644	9.1%	15.5%
25-44	3,017,305	25.5%	17.2%
45-64	2,786,665	23.6%	11.1%
65+	2,328,177	19.7%	88.7%

Age Population Pyramid for North Carolina, 2010; and projected for 2032. Sources: US Census Bureau, 2010; http://www.osbm.state.nc.us/demog/countytotals_agegroup_females_2032.html

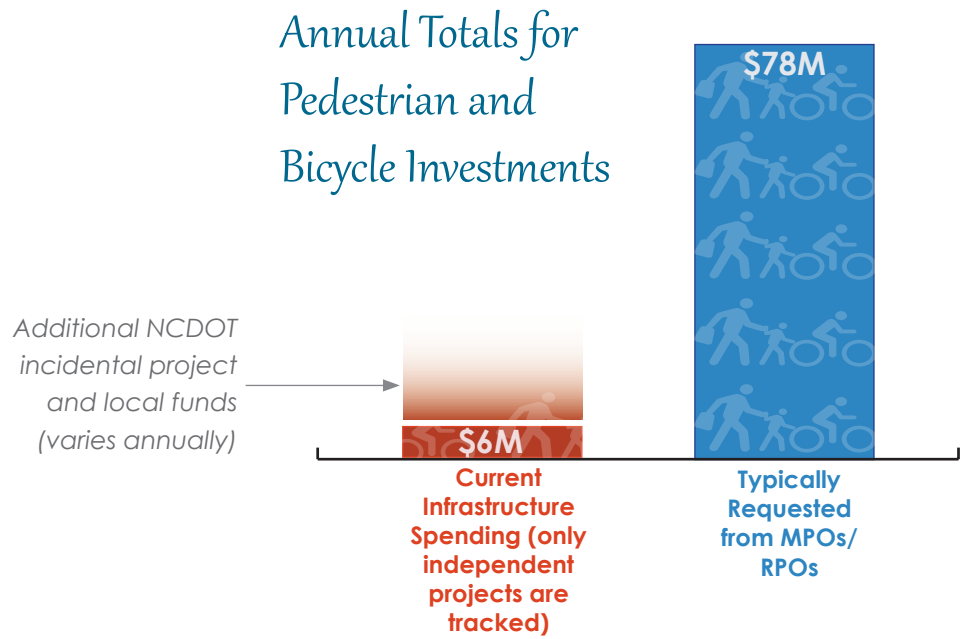
Mobility

Needs versus Funding

In North Carolina, currently only 0.2% of NCDOT transportation independent project funding goes towards pedestrian and bicycle infrastructure development. The *2040 North Carolina Statewide Transportation Plan* (2012) reports pedestrian and bicycle conditions to be at the low end of level of service "D".

As defined by NCDOT, level of service (LOS) is the "quality of service from the perspective of the user" and can vary from a "desired state" of LOS A to a failing state of LOS F.

MPOs, RPOs, and municipalities, who have completed customer-driven pedestrian and bicycle plans, submitted pedestrian and bicycle investment needs of $78 million per year (2018-2022 investment needs), a figure that does not reflect the entire state need because not all local governments have completed such plans. Seven MPO/RPO input summits that took place in 2012 as part of the State Prioritization process recommendedthat $47.4 million should be allocated to pedestrian and bicycle projects per year (ten times the current amount) to raise the pedestrian and bicycle level of service to the low end of "C."



Opportunity to Increase Walking and Bicycling Rates in North Carolina

Commute rates for walking and bicycling in North Carolina currently fall below the national average, with just 0.2% of North Carolina commuters bicycling to work and 1.8% walking to work, compared to 0.6% bicycling and 2.9% walking nationwide. **This places North Carolina 42nd for walking commute rates and 41st for bicycling commute rates in nationwide state rankings.**[4] When compared to neighboring states, North Carolina is slightly above average with higher rates than all of its neighbors except Virginia.

An estimated 40% of all trips (commute and non-commute) taken by Americans each and every day are less than two miles, equivalent to a bike ride of 10 minutes or less; however, just 13% of all trips are made by walking or bicycling nationwide.[4] To put these numbers into perspective, 34% of all trips are made by walking or bicycling in Denmark and Germany, and 51% of all trips in the Netherlands are by foot or by bike.[5] Germany, Denmark, and the Netherlands are wealthy countries with high rates of automobile ownership, just like the United States, and yet an emphasis has been placed on providing quality walking and bicycling environments which has alleviated the reliance on motor vehicles for short trips.

Safety

Safety Trends and Challenges in North Carolina

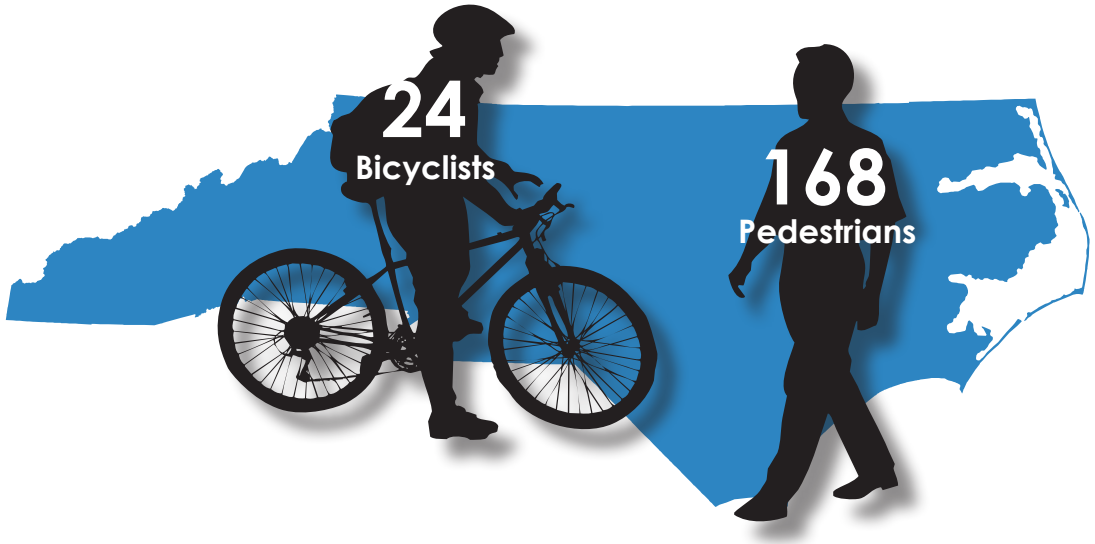
According to a survey of 16,000 North Carolina residents for the 2011 North Carolina Bicycle and Pedestrian Safety Summit, the most commonly reported safety issue for walking and bicycling was inadequate infrastructure (75%).[6] The figures below show that the respondents have cause for concern:

- Each year on average (2005-2009), 168 pedestrians and 24 bicyclists are killed in collisions with motor vehicles on North Carolina roads, with many more seriously injured.[7]
- North Carolina is ranked as one of the least safe states for walking (41st) and bicycling (44th).[4]
- 12.3% of all traffic fatalities in North Carolina are bicyclists and pedestrians.[7]
- There are 10.0 bicycle fatalities per 10,000 daily bicyclists (which ranks sixth worst in the country) and 9.0 pedestrian fatalities per 10,000 daily pedestrians (which ranks 10th worst in the country).[7]
- During the five-year period from 2005 to 2009, a total of 4,824 bicycle-motor vehicle crashes and 12,419 pedestrian-motor vehicle crashes were reported to North Carolina authorities.[7]

Improving Safety in North Carolina

Separate studies conducted by the Federal Highway Administration and the University of North Carolina Highway Safety Research Center demonstrate that installing pedestrian and bicycle facilities directly improves safety by reducing the risk of pedestrian-automobile and bicycle-automobile crashes. Furthermore, according to the aforementioned survey, 70% of respondents said they would walk or bicycle more if safety issues were addressed, citing a lack of bicycle and pedestrian facilities as the top issues.[6]

Average yearly fatalities due to motor vehicle collisions (2005-2009). This represents 12.3% of all traffic fatalities in North Carolina.[4]



Safest States for Bicycling

1. South Dakota
2. Vermont
3. Oregon
4. Nebraska
5. North Dakota
6. Colorado
7. Montana
8. Wyoming
9. Idaho
10. Washington
11. Massachusetts
12. Wisconsin
13. Rhode Island
14. Minnesota
15. Utah
16. Hawaii
17. Maine
18. Alaska
19. Pennsylvania
20. California
21. Illinois
22. West Virginia
23. Missouri
24. Iowa
25. New Mexico
26. Virginia
27. Arizona
28. Kansas
29. New Hampshire
30. Connecticut
31. New York
32. Kentucky
33. Michigan
34. Maryland
35. Ohio
36. Indiana
37. New Jersey
38. Nevada
39. Oklahoma
40. Texas
41. Georgia
42. Tennessee
43. Louisiana
44. North Carolina
45. Florida
46. Alabama
47. Arkansas
48. Delaware
49. South Carolina
50. Mississippi

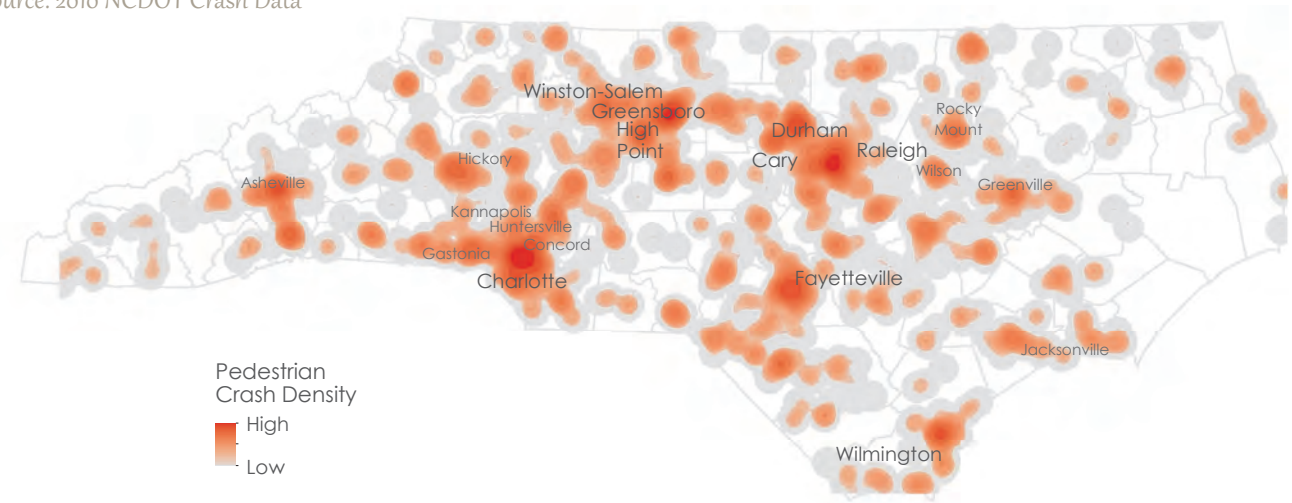
Safest States for Walking

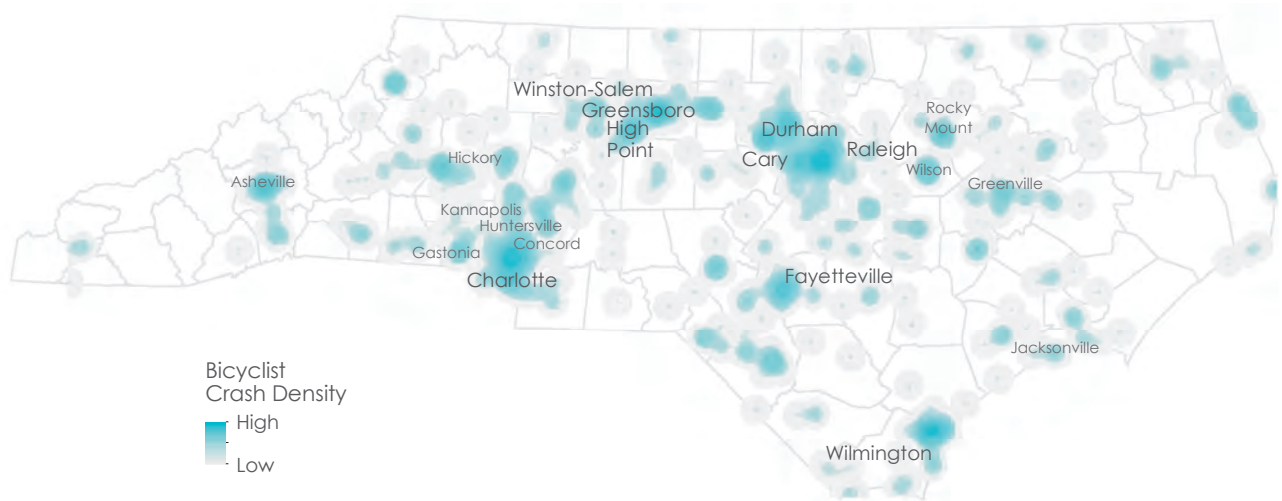
1. Vermont
2. Nebraska
3. Alaska
4. Wyoming
5. Iowa
6. South Dakota
7. North Dakota
8. Maine
9. Massachusetts
10. Minnesota
11. New Hampshire
12. New York
13. Wisconsin
14. Washington
15. Idaho
16. Kansas
17. Montana
18. Pennsylvania
19. Oregon
20. Colorado
21. Illinois
22. Connecticut
23. Utah
24. Hawaii
25. Ohio
26. Indiana
27. West Virginia
28. Rhode Island
29. Virginia
30. Kentucky
31. New Jersey
32. Michigan
33. Missouri
34. California
35. Oklahoma
36. Tennessee
37. Nevada
38. Arkansas
39. Maryland
40. Delaware
41. North Carolina
42. Texas
43. New Mexico
44. Arizona
45. Georgia
46. Mississippi
47. Alabama
48. South Carolina
49. Louisiana
50. Florida

Tables from the 2012 Benchmarking Report by the Alliance for Biking & Walking. Ranking was developed using a rough approximation of exposure levels that takes both population and cycling levels into account. Note that exposure data are rough approximations and fatalities can vary greatly from year to year.

2010 Pedestrian and Bicycle Crash Density Maps, NC

Source: 2010 NCDOT Crash Data*





*Maps show geographic density of pedestrian and bicycle crashes in 2010

Health

Health Trends and Challenges in North Carolina

North Carolina's transportation system is one of the most important elements of our public environment, and it currently poses barriers to healthy living through active transportation. In 2012, NCDOT's Board of Transportation revised its mission statement to include "health and well-being" and passed a "Public Health Policy," which declares the importance of a transportation system that supports positive health outcomes. Below are some key trends and challenges related to health and transportation in North Carolina:

- 65% of adults in North Carolina are either overweight or obese.[8] The state is also ranked 5th in the nation for childhood obesity.[9]
- Recent reports have estimated the annual direct medical cost of physical inactivity in North Carolina at $3.67 billion, plus an additional $4.71 billion in lost productivity. However, every dollar invested in pedestrian and bicycle trails can result in a savings of nearly $300 in direct medical expenses.[10]
- Of North Carolinians surveyed, 60% would increase their level of physical activity if they had better access to sidewalks and trails.[8]
- A Charlotte light rail study found that residents who switched to using light rail weighed an average of six and a half pounds less than those who continued to drive to work.[11]

Better Health through Active Transportation

Using active transportation to and from school, work, parks, restaurants, stores and other routine destinations is one of the best ways that children and adults can lead measurably healthier lives. Increasing one's level of physical activity through walking and bicycling reduces the risk and impact of cardiovascular disease, diabetes, chronic disease, and some cancers. It also helps to control weight, improves mood, and reduces the risk of premature death.[12]

In recent years, health professionals and advocates have become new partners in promoting and planning for active transportation.

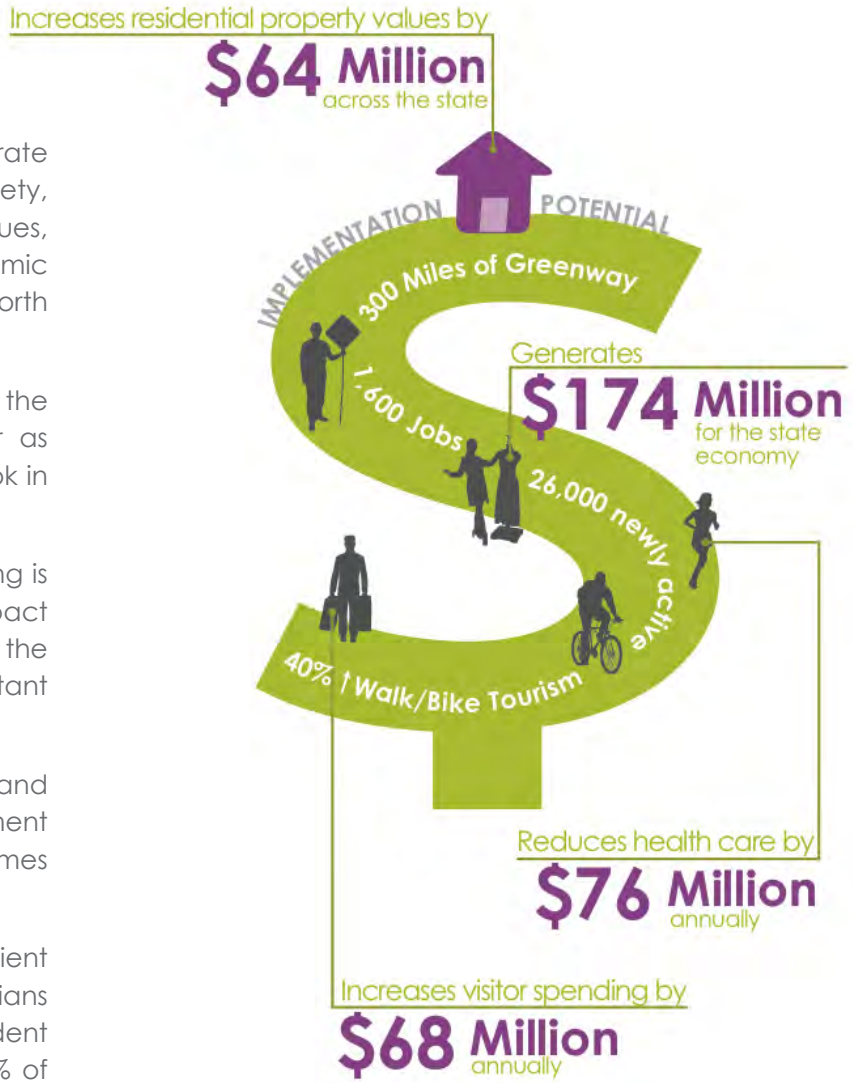
Active Transportation: Pathway to Health

Economics

Economic Trends in North Carolina

Facilities for bicyclists and pedestrians generate economic returns through improved health, safety, and environmental conditions, raise property values, and attract visitors. Below are some key economic trends related to walking and bicycling in North Carolina:

- North Carolina is the 6th most visited state in the United States and 2011 was a record year as visitors spent $18 billion, many of whom partook in activities related to walking or biking.[13]
- In North Carolina's Outer Banks alone, bicycling is estimated to have an annual economic impact of $60 million and 1,407 jobs supported from the 40,800 visitors for whom bicycling was an important reason for choosing to vacation in the area.[14]
- The annual return to local businesses and state and local governments on bicycle facility development in the Outer Banks is approximately nine times higher than the initial investment.[14]
- Walking and biking are also economically efficient transportation modes. Many North Carolinians cannot afford to own a vehicle and are dependent on walking and biking for transportation (6.7% of occupied housing units in North Carolina do not own a vehicle).[15]



These economic estimates were derived under the assumption of adding 300 miles of greenway statewide. The full economic impact analysis can be found in the full document, in Appendix 10.5.

Gas Prices & Bicycling for Transportation

The bicycle is becoming a more popular personal transportation vehicle as worldwide population grows; or more people move to cities and communities become more densely populated. In addition, the rising gas prices of recent years have had an impact on Americans at all income levels. Although this increase cannot be attributed to gas prices alone, 2008 was the year with the highest recorded rate of increased bicycle commuting in the last decade in the United States. During the 2008 gasoline price spike, many bicycle shops benefited from this rise in bike commuting. In August 2008, Bikes Belong surveyed more than 150 bike retailers from 40 states. Seventy-three percent of retailers said they were selling more transportation-related bicycles. Nearly every shop (95%) had customers citing high gas prices as a reason for their purchase, and four in five retailers said gas prices were helping them sell more bikes.[16] According to a 1997 survey of bike commuters, 46% said they ride to save money on gasoline.[17] **During the first quarter of 2009, more bicycles were sold in the United States than cars and trucks combined.** Around 2.6 million bicycles were purchased during the quarter, outselling the 2.5 million cars and trucks purchased in the same period. Worldwide production of bicycles in 2012 outnumbered automobile production 130 million units to 50 million units.

Revitalizing North Carolina's Small Town Main Streets

The North Carolina Department of Commerce's Main Street Program assists small towns in making improvements to reestablish their downtowns as thriving economic centers. S**ince the Program's start in 1980, towns have experienced a total gain of $1.66 billion in new investment and 14,600 new jobs.**[18] While the Main Street Program takes a wide approach to improving downtowns, many plans completed through the Program include initiatives to make streets more bicycle and pedestrian friendly. Towns have focused on improving sidewalk connectivity, creating marked walking routes, installing bike lanes, and implementing street-level design improvements for a more enjoyable walking experience. Transforming downtown shopping into an enjoyable, active experience has helped towns attract consumer spending that might previously have occurred at larger shopping centers outside their tax base and improve downtown property values.

The Town of Clayton is one of many Main Street Program successes. Among recent projects, they designed and built an all-brick walkway to the Civil War Trails marker. Photo: http://downtownclayton.blogspot.com/

Summation of Estimated Economic Impacts Associated with Investment in Bicycle and Pedestrian Infrastructure within the State of North Carolina

Economic Impact Category	Estimated Economic Impact	Beneficiaries
Economic stimulus from upfront construction	$174M supporting 1,600 jobs	The entire State economy
Economic stimulus from increased tourism activity	$128M supporting 1,600 jobs	The entire State economy
Direct use value from usage of bicycle and pedestrian infrastructure	$228M in new direct use value	State residents who use the new bicycle and pedestrian infrastructure
Health care cost reduction from usage of bicycle and pedestrian infrastructure	$76M in health care cost reduction	State residents who use the new bicycle and pedestrian infrastructure, and the health care cost pools to which they belong
Commuting gains from increased usage of bicycle and pedestrian infrastructure	4.9M fewer car miles driven, $167,000 in emissions cost avoidance, $800,000 not spent on gasoline, $325,000 in congestion cost avoidance	Drivers within the State, as well as the State as a whole
Property value gains from proximity to bicycle and pedestrian infrastructure	$64M one-time increase in property value, $640,000 annual increase in property tax revenues	Property owners, municipalities and school districts

▲ These estimates are calculated under the assumption of an increase of 300 miles of greenway infrastructure. See Appendix 10.5 for more information.

Source: Econsult Corporation (2012)

Environment

Stewardship of North Carolina's Environment

Stewardship, for the purposes of this Plan, addresses the impact that transportation decisions (both at the government/policy level and individual level) can have on the land, water and air that North Carolinians and tourists enjoy. Environmental sensitivity and resource protection is one of the goals of WalkBikeNC. Below are some key trends and challenges related to stewardship and transportation in North Carolina:

- Even a modest increase in walking and bicycling trips (in place of motor vehicle trips) can have significant positive impacts. For example, replacing two miles of driving each day with walking or bicycling will, in one year, prevent 730 pounds of carbon dioxide from entering the atmosphere.[19]
- According to the National Association of Realtors and Transportation for America, 89% of Americans believe that transportation investments should support the goal of reducing energy use.[20]
- North Carolina's 2009-2013 Statewide Comprehensive Outdoor Recreation Plan (SCORP) found "walking for pleasure" to be the most common outdoor recreational activity, enjoyed by 82% of respondents, and bicycling by 31% of respondents.[21]

Stewardship and Transportation

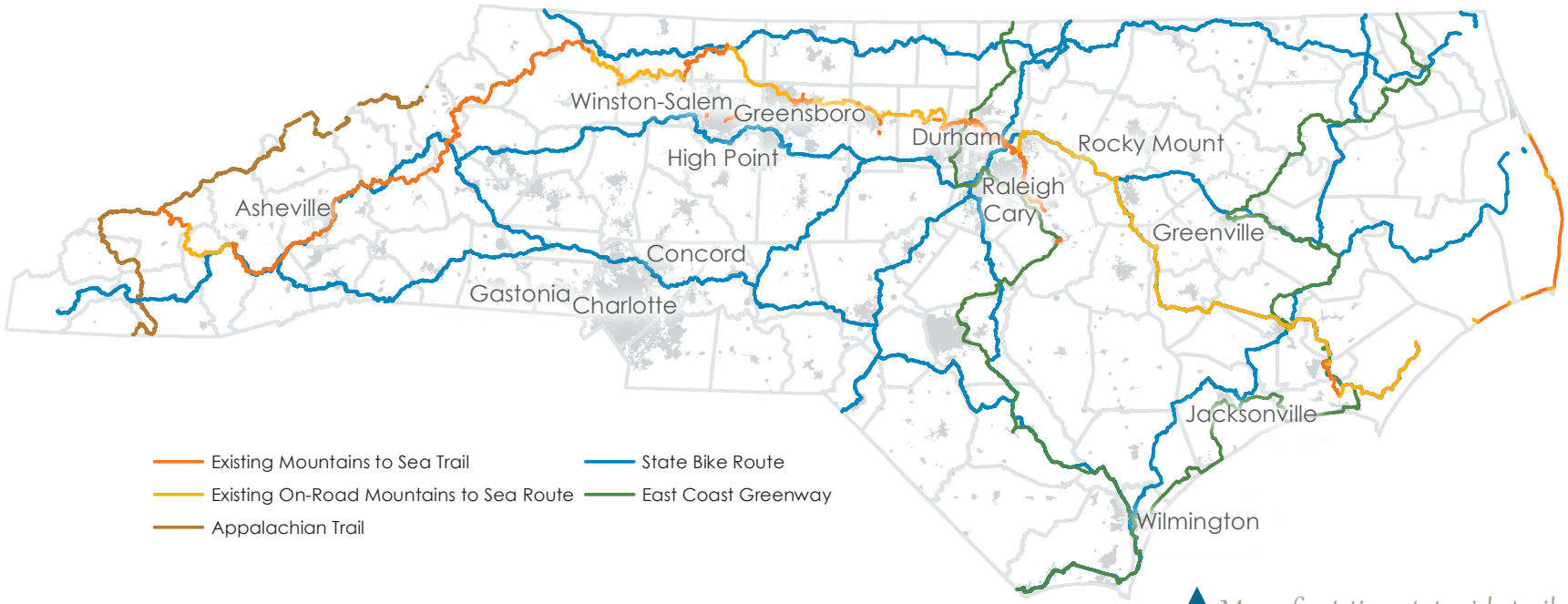
Stewardship is represented in many ways across North Carolina from transportation planning to statewide trails, recreation areas, and environmental education. Walking and bicycling trails through North Carolina landscapes, seen on page 17, enable tourism, recreation, and environmental education opportunities.

Transportation, land use, and resource protection issues must be considered together when planning and designing North Carolina's future transportation system. Environmental education and other stewardship opportunities will be promoted in tandem with the Statewide Pedestrian and Bicycle Plan by involving the expertise and perspective of NC Division of Parks and Recreation and NC Department of Environment and Natural Resources as planning partners.

Conservation Planning Tool

The Conservation Planning Tool (CPT), developed by the North Carolina Department of the Environment and Natural Resources (DENR), has already been used in comprehensive, long-range transportation planning in North Carolina. This tool identifies important natural heritage features such as unique landscapes, farmlands, and high-quality forests, etc. and is helping planners make more informed land use and transportation decisions.

This type of cross-collaboration between NCDENR and North Carolina's transportation stakeholders will be critical to fulfilling NCDOT's mission of, "Connecting people and places safely and efficiently, with accountability and ***environmental sensitivity*** to enhance the economy, health, and well-being of North Carolina."



Map of existing statewide trails and bicycle routes, which serve as economical, recreational, and stewardship drivers.

Promoting North Carolina's natural beauty to potential tourists will support economic competitiveness while enhancing stewardship.

Needs and Metrics

The Need and Demand for Improved Walking and Bicycling Conditions

North Carolina has both high demand and a strong need for improved walking and bicycling infrastructure, policies and programs. The need and demand can be expressed as follows:

- North Carolinians need and strongly desire the construction of more sidewalks, off-road trails (greenways), and on-road bicycle facilities within all types of communities (rural, suburban and urban) throughout our state.
- Our state and local governments have not invested enough in pedestrian and bicycle infrastructure. In fact, the historic level of investment does not even match the current usage (travel mode share) occurring throughout the state.
- Too many North Carolina pedestrians and cyclists are being killed and seriously injured annually.
- We are not doing enough to educate North Carolina pedestrians, cyclists and motorists on how to share roadways throughout the state.
- North Carolinians can become healthier if we integrate walking and bicycling into daily active living.
- North Carolina can become more prosperous by accommodating pedestrian and bicycle activity in all communities, regardless of size and location.
- North Carolina's natural and cultural resources can be more effectively conserved and managed by promoting walking and bicycling.
- State agencies and local governments should work with the private sector to engage and involve North Carolinians in the future development of statewide pedestrian and bicycle facilities and programs.

Walking and Bicycling Infrastructure is Underfunded and Incomplete

It is very difficult to locate any community within North Carolina that has a complete, interconnected, contiguous and fully functional walking and bicycling network, especially as compared with our state's roadway and highway network. The vast majority of ped/bike networks in cities like Raleigh, Charlotte, Winston-Salem, Asheville and Wilmington, just to name a few communities, are nowhere near complete. For those who want to walk or bike, this is the equivalent of getting into an automobile to make a trip, but being unable to complete the trip because roads simply ended after you pulled out of your neighborhood. That is the reality that pedestrians and cyclists face throughout North Carolina.

North Carolina's walking and bicycling infrastructure has been underfunded for decades and our state has fallen significantly behind customer demand for facilities and programs. While North Carolina's population has swelled and communities have rapidly changed to absorb the growth, investment in pedestrian and bicycle infrastructure has significantly lagged behind demand.

Using the *NCDOT 2040 Plan* as the basis for determining financial need from four perspectives--whether modal needs are current or accruing in the future; by investment goal (infrastructure health, mobility, or safety); by system tier (Statewide, Regional, or Subregional); and resulting metric Level of Service (LOS)--the lack of investment in pedestrian and bicycle transportation is more clearly defined. For example, **the 2040 Plan highlights a total of $773 million of pedestrian and bicycle funding need for the next 30 years.** Current deficiencies (existing pedestrian and bicycle needs, sometimes referred to as backlogged needs) include $632 million for 30 years (2040 Plan) ($21.07 million per year). This NCDOT-generated value reflects what is needed to meet target Level of Service (LOS) to accommodate reasonable modes of transportation.

Additionally, the **Metropolitan Planning Organizations and Rural Planning Organizations have submitted needs for a five-year period, 2018-2022, that total $390 million of financial need for walking and bicycling ($78 million per year).** This summarizes an estimate of need defined and submitted by local governments from across the State as a result of detailed transportation planning.

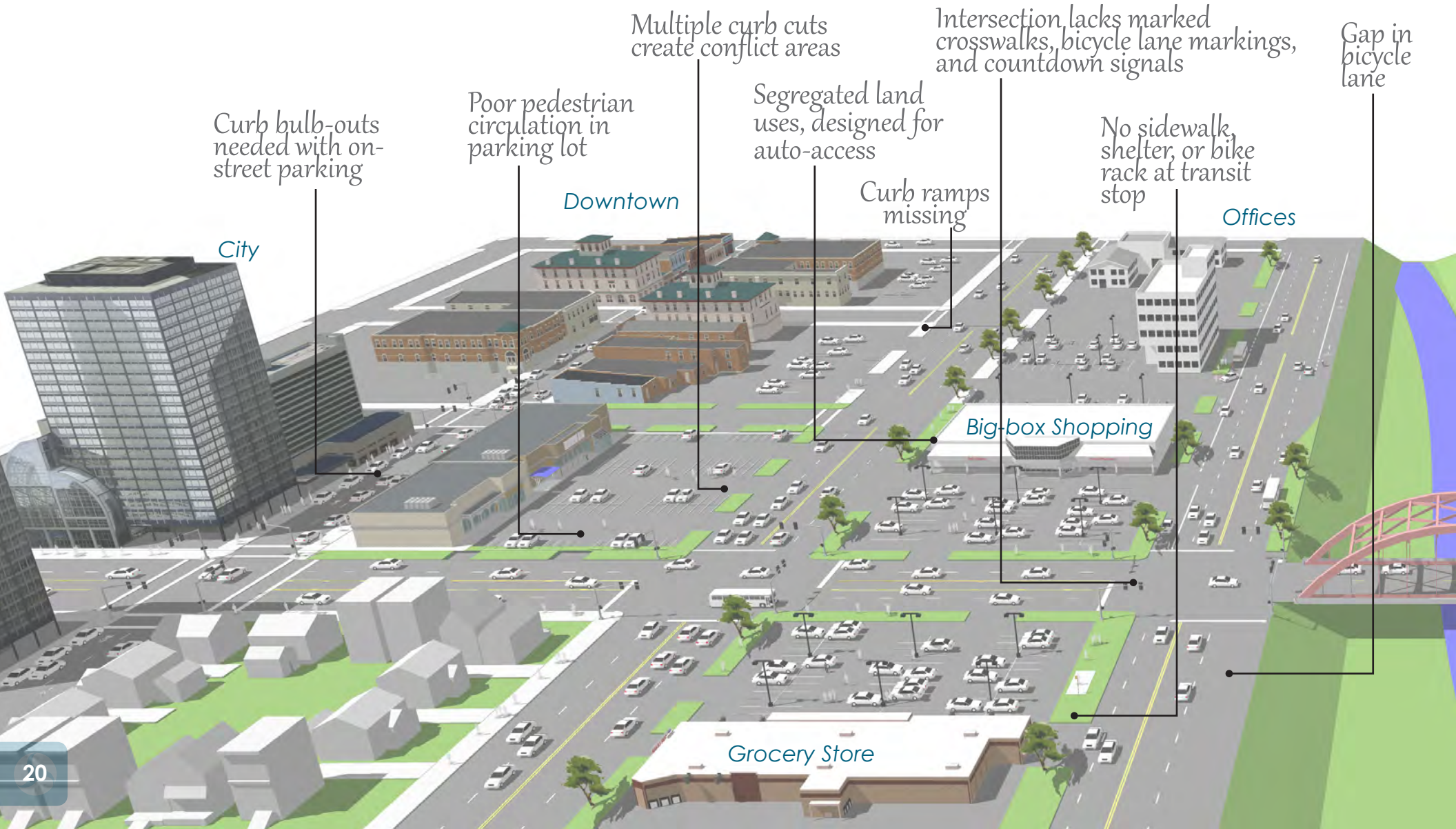
Bicycle and Pedestrian Needs (Target LOS) (billions of 2011 dollars)

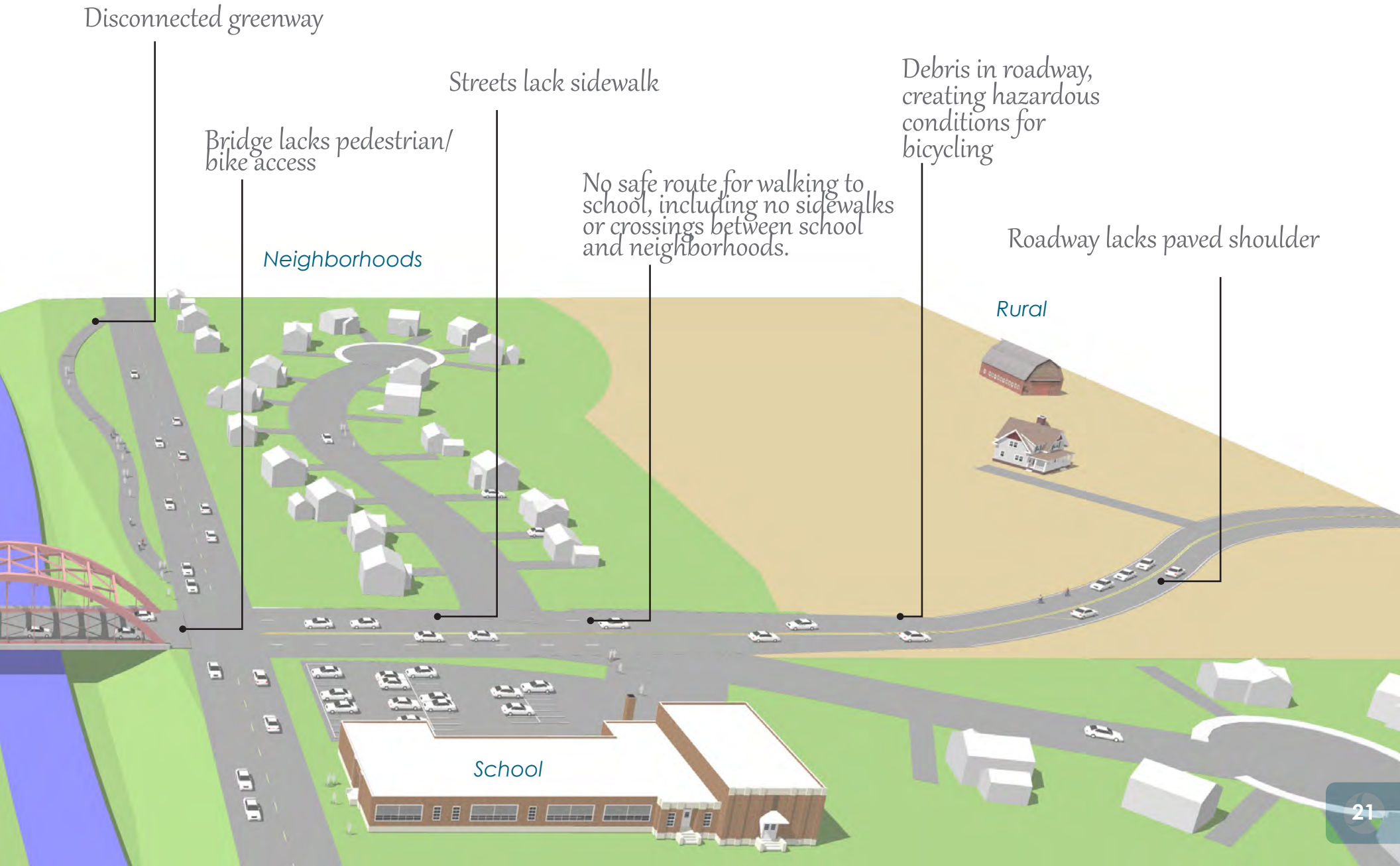
Investment Goal	Current Deficiencies	Accruing	30-Year Total
Mobility	0.32	0.07	0.39
Safety	0.32	0.07	0.39
Total	**0.63**	**0.14**	**0.77**

Bicycle and Pedestrian needs from NCDOT's 2040 Plan

TRANSPORTATION CHOICES IN NC TODAY: *THE AUTOMOBILE*

This graphic illustrates how most urban, suburban, and rural areas in North Carolina are designed primarily for the automobile. Driving an automobile is currently the most convenient mode of travel for many North Carolinians because our roadway network is designed for driving and our land uses tend to be segregated and separated by long distances, making walking and bicycling from origin to destination challenging. North Carolina currently lacks a contiguous, interconnected and consistent network of pedestrian and bicycle facilities and services that would encourage walking and bicycling as a viable choice for transportation.

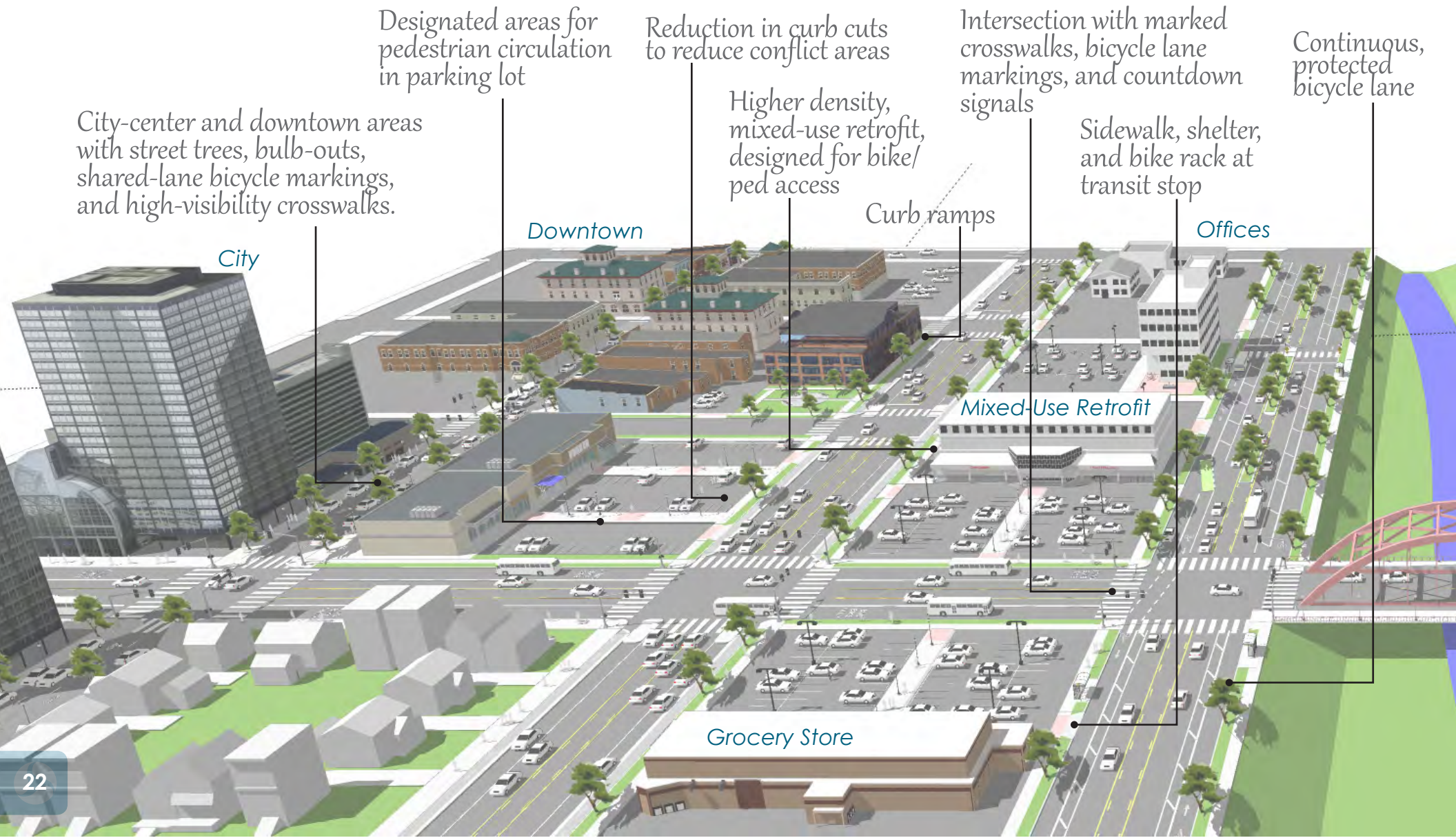


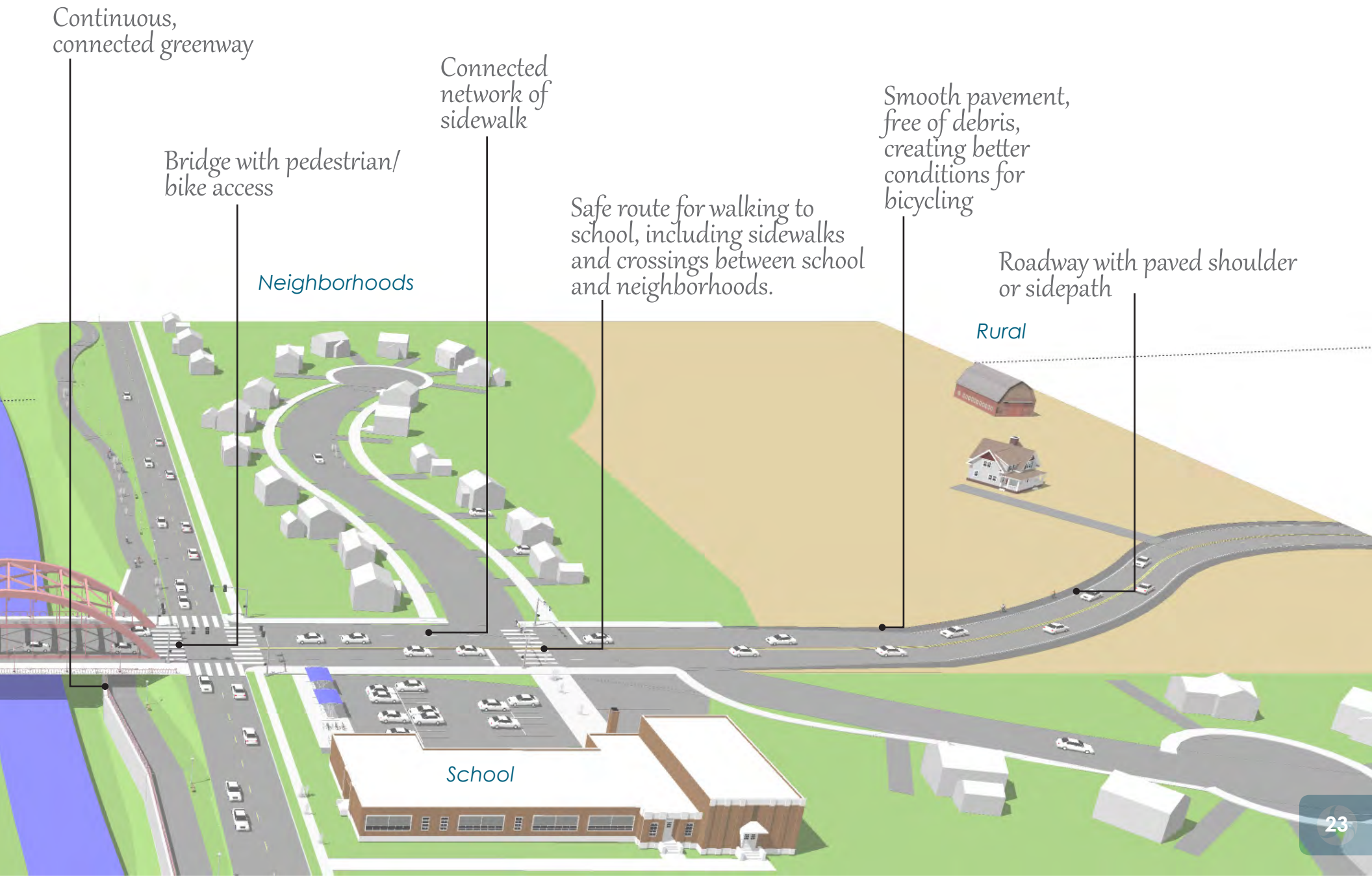

Disconnected greenway
Bridge lacks pedestrian/ bike access
Streets lack sidewalk
No safe route for walking to school, including no sidewalks or crossings between school and neighborhoods.
Debris in roadway, creating hazardous conditions for bicycling
Roadway lacks paved shoulder
Neighborhoods
Rural
School

Draft Comments: www.surveymonkey.com/s/WalkBikeNC_Draft

NEW TRANSPORTATION CHOICES FOR NC: *CUSTOMER SERVICE FOR ALL ROADWAY USERS, INCLUDING PEDESTRIANS AND BICYCLISTS*

This graphic illustrates how most urban, suburban, and rural areas in North Carolina can be retrofitted to better serve all of NCDOT's transportation 'customers'. In addition to the transportation project examples below, issues with land use and trip distances will also need to be addressed, mostly on the local and regional level. This could include a greater mix of land uses, higher densities of development, infill development, and reinvestment in NC's downtown areas. Land use and development strategies such as these serve to not only reduce infrastructure costs and preserve open space, but they also shorten daily trip distances, making walking and bicycling a more viable choice for everyday transportation.




Continuous, connected greenway
Bridge with pedestrian/ bike access
Connected network of sidewalk
Safe route for walking to school, including sidewalks and crossings between school and neighborhoods.
Smooth pavement, free of debris, creating better conditions for bicycling
Roadway with paved shoulder or sidepath
Neighborhoods
Rural
School

We Can Improve Safety for Pedestrians and Bicyclists in North Carolina

North Carolina is one of the least safe states in the nation to walk or bike. Thirteen percent of all traffic fatalities are pedestrians and cyclists. Our state is incurring, on average, 10.0 bicycle fatalities per 10,000 daily bicyclists (sixth worst in country); and 9.0 pedestrian fatalities per 10,000 daily pedestrians (10th worst in country).[7] **The majority of the pedestrian and bicycle collisions occur inside municipal limits, and minority populations make up a disproportionate share of these accidents and fatalities.**

The 2011 Bicycle and Pedestrian Safety Survey found that 80% of 16,000 respondents felt that bicycling is currently somewhat or very dangerous. Most importantly, respondents felt that the lack of facilities, such as sidewalks, greenways and on-road bicycle facilities is making it dangerous to walk and bike throughout North Carolina.[6]

In addition to unsafe environments, North Carolina is not doing enough to encourage motorists to share the road, and to be watchful for pedestrians and cyclists.

North Carolinians Can Become More Healthy Through Active Living

The health of North Carolinians is greatly influenced by where and how we live, work, learn and play. The World Health Organization declared that "health is a state of complete physical, mental and social well-being and not merely the absence of disease or illness." To maintain health, it is important for North Carolinians to be active on a daily basis. Federal and North Carolina policies and programs support creating active living environments in all communities throughout the state.

Walking and bicycling as normal parts of daily transportation can greatly improve health.

The need and demand to transform our towns and cities into active living communities is great. North Carolina is the 32nd healthiest state and 36th in premature death. Less than half of adult North Carolinians were performing the minimum recommended amount of weekly physical activity necessary to maintain proper health.[22] Active living is critically important, as changes in land use and transportation during the past four decades have been a contributor to declining health. In North Carolina, 65% of adults are either overweight or obese; North Carolina is also ranked fifth in the nation for high levels of childhood obesity.[9] Physical inactivity is very costly to our state, resulting in medical costs of more than $3.67 billion and loss of productivity in excess of $4.71 billion.[10]

An estimated 42% of North Carolinians who commute daily complete a trip of less than 10 miles. Nationally, 40% of all trips (commute and non-commute) are less than two miles, which is a very reasonable biking and walking distance.[4] Almost 11% of all trips in North Carolina are walking trips.[23] Additionally, there are segments of North Carolina's population for whom walking and bicycling may be the only mode of travel. Approximately 6.7% of occupied housing units in North Carolina do not own a vehicle and therefore are dependent on walking, biking, and public transportation.[15]

We Can Improve North Carolina's Economy through Walking and Bicycling

Making North Carolina's communities more walkable and bikeable will help boost economic development, create jobs, reduce heath care costs and result in a significant return on public and private dollars invested. North Carolina must remain economically competitive by marketing and promoting our greatest assets, the quality of life that is found in all of our communities, large and small.

North Carolina needs to create jobs for its citizens in order to grow our economy. The construction industry in North Carolina is one of the most important to our economy. It employs a diversity of people with respect to ethnicity, gender and socio-economic condition. The construction industry also supports numerous small businesses across the state. Building a network of pedestrian and bicycle facilities throughout North Carolina, as recommended by this Plan, provides tremendous opportunity for small, diverse businesses to sustain jobs and create thriving enterprise.

Providing quality, interconnected infrastructure is critical to meeting the needs of all pedestrians and bicyclists, but it can also translate into jobs related to construction and tourism.

Another way to grow our economy is to become an attraction for tourism, which is the fastest growing sector of North Carolina's economy. North Carolina has a chance to become a mecca for outdoor tourism, due to our geographical location, moderate climate, rich history, spectacular natural resources and hospitable citizens. One way to fulfill this opportunity is to make our communities more walkable and bikeable. In 2011, North Carolina's tourism revenue grew to $17 billion, with more than 37 million overnight visitors.[13] Building more pedestrian and bicycle infrastructure will dramatically increase the number of bicycle tourists to our state and increase revenues and spending within our state. This Plan estimates that more than $168 million in new revenues could occur annually, supporting approximately 1600 new jobs and generating an additional $1 million in tax revenues.

North Carolina spends a significant amount of money on health care. A more walkable and bikeable North Carolina can reduce the amount spent on direct health care, treatment of chronic illness, worker's compensation claims, administrative costs and worker productivity. This Plan estimates that North Carolina can save $76 million annually in health care costs by investing in walking and bicycling infrastructure and programs.

Making our communities more walkable and bikable will catalyze more cycling and walking trips and reduce the number of vehicle miles traveled. **This Plan estimates that we can reduce vehicle miles traveled by 4.9 million miles through an investment in walking and bicycling infrastructure.** This will reduce the amount of gasoline purchased and result in transportation cost savings of more than $1 million annually.

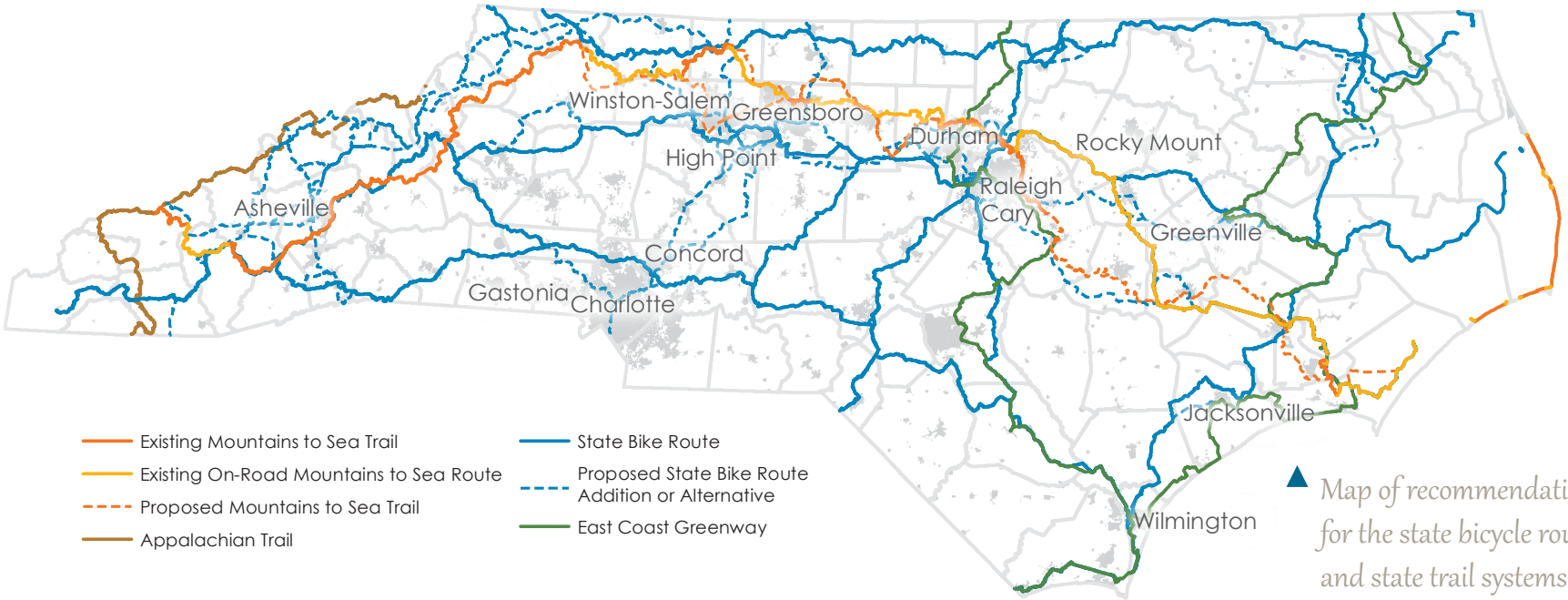
We Can Be Better Stewards of North Carolina's Environment

Protecting and conserving North Carolina's air, land and water resources is the most important factor in maintaining the quality of living and economic competitiveness of our state. Our natural resources are irreplaceable and must be properly managed for future generations to enjoy and prosper from. Investing in pedestrian and bicycle infrastructure and programs is one way in which we can become better stewards of North Carolina's environment.

We can reduce the impact that transportation systems have on North Carolina's environment by reducing our dependency on automobile travel and offering citizens the choice to walk or bike. This will result in a reduction in transportation vehicle emissions from automobiles. The automobile industry is also one of the greatest generators of solid waste, much of which is never recycled. Reducing our long term dependence on automobiles will reduce the amount of solid waste generated.

Promoting walking and bicycling will also lead to a more compact form of growth. North Carolina needs to accommodate more than 2 million people across our state within the next 20 years. How we accomplish this is important. By adopting policies and programs that support walking and bicycling, we can shrink the amount of land needed to accommodate such growth, lessen our impact on air, land and water resources and promote more affordable quality living.

North Carolina's parks, open space and greenways are some of the most beloved and cherished landscapes in our communities. There is a need to link together the community greenspaces that have been established during the past three to four decades. These interconnected networks of



Map of recommendations for the state bicycle routes and state trail systems.

greenspace can serve multiple uses and provide a wide variety of benefits to citizens. Networks of greenspace can help to conserve natural resources, they can simultaneously be used as corridors for commuting, while at the same time mitigate impacts associated with flooding. North Carolina needs a comprehensive plan for its greenspace resources, and this Plan recommends a Greenprint Plan for North Carolina (a plan defining the protection of open space and greenways).

Level of Service (LOS) (defines how well a mode of transport meets public needs)

In 2012, as part of the 2040 Plan, NCDOT determined the current statewide LOS for the bicycle and pedestrian system to be LOS D, based on a bicycle/pedestrian index developed by the Division of Bicycle and Pedestrian Transportation. The 2040 Plan states that if current funding levels remain the same, the LOS would be F by 2022. Measures used to determine the LOS score were commute mode share, crash totals/rates, percentage of roadways with paved shoulders, percentage of municipal population with pedestrian/bicycle plans, and health (physical activity/overweight) percentages.

Ultimately, pedestrians and bicyclists do not have a viable, equivalent quality transportation choice other than the use of the automobile in the current statewide transportation system. A distinct current

and accruing need exists for safety, mobility, and infrastructure health across North Carolina in all three geographic tiers: urban, suburban, and rural. There is a lack of a consistent, connected, accessible, and safe pedestrian and bicycle network across the state, region, and cities of North Carolina, making walking and bicycling a difficult choice in transportation for most places across the state. In addition, pedestrians and bicyclists are more limited by distances to key destinations, a factor largely influenced by local land use decisions.

Pedestrians and bicyclists include a wide range of types, ages, capabilities, and skill levels. To effectively deliver pedestrian and bicycle transportation to North Carolinians, NCDOT must consider the range of pedestrians (See Chapter 3) and bicyclists (See Chapter 4). **A customer-service approach that addresses the specific needs and requirements of the broad range of pedestrians and bicyclists is necessary for NCDOT to deliver bicycle and pedestrian transportation effectively to North Carolinians.**

Each North Carolina transportation customer faces basic decisions for travel to destinations that are influenced by a number of factors. A motorist is not as influenced by distance because an automobile can move faster and go farther with fewer obstacles to travel, and the roadway network is interconnected and continuous, easily accessing destinations. A pedestrian or bicyclist is influenced by distance traveled and lack of interconnected facilities due to travel speed, capability of the cyclist or pedestrian, and the fact that the network of walkways and bikeways often does not exist in many places throughout North Carolina.

A comprehensive approach that goes beyond facilities is needed to deliver to the pedestrian and bicyclist customers. As the 2040 Plan recommends, NCDOT will continue pursuing its mission of "connecting people and places safely and efficiently, with accountability and environmental sensitivity to enhance the economy, health, and well-being of North Carolina." Adhering to the NCDOT mission statement and delivering quality pedestrian and bicycle accommodations includes both quantitative and qualitative metrics.

To determine if pedestrian and bicyclist needs are being met, a more comprehensive approach to metrics and performance measures is needed to build upon current LOS measurements. This approach should address the needs outlined above at both a system-wide (statewide/regional) level and project-specific (local) level. In many cases, this will be possible with additional data collection. The following performance metric guide was developed utilizing precedent guidance from other states.

Strategies for Implementing WalkBike NC

A collaborative, efficient, and customer-driven effort is required by NCDOT and its partners to make North Carolina a premiere state for walking and bicycling, thereby improving health, safety, transportation efficiency, economic well-being, and stewardship. The following five principles, with their associated objectives and strategies, outline the key investments and actions that North Carolina's public and private sectors should undertake to implement WalkBikeNC. A more detailed list of focused action steps are provided in Appendix 10.10 of the full version of the WalkBike NC Plan.

In order to measure the success of WalkBike NC, state agencies and local governments will be asked to improve customer service and track the progress of project delivery and program implementation. To accomplish this, evaluation feedback mechanisms will be implemented including better communications with customers and annual progress reports. The percentage of STIP projects that are completed or not completed in a timely manner will be reported. User counts will be taken throughout the state to gauge pedestrian and bicycle mode share. Customers will be surveyed to ensure that the vision and goals of WalkBike NC are being achieved.

This Plan's principles (mobility, safety, health, economy, and environment) are used to organize related objectives, strategies and performances measures on the following pages. ▼

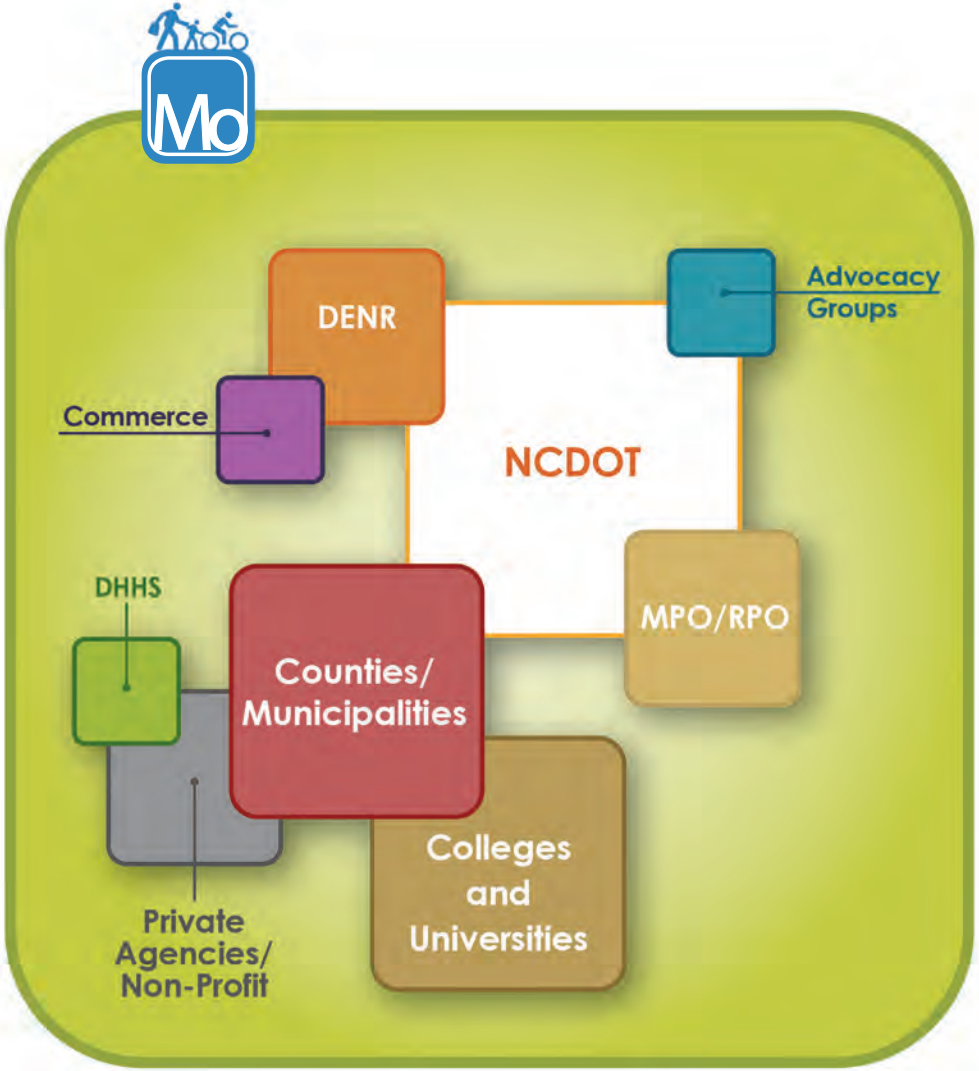
Mobility

Principle One:
Expand Walking and Bicycling Network

NCDOT will work with public and private sector partners to improve the quality of transportation choice for pedestrian and bicycle travel throughout North Carolina by expanding and connecting the local, regional and intrastate network of bicycle facilities, supporting the expansion of community-oriented pedestrian facilities, providing better access to transit, and meeting the needs of the disabled in all project work. NCDOT, in partnership with local governments and the private sector, will work collaboratively to streamline pedestrian and bicycle project delivery through a multi-prong approach that focuses on identifying available funding, reducing encumbrances, and implementing the NCDOT Complete Streets Policy.

NCDOT will update the Department of Bicycle and Pedestrian Transportation planning grant program to modernize its function and purpose, create a new category of funding that supports the Americans with Disability Act, focus on corridor and small area grant awards, support grants for countywide pedestrian and bicycle planning, and create new grant funding that supports municipal pedestrian and bicycle programs.

NCDOT will work with colleges and universities to improve data, technology, and web applications that make planning and customer communication more efficient.



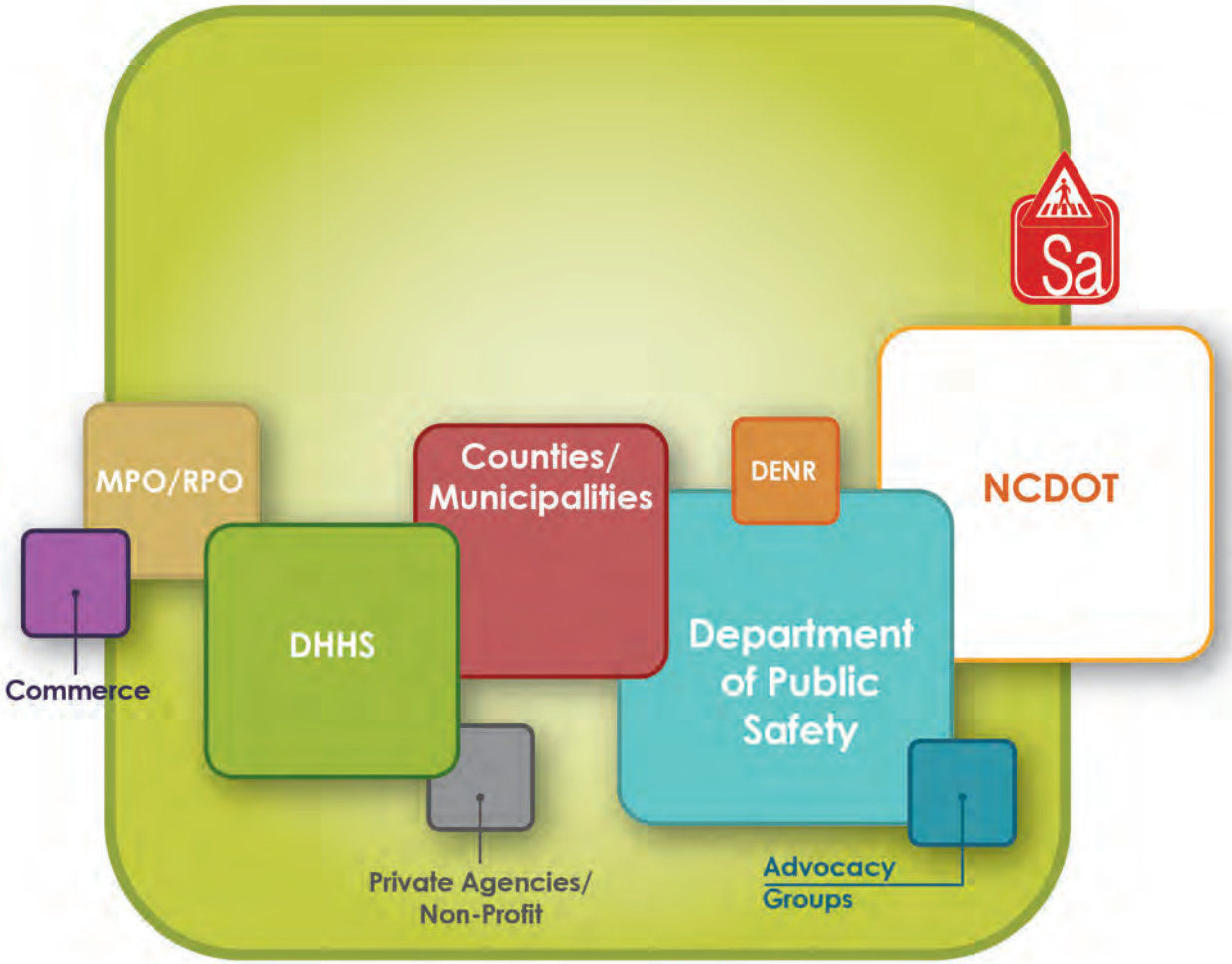
This diagram represents the partnerships and lead agencies necessary to address this principle.

Mobility: *Equity, choice, connectivity among transportation modes*

Objectives (The WHAT)	Performance Measures (The EVALUATION)	Example Strategies (The HOW)
• Expand and connect the local, regional and intrastate network of bicycle facilities • Expand community-oriented pedestrian facilities • Improve transportation equity • Provide pedestrian and bicycle access to transit • Reduce traffic congestion • Improve performance-based program delivery • Improve efficiency of technology and planning	• Pedestrian and bicyclist mode share • Percentage of trips made by bicycling and walking • Percentage of roadways that have sidewalks • Percentage of roadways that have designated and/or separated bicycle facilities • Percentage of signalized intersections with pedestrian crosswalks and crossing signals • Regions/MPOs/Counties/ Municipalities with bicycle/ pedestrian/greenway plans • Regions/MPOs/Counties/ Municipalities implementing local bike/ped policies • Compliance with Complete Streets Policy • Percentage of eligible roadway projects built as Complete Streets • Percentage of transit, rail and ferry hubs with complete access amenities for bike/ped • Percentage of state bike routes with paved shoulder • Customer pedestrian and bicycle counts	• Increase investment in walking and biking infrastructure • Streamline project planning and delivery • Complete Streets implementation » Update Roadway Design Manual and Bicycle/ Pedestrian Facility Design Guidelines » Pass Complete Streets as law • Coordinate land use and transportation planning • Enhance transit access policies and design to make transit accessible, attractive, and safe for pedestrians and bicyclists • Update NCDOT's Bicycle and Pedestrian Transportation planning grant program » modernize its function and purpose » create a new category of funding that supports the Americans with Disability Act » focus on corridor and small area grant awards » support grants for countywide pedestrian and bicycle planning » create new grant funding that supports municipal pedestrian and bicycle programs • Partner with the League of American Bicyclists to improve the Bicycle Friendly State Program ranking » includes annual evaluations and response to successful and unsuccessful programs appropriately to ensure sustainable future investments • Establish an evaluation/benchmarking program • Partner with colleges and universities to improve data development and technology

Principle Two: Improve Public Safety for Walking and Bicycling

A primary goal of this Plan is to improve safety for all roadway users through strategic, consistent and interconnected pedestrian and bicycle facility improvements, along with appropriate policies and strategies for accident prevention, education and enforcement. NCDOT and the North Carolina Department of Public Safety will work cooperatively with municipalities and law enforcement to implement the recommendations defined within this Plan.



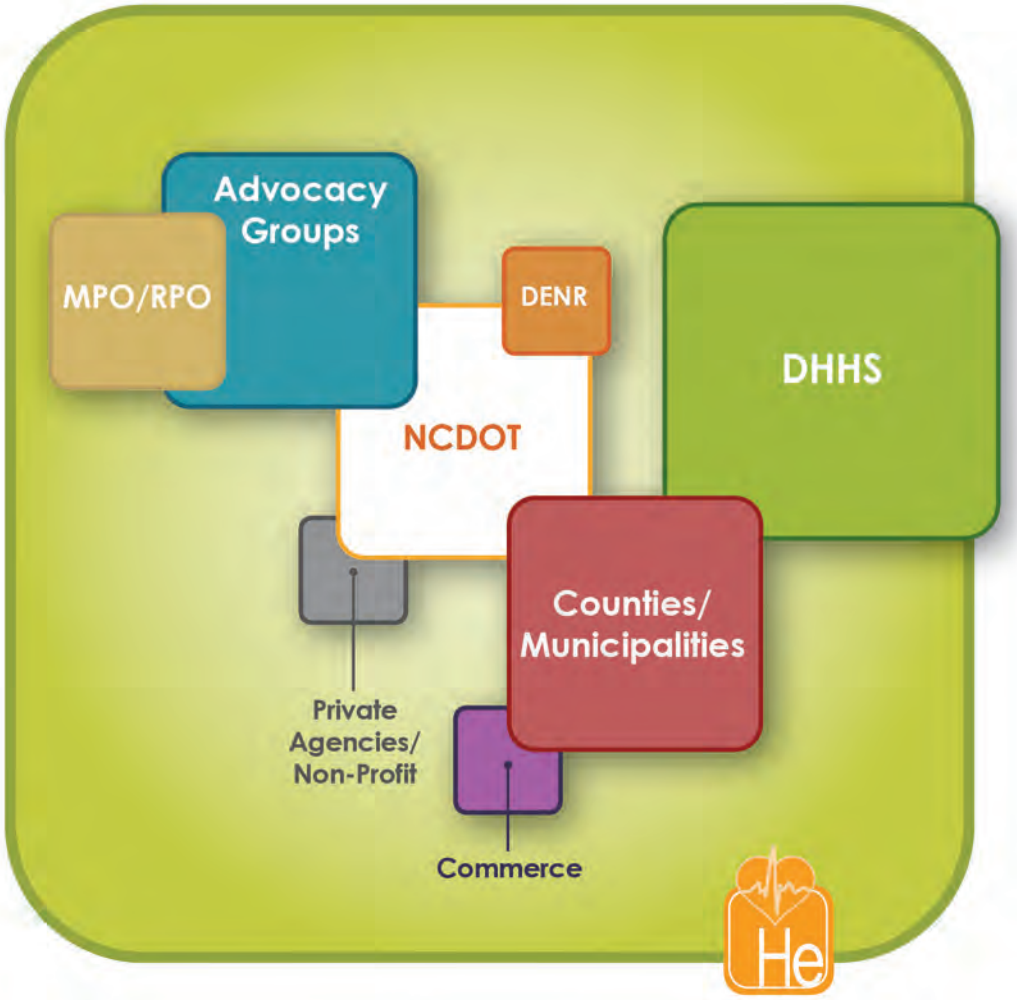
This diagram represents the partnerships and lead agencies necessary to address this principle.

Safety: *Public safety for pedestrians and bicycylists*

Objectives (The WHAT)	Performance Measures (The EVALUATION)	Example Strategies (The HOW)
• Create a strategic, consistent, and connected pedestrian and bicycle network • Improve safety of pedestrians and bicyclists • Increase and improve enforcement of motorist/bicyclist/ pedestrian laws to ensure law abidance • Improve crash data reporting and mapping and preventative/ pro-active safety strategies	• Pedestrian and bicyclist crash and fatality rates (per capita) • Pedestrian and bicyclist crash and fatality rates (per capita) relative to other states • Number of schools participating in pedestrian and bicycle safety education/encouragement programs • Cities, businesses, and universities designated as Bicycle and Walk Friendly by the League of American Bicyclists and the Highway Safety Research Center	• Make strategic facility improvements • Use greater portion of HSIP for pedestrian and bicycle projects • Improve enforcement efforts • Continue education programs (including rights of the road) • Develop policies and strategies for accident prevention • Expand Safe Routes to School program • Use FHWA Crash Modification Factors • Build partnership between NCDOT, DHHS, and Department of Public Safety • Establish evaluation/benchmarking program

Principle Three: Embrace Health and Wellness as a Vital Transportation Purpose

North Carolina must embrace a diversified statewide transportation program that contributes significantly to improved public health and wellness by providing and supporting the development of active living environments with safe, connected and accessible transportation facilities. The Department of Health and Human Services and NCDOT will work cooperatively with local health organizations, insurance companies and health care providers to implement the recommendations in this Plan to ensure that North Carolina's transportation system becomes part of successful intervention solutions.



This diagram represents the partnerships and lead agencies necessary to address this principle.

Public Health: Public health and wellness

Objectives (The WHAT)	Performance Measures (The EVALUATION)	Example Strategies (The HOW)
• Increase active living environments • Increase the safety, connectivity and accessibility of the bicycle and pedestrian network • Improve public health outcomes • Increase ADA compliance	• Physical inactivity rates • Obesity rates • Pedestrian and bicyclist crash and fatality rates (per capita) relative to other states • Health care costs • Percent of projects that are ADA-compliant	• Implement programs that encourage walking and bicycling • Involve health policy practitioners in project scoping and development • Continue DHHS Community Transformation Grant and NCDOT SRTS partnership • Incorporate HIAs into transportation projects • Expand education, encouragement, and enforcement programs • Build partnerships between NCDOT, DHHS, local health departments, health organizations, insurance companies, and health care providers. • Incorporate Public Right of Way Accessibility Guidelines into transportation development practices, strategies, and implementation • Establish evaluation/benchmarking program

Economy

Principle Four: Foster Robust Economic Development by Promoting Walking and Bicycling

North Carolina can maximize economic competitiveness, and return on transportation investment, by creating more accessible, attractive, walkable and bikeable communities. Walking and bicycle facilities and programs have been shown to stimulate job growth across North Carolina. The Department of Commerce will work with NCDOT, North Carolina visitors and convention bureaus, chambers of commerce, local governments and private sector interests to build on the broad partnership that was created to prepare this WalkBike NC Plan and explore ways in which we transform our state to become a national and international destination for bicycle and pedestrian tourism.

This diagram represents the partnerships and lead agencies necessary to address this principle.

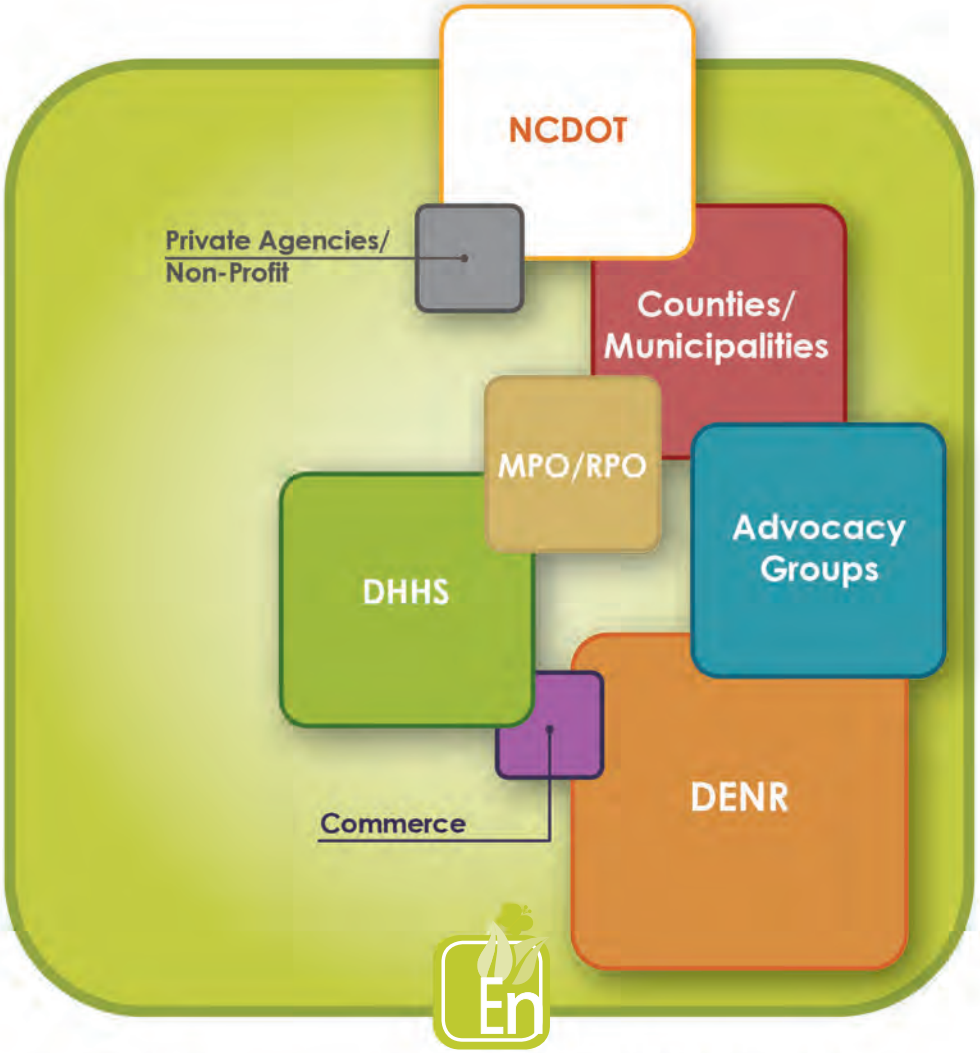
Economic Competitiveness: *A Robust Economy*

Objectives (The WHAT)	Performance Measures (The EVALUATION)	Example Strategies (The HOW)
• Use transportation investment to support economic development and job creation • Increase attractiveness and quality-of-life through walkable and bikable communities • Measure return on investment of active transportation investments • Become a national and international destination for bicycle and pedestrian tourism • Use return on investment analyses to inform transportation decision-making • Leverage effective funding strategies for active transportation investment to meet long-term needs	• Return-on-investment measures » Tourism » Property Values » Job Creation » Small business development » Individual quality-of-life measures • Percentage of project costs supported by local funding, public-private partnerships, and/or other cost recovery mechanisms • New business start-ups due to walkability and bikability of community	• Promote walking and bicycling • Enhance web presence at www.visitnc.com and www.accessnc.com • Expand Main Street Program to include Complete Streets design elements • Build partnerships between NCDOT, Department of Commerce, visitors and convention bureaus, chambers of commerce, local governments, and private sector • Initiate North Carolina-based return on investment analyses and post-construction assessment for active transportation infrastructure to inform decision-making • Diversify the funding stream that supports investment in bicycle and pedestrian facility and program development • Establish evaluation/benchmarking program

Environment

Principle Five: Encourage Stewardship of North Carolina's Natural & Cultural Resources

North Carolina's land, air and water resources are the foundation of quality living, economic prosperity and community identity. NCDOT is committed to conserving and protecting North Carolina's natural and cultural heritage while at the same time providing world-class transportation facilities and programs. To accomplish these goals, the Department of Environment and Natural Resources will work with NCDOT to utilize the Conservation Planning Tool (CPT) for transportation planning and design. North Carolina should continue its national leadership in local, regional and statewide greenway development by completing a Greenprint for North Carolina.



This diagram represents the partnerships and lead agencies necessary to address this principle.

Stewardship of our Environment: *Conserve and protect North Carolina's natural and cultural heritage*

Objectives (The WHAT)	Performance Measures (The EVALUATION)	Example Strategies (The HOW)
• Reduce automobile dependence • Increase the active transportation linkages between the state's natural and cultural resources • Conserve and protect North Carolina's natural resources • Expand statewide greenway network	• Percentage of planning and design efforts that utilize Conservation Planning Tool • Reduction in transportation-related emissions due to increase in walking/bicycling trips • Miles of greenways/shared-use paths	• Complete a Greenprint for North Carolina • Expand the statewide network of greenways that links key cultural and natural heritage activity centers (could be economic, too) • Build partnerships between NCDOT, DENR, DWQ, CTNC, DPR, land trusts, and non-profits. • Utilize the Conservation Planning Tool (CPT) for transportation planning and design • Update and coordinate trail design guidelines (NCDOT, DENR, DWQ) • Establish evaluation/benchmarking program

Funding

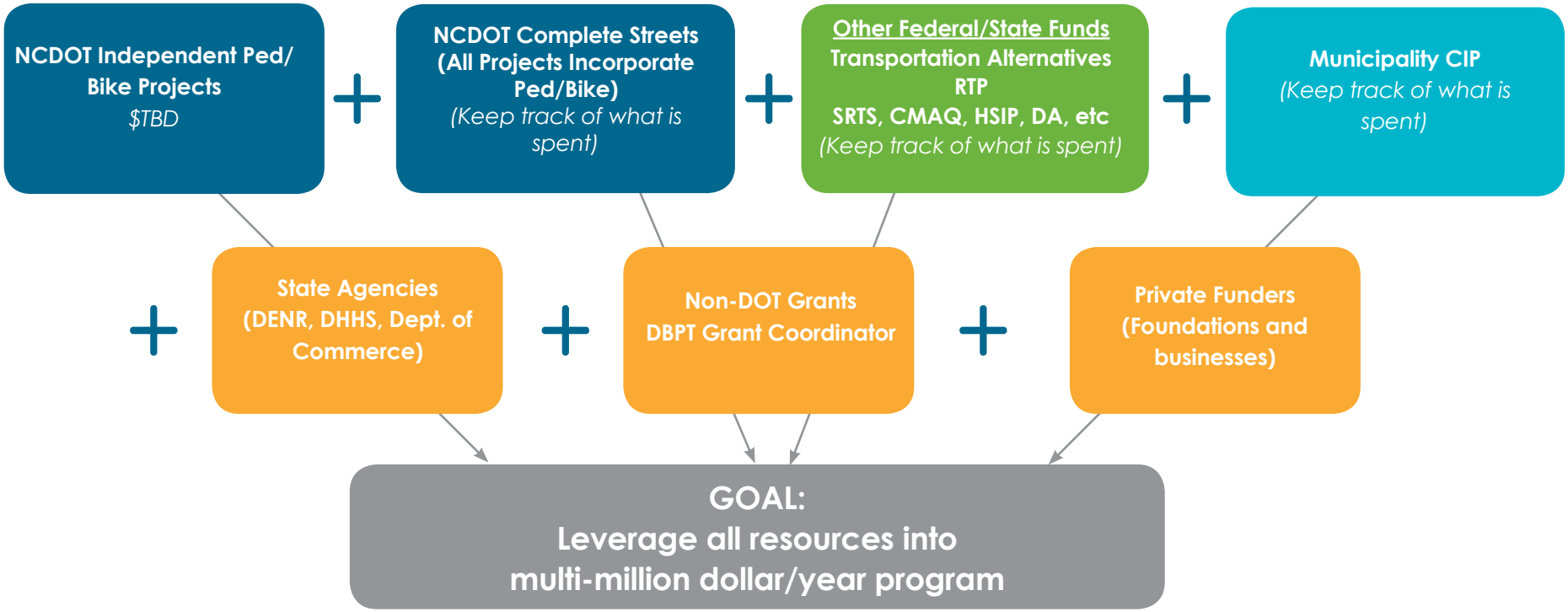
With pedestrian and bicycle customer need clearly expressed in this Plan, additional funding is needed to improve the current LOS "D." This can be achieved in two clear ways: 1) Implement Complete Streets as common practice in new construction and reconstruction so that pedestrian and bicycle improvements are included elements in projects, not just incidentals, and 2) Build and retrofit pedestrian and bicycle facilities to improve connectivity, safety, and mobility.

One of the greatest challenges of North Carolina's transportation infrastructure is paying for the cost of network expansion, recurring operations, and maintenance. It is necessary to diversify the funding stream that supports investment in bicycle and pedestrian facility and program development by inviting and encouraging a broader range of public and private sector funding partners at the local, subregional, regional and state level. The NCDOT 2040 Plan defines the need to better relate revenues and funding to mode share. Currently, there is a significant unmet need for pedestrian and bicycle facilities throughout North Carolina. NCDOT and its partners are committed to funding pedestrian and bicycle projects and programs in a manner that reduces the unmet customer need. Financial support is needed from local governments and the private sector to address and resolve this unmet need.

Further, NCDOT should develop methods of tracking the funds spent on walking and bicycle facility improvements and programs so that it is possible to benchmark the success of the financial commitment and support for pedestrian and bicycle transportation.

The funding chart on the following page demonstrates the future comprehensive and diversified approach necessary to move forward.

Pedestrian and Bicycle Funding Chart: New Federal Transportation Bill (Map-21)



CMAQ - Congestion Mitigation and Air Quality
DA - Directly Attributable; RTP - Recreational Trails Program

SRTS - Safe Routes to School
CIP - Capital Improvement Program

HSIP - Highway Safety Improvement Program
DBPT - Division of Bicycle and Pedestrian Transportation

Endnotes

1. U.S. Census Bureau. (2010). 2010 Decennial Census data.
2. U.S. Census Bureau. (2005). 2030 Population Projections. http://www.census.gov/population/projections/data/
3. National Association of Realtors. (2011). The 2011 Community Preference Survey: What Americans are looking for when deciding where to live.
4. Alliance for Biking and Walking. (2012). Bicycling and Walking in the United States: 2012 Benchmarking Report.
5. Pucher, J. and R. Buehler. (2010). Walking and Cycling for Healthy Cities. *Built Environment* 36(5): 391-414.
6. NCDOT DBPT and the Institute of Transportation Research and Education. (2011). 2011 Bicycle and Pedestrian Safety Summit Report.
7. NCDOT (prepared by the UNC Highway Safety Research Center). (2011). NC Pedestrian Crash Facts 2005-2009. / NC Bicycle Crash Facts 2005-2009.
8. North Carolina State Center for Health Statistics. (2007). Behavioral Risk Factor Surveillance System, 2007 Results. www.schs.state.nc.us/SCHS/brfss/2010/index.html
9. North Carolina DHHS, Physical Activity and Nutrition Branch, Eat Smart, Move More NC. The Obesity Epidemic in North Carolina. www.eatsmartmovemorenc.com/ObesityInNC/ObesityInNC.html.
10. Be Active North Carolina. (2012). Tipping the Scales: The High Cost of Unhealthy Behavior in North Carolina.
11. MacDonald, J.M., Stokes, R.J., Cohen, D.A., Kofner, A., & G.K. Ridgeway. (2010). The effect of light rail transit on body mass index and physical activity. *American Journal of Preventive Medicine* 39(2): 105-112.
12. National Prevention Council. (2011). National Prevention Strategy: America's plan for better health and wellness. http://www.healthcare.gov/prevention/nphpphc/strategy/report.pdf
13. The North Carolina Department of Commerce reported 37 million visitors to the State in 2011, of which 63 percent came from outside the State. www.visitnc.com
14. Institute of Transportation Research and Education. (2004). "The Economic Impact of Investments in Bicycle Facilities: A Case Study of the Northern Outer Banks."
15. U.S. Census Bureau. 2011. ACS 2011 5-year data.
16. http://www.bikesbelong.oli.us/Resources/GasPrices.pdf
17. Moritz. (1997). Survey of North American bicycle commuters: Design and aggregate results. Transportation Research Record.
18. NCDOC. http://www.nccommerce.com/cd/urban-development/main-street-program/success-stories
19. FHWA. (1992). Benefits of bicycling and walking to health.
20. National Association of Realtors and Transportation for America. (2009). 2009 Growth and Transportation Survey.
21. Division of Parks and Recreation, NC Department of Environment and Natural Resources. (2008). 2009-2013 North Carolina Statewide Comprehensive Outdoor Recreation Plan.
22. NC General Assembly, Program Evaluation Division. (2013). The Division of Public Health Should Remain in the Department of Health and Human Services: Final Report.
23. Federal Highway Administration. (2009). 2009 National Household Travel Survey.

Draft Comments: www.surveymonkey.com/s/WalkBikeNC_Draft

Carolina Thread Trail, Charlotte, NC

WalkBikeNC

NORTH CAROLINA STATEWIDE PEDESTRIAN AND BICYCLE PLAN

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

March 27, 2013

Mr. Craig Benedict, AICP
Orange County Planning & Inspections Department
131 W. Margaret Lane
PO Box 8181
Hillsborough, NC 27878

SUBJECT: Orange County Planning & Inspection Comments for the Federal Environmental Assessment, Proposed Crossing Closures with the North Carolina Railroad (NCRR/Norfolk Southern (NS) Railway at Gordon Thomas Drive (TIP No. P-4405I), Greenbriar Drive (TIP No. P-4405J), and Byrdsville Road (TIP No. P-4405K) in Orange County.

Dear Mr. Benedict,

Thank you for your recent comments on TIP Projects P-4405I, P-4405J, and P-4405K. NCDOT values the input from our local government partners and recognize that only through partnership and collaboration can these projects be successful.

Thank you for meeting with us on March 15th to discuss comments from your letters dated February 22 and March 12, 2013 as well as other project-related issues. The information below is provided in response to the general and specific comments received from your department.

General Comments:

1. **There is confusion as to whether and/or which improvements will be public or private. The Project Study Maps do not adequately indicate which will be private drives and which will be public roads to NCDOT standards. Can this be clarified on the Study Maps?**

Response: All roadways planned under this crossing closures project will be constructed in compliance with NCDOT standards. Additional details include:

Greebriar Drive Crossing

- The new roadway connecting Greenbriar Drive to Spruce Pine Trail will be a public road (to be included on the State's secondary system);
- Greenbriar Drive itself will remain private but the NCDOT will ensure all residents along the road have access, via legal easement, to the new connecting roadway; and

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RAIL DIVISION
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RALEIGH, NC 27699-1553

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WEBSITE: WWW.BYTRAIN.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH, NC

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- Minor improvements will be made to improve the condition of Spruce Pine Trail which will remain a public roadway.

- The design would include provisions for vehicles to turn-around where the road ends at the railroad corridor.

Gordon Thomas Road Crossing

- NCDOT will investigate the legal considerations associated with existing easements for residential access to Paschall Drive. Where warranted, new easements will be established to ensure all residents in the Couch Mountain/Gordon Thomas Road area have legal easement to Paschall Drive.

- NCDOT will discuss the proposed status of Paschall Drive as either a public or private roadway with Paschall Drive residents before a determination is made.

Byrdsville Road Crossing

- Byrdsville Road is proposed as a public roadway from the NCRR/NS right of way near the Byrdsville Road crossing to Walter Clark Drive. Walter Clark Drive would become a public road from the intersection of Byrdsville Road/Walter Clark Drive to NC 86. The design would include provisions for vehicles to turn-around where the road ends at the railroad corridor.

2. **At the Citizen Informational Workshops there was some confusion and varying comments from DOT staff and consultants concerning NCDOT construction standards (right-of-way width, pavement width, drainage ditches, etc.). For example, there was mention of right-of-way widths possibly being 50 feet rather than 60 feet, and citizens' understanding of pavement widths varied as well. Recognizing that the projects are still in their conceptual stages, please clarify to the best of your ability the construction standards for these three projects.**

Response: NCDOT proposes to use design standards for subdivision streets and would accept a minimum 50-foot right of way in order to lessen property impacts. NCDOT would also be willing to construct a 20-foot wide aggregate base roadway (similar to existing roadway surfaces) if preferred by property owners.

A 50 foot right of way is sufficient to encompass the required roadway. However, there may be impacts to the adjacent properties in order to properly drain the roadway. This could be accomplished with easements, either temporary or permanent. The extent of easements will be determined during preliminary and final design.

3. **For purposes of applying zoning setbacks, the Orange County UDO would treat lots with two street frontages as double frontage lots.**

Response: The creation of double frontage lots will be avoided where possible. Under the current preferred alignment, double frontage lots would be a possibility along the Byrdsville Road extension and Walter Clark Road. The following items will be addressed during right of way acquisition and design.

- During right of way acquisition, NCDOT will account for established land use buffer requirements.

- Consistent with Article 10 of the UDO, access at the rear of residences along the improved Walter Clark Road will not be permitted.

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- The chain link fencing along the rear property boundaries along Walter Clark Road will be replaced if impacted.

- Additional vegetated screening will be considered during final design to lessen the visual impacts of the roadway.

4. **Proposed roadway should comply with local, state and federal standards for flood damage prevention, stream buffers, storm water management and erosion control as well as impervious surface limits.**

Response: Proposed roadways will comply with federal, state and local standards for flood damage prevention, stream buffers, storm water management and erosion control as well as impervious surface limits. Side drainage ditches will be incorporated into the roadway design where warranted. All proposed roadway improvements will be designed consistent with NCDOT standards. Adequate storm drainage will be designed and impacts to streams will be avoided, minimized, or mitigated.

5. **What are the standards for determining when side drainage ditches will be incorporated into a roadway design? When will it be known if side drainage ditches will be part of a particular roadway design?**

Response: Roadway designs will provide for positive drainage. To determine the required drainage NCDOT will establish roadway grades and cross sections to accommodate water flow. Hydraulic engineers will perform analysis of drainage requirements and incorporate results in the roadway designs.

6. **Some of the suggested reroutes (such as the case with Byrdsville) are more circuitous and increase the commute times to Durham.**

Response: Rerouting some traffic in the study areas has the potential to create slightly longer commute times to Durham under certain conditions. The additional length of commute times is not expected to be significant (five minutes or less) and will be offset by the elimination of delays at the crossings during train crossings.

7. **When available, please provide the anticipated schedule for required right-of-way acquisition, relocation of property structures and buildings where necessary, and construction dates.**

Response: The project is scheduled for right of way acquisition to begin in 2014 and construction to begin in 2015. More specific scheduling information will be provided when it becomes available.

8. **Please keep Orange County Planning staff informed of and copied on revisions to Project Study Maps, as well as more detailed design drawings as your analysis progresses.**

Response: This commented is noted, and more detailed design drawings will be provided when they become available.

<u>Specific Comments: Crossing #735 199Y/MP H 48.49/Gordon Thomas Drive (P-44051)</u>

- No comments.

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Specific Comments: Crossing #726 305F/MP H 47.62/Greenbriar Drive (P-4405J)

1. **Orange County Planning staff favors Proposed Access Road Corridor Alternative No.2. This alternative is less intrusive on the existing Greenbriar Drive residential neighborhood, and also is in a preferred location for future connectivity with properties to the north upon redevelopment in accordance with the adopted Future Land Use Map of the Orange County Comprehensive Plan.**

Response: This comment is noted. The Project Team also favors Alternative 2. Its specific alignment will be located in a manner that minimizes impacts to the residences, streams, and wetlands. If Orange County Planning staff has any specific connectivity concerns regarding Alternative 2, NCDOT requests that information be provided to the Project Team. The Project Team also requests any planning information regarding the location of future roadway connections.

2. **Planning staff continues to strongly encourage an alternative road network that purposely coordinates well with the proposed interchange redesign to the north and enhancement of proposed access road connections for adjoining nonresidential development, in that the constructed road network will readily facilitate the larger context of the area's access issues and needs.**

Response: The Project Team will coordinate with the Orange County Planning department prior to selection of a Preferred Alternative and during the final design process. The proposed Greenbriar Drive improvements will not affect the planned proposed interchange redesign.

Specific Comments: Crossing #726 189/MP H 43.89/Byrdsville Road (P-4405K)

1. **Property owners north of the Byrdsville Mobile Home Park do not have right of access through the proposed private drive exit through the Mobile Home Park. Alternative access for these northern property owners should be considered to the west through the Joppa Oaks development, or improving the private drive and adding it to the state secondary road system. Alternative access through the Joppa Oaks development would also have the benefit of dispersing traffic to multiple connections with NC 86 if the non-authorized earthen barricade at the end of Japers Lane were removed.**

Response: The Joppa Oaks neighborhood street network is not sufficient to handle the additional traffic from Byrdsville Road without substantial improvements. As described above, NCDOT proposes to improve Byrdsville Road and make it a part of the State's secondary system from the railroad right of way to NC 86/ Walter Clark Drive. The elimination of the Jaspers Lane barricade is now being considered as part of the Walter Clark Drive improvements.

2. **Children in the Byrdsville Mobile Home Park currently walk north, across the rail line, and catch the bus at the intersection of Byrdsville Road and Old NC 10. Alternative school bus routes and pick-up location(s) will need to be considered as part of the alternative road plans.**

Response: Once more detailed design plans are developed, additional coordination will occur with the Orange County School District regarding new bus routes and pick-up locations.

Comments from March 12, 2013 Letter Clarifying Comments from Julia Byrd (P-4405K)

1. **Ms. Byrd owns Tax Parcel 9873853851 (the C&J Mobile Home Park) and Tax Parcel 9873960117 (her residence). Other members of her family reside on surrounding parcels. Ms. Byrd and her family are concerned that an alternative access to west that traverses her properties to connect with**

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the Joppa Oaks development would destroy the access to her mobile home park and several of the mobile home sites within the park, the continuing income from which is essential to her livelihood.

Response: As described above, NCDOT does not intend to extend Byrdsville Road to the west in the vicinity of the C&J Mobile Home Park. The extension of Byrdsville Road is planned along an alignment which will minimize impacts to adjacent parcels. This alignment and roadway right of way will be further modified during final design.

2. **I would request that the NC Rail Division consider different alternatives not yet proposed. There is a stream that parallels the rail right-of-way, with up to 200 feet of undeveloped land between the stream and the rail right-of-way. While there is some topography of note in this area, a parallel crossing of this area from Byrdsville Road to intersect with Workman Road might be feasible. This approach could perhaps be done instead of the proposed alternative through Duke Forest and Piedmont Electric, alleviating direct impact to around 22 properties. In this new alternative, residents in the Byrdsville Mobile Home Park would utilize this northern route through Joppa Oaks. This alternative would allow shorter and more direct access to NC 86, and un-barricading the terminus of Jaspers Lane would allow two full access points to NC 86. Some improvements to the angled Walter Clark Drive intersection may still be necessary.**

Response: As discussed during our March 15th meeting, NCDOT will perform an environmental screening of an extension to Workman Road and determine whether this alignment would be a viable alternative. We will provide these results to you.

Again, thank you for your input. We will maintain coordination with Orange County during the development of this project. Please contact me via email at mhamel@ncdot.gov or telephone at 919-707-4705 if you have any additional questions.

Sincerely,

Marc L. Hamel
Rail Environmental Manager
NCDOT Rail Division.

cc: Dan Havener, P.E., Project Engineer
Jahmal Pullen, P.E., Infrastructure Engineering Unit, NCDOT Rail Division
Jason Orthner, P.E., Rail Engineering Manager, NCDOT Rail Division
Ed Lewis, Division Planning Engineer, NCDOT Division 7
Charles Edward, P.E., District 1 Engineer, NCDOT Division 7

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

MEMORANDUM

To: Attendees

From: Dan Havener, PE,
Project Engineer
NCDOT Rail Division

Subject: Minutes from March 15th P-4405I/J/K Meeting to Discuss Orange County Planning Comments - Proposed Private Crossing Closures and Alternate Access Improvements North Carolina Railroad (NCRR)/Norfolk Southern (NS) Railway at Gordon Thomas Drive (TIP No. P-4405I), Greenbriar Drive (TIP No. P-4405J), and Byrdsville Road (TIP No. P-4405K), Orange County

Date: March 27, 2013

A meeting was held on March 15, 2013 at the office of Florence & Hutcheson in Raleigh to discuss the PCSI crossing closure projects at Gordon Thomas Drive (P-4405I), Greenbriar Drive (P-4405J), and Byrdsville Road (P-4405K) in Orange County.

Attendees:

Craig Benedict, Orange County Planning & Inspections Department
Abigaile Pittman, Orange County Planning & Inspections Department
Ed Lewis, NCDOT 7th Division
Chuck Edwards, NCDOT 7th Division
Jahmal Pullen, NCDOT Rail Division
Dan Havener, NCDOT Rail Division
Dave Waller, Florence & Hutcheson
Mark Reep, Florence & Hutcheson
Will Kerr, Florence & Hutcheson

Meeting Minutes:

A summary of the meeting discussion is provided below and organized using the original agenda topic headings:

MAILING ADDRESS:
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PLANNING & DEVELOPMENT BRANCH
1556 MSC
RALEIGH NC 27699-1556

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WEBSITE: www.bytrain.org

LOCATION:
CAPITAL YARD
862 CAPITAL BOULEVARD
RALEIGH, NC 27603

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A. Introductions

B. Meeting Purpose

- Mark Reep explained the purpose of the meeting was to discuss issues raised by the Orange County Planning & Inspections Department.

C. Discussion of Orange County Planning & Inspections Department Comments

1. Clarify locations of proposed private drives and public roads.

- Will Kerr presented the location of proposed private drives and public roads using displays.

2. Clarify NCDOT construction standards for the three projects.

- Roadways in the three study areas will be designed in compliance with NCDOT's subdivision design guidelines.
- NCDOT would accept a design with a 50-foot right of way in all three study areas in order to lessen property impacts.
- Initial planned designs for Paschall Drive, Byrdsville Road/Walter Clark Drive, and the new Greenbriar Drive/Spruce Pine Trail connector road include 10-foot lanes, 2-foot shoulders, 8 feet to center line of ditches from roadway shoulder, and 5-foot back slopes.
- Orange County's roadway design standards should also be used as a reference.

3. In applying zoning setbacks, the Orange County UDO would treat lots with two street frontages as double frontage lots.

- The project team will consider additional landscaping as a screening along Walter Clark Drive and Byrdsville Road to minimize the creation of double frontage lots.

4. Some suggested routes are more circuitous and increase commute times.

- The project team acknowledged the creation of the more circuitous access roads could create increased commute times. The increased commute time is anticipated to be increased at most by 5 minutes.

5. Provide anticipated schedules for right of way acquisition, structure relocation, and construction [see dates in project overview from the 2/19/13 BOCC meeting]. Provide County Planning staff with map revisions and detailed design drawings

Will Kerr presented the following project schedule:

- Spring 2013 – Complete Environmental Assessment
- Fall 2013 – Complete Finding of No Significant Impact

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- Early 2014 – Complete Final Design
- Early 2014 – Begin Right of Way Acquisition
- Early 2015 – Begin Construction

6. Comments on Greenbriar Drive improvements.

- The proposed plan for Greenbriar Drive should include turnaround space at the northern and southern ends of the road.
- Greenbriar Drive addresses must be changed to meet Orange County emergency response standards. Southern Greenbriar Drive addresses could potentially become NC 10 addresses.

7. Comments on Byrdsville Road improvements.

- The existence of failing septic systems at some mobile homes could make the relocation of the mobile homes difficult.
- Abigaile Pittman will check into the reasons for the Jaspers Lane closure.
- Orange County requests NCDOT investigate the possible extension of Byrdsville Road near the rail crossing northward along Stony Creek to connect to Workman Road.
- The proposed plan for Byrdsville Road should include turnaround space where the road ends at the railroad corridor.

8. Comments on Gordon Thomas Road improvements.

- Coordination with Paschall Road residents will be conducted to determine whether the road will be public or private. NCDOT will conduct investigations to determine if easements are in place or need to be developed to allow access to all residents.
- A 30-foot Paschall Road easement may exist. ROAM register of deeds may have information on existing easements using parcel PIN numbers.
- Orange County would have to sign a private road maintenance agreement if Paschall Drive remains a private roadway.
- Orange County may regulate the number of residences that can have access to a private road. This needs to be investigated further.

D. Discussion/Next Steps

- Any railroad track improvements affecting the NC 10 bridge will be handled as a separate project.
- The project team should produce mapping to clearly show project recommendations.
- Orange County's roadway design standards should be investigated by the project team.
- The project team will conduct an environmental screening of the Byrdsville Road to Workman Road alignment.

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- The project team will investigate existing easements along Paschall Road, Walter Clark Drive, and Greenbriar Drive.
- Abigaile Pittman will investigate the reasons for the Jaspers Lane closure.
- Abigaile Pittman will provide the Project Team with the Orange County ordinance restricting the number of homes allowed on a private road.

DH/WK

cc: Marc Hamel, NCDOT Rail Division

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ITEM 6.b.

ORANGE COUNTY
BOARD OF COUNTY COMMISSIONERS

ACTION AGENDA ITEM ABSTRACT
Meeting Date: April 23, 2013

Action Agenda Item No. _____

SUBJECT: Resolution in Support of the Proposed Old Well to Jordan Lake Scenic Byway

DEPARTMENT: Environment, Agriculture, Parks and Recreation (DEAPR)

PUBLIC HEARING: (Y/N) No

ATTACHMENTS:
1) Resolution of Support
2) Map of Proposed Byway Corridor
3) Application Title Sheet
4) Existing Scenic Byways in Orange County

INFORMATION CONTACTS:
David Stancil, 245-2510
Rich Shaw, 245-2514

PURPOSE: To consider a resolution of support for a joint application to NC Department of Transportation to designate at new scenic byway from Chapel Hill to Jordan Lake.

BACKGROUND: Over the past two years, DEAPR has worked with citizen volunteers and staff from Town of Chapel Hill and Chatham County to develop an application to the North Carolina Scenic Byways program. The application is for designation of a proposed new scenic byway that would link downtown Chapel Hill to Jordan Lake.

The NC Department of Transportation (NCDOT) has designated 51 scenic byways to give visitors and residents a chance to experience North Carolina history, geography and culture, while also raising awareness of its beautiful landscapes. Byways are carefully selected to portray the diverse beauty and culture of the state and provide travelers with safe and interesting alternative travel routes. There are three existing scenic byways in Orange County: the *Colonial Heritage Highway* (NC 86 north of Hillsborough), the *Football Road* (Old Greensboro Road west of Carrboro), and the *Scots-Welsh Heritage Byway* (Old NC 86, Arthur Minnis, Orange Grove, and Dairyland roads).

In early 2010 Orange County staff submitted a preliminary proposal to the NCDOT Scenic Byway staff to receive feedback on a proposed new byway linking Mount Carmel Church Road to Jordan Lake. Orange staff met with staff from Chatham County and Town of Chapel Hill to gauge interest in a collaborative effort. The elected boards from all three jurisdictions were favorable to developing a joint application.

After traveling the initial proposed route the NCDOT Scenic Byway staff recommended extending the route north into downtown Chapel Hill to incorporate the University and its rich history. Citizen volunteers working with the staff have recommended extending the route south to the middle of the Jordan Lake State Recreation Area. Both changes enhance the drive and increase the likelihood of scenic byway designation.

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ITEM 6.b.

The proposed *Old Well to Jordan Lake Scenic Byway* (15 miles long) features a number of locations with historical, natural, recreational, and educational values. It begins on the campus of UNC Chapel Hill and go generally south along Columbia Street (NC 86) and Mount Carmel Church Road into Chatham County. The route would then pass through the Governor's Club area along Farrington Point Road and continue south across two sections of Jordan Lake to where the road ends at NC 64 in the middle of the Jordan Lake State Recreation Area. Here there is a park office, restrooms, boat ramp, swimming beach, and picnic areas. It is also known throughout central North Carolina as a prime destination for bird watching and stargazing. From Jordan Lake travelers could continue on their journey (via NC 64) or loop back to Chapel Hill along the same roads or on a somewhat different route. The alternative byway returns north on Farrington Point Road, Lystra Road (SR 1721), US 15-501, and Old Lystra Road (SR 1915) until it rejoins Mt. Carmel Church Road and back to Chapel Hill. (See proposed route map attached.)

<u>The proposed designation of the Old Well to Jordan Lake Scenic Byway would not impose any new land-use restrictions or modifications along the roadways</u>. The NCDOT Scenic Byway materials include following implications for scenic byway designation:

- The Scenic Byway system is intended to identify, not create, scenic byways.
- NCDOT will incorporate the rules prescribed to sustain the integrity and safety of the Scenic Byway/Highway system into its planning and maintenance operations.
- Scenic byway designation does not require any modification in local land use regulations/restrictions or require any change in commercial or agricultural activity.
- Scenic byway designation does not affect future highway rehabilitation, development, or the need to maintain or improve the roads.
- No new outdoor advertising signs may be erected adjacent to a designated scenic byway that is or becomes part of the National Highway System (e.g., interstate or federal-aid primary highway). Pre-existing signage may remain, however. [*This provision is not applicable to the proposed new scenic byway*.]

A proposed resolution of County support for the application is attached for the Board's consideration. The elected boards from Chatham County and the Town of Chapel Hill are expected to consider their support of the application in May. Staff has also requested a letter of support from the University of North Carolina. **The final application is due for submittal to NCDOT by August 31.**

FINANCIAL IMPACT: None. There is no cost associated with the application other than the staff time involved in preparing the application and support materials.

RECOMMENDATION(S): The Manager recommends that the Board approve the resolution of support and authorize the Chair to sign on behalf of Orange County.

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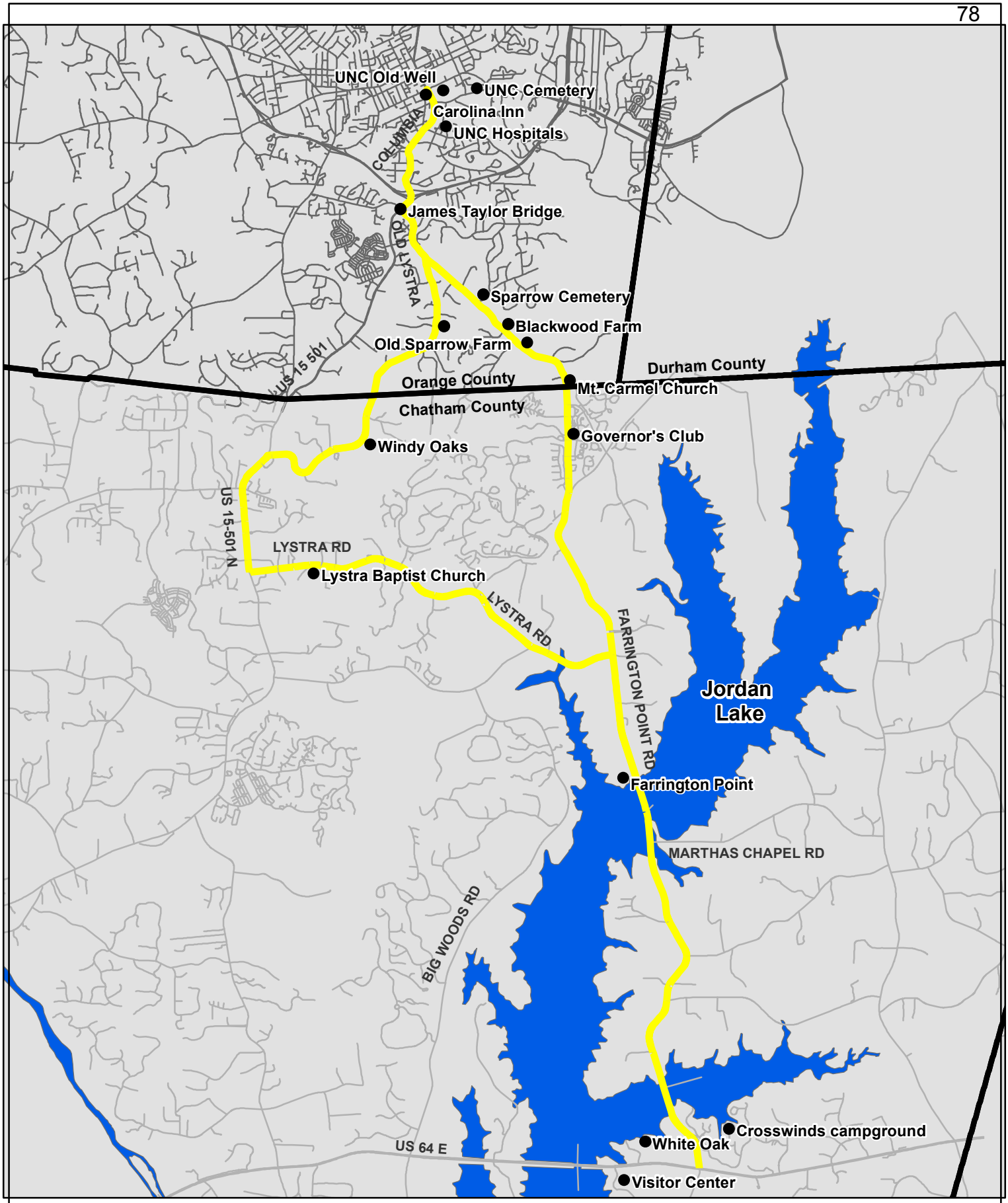

Proposed Old Well to Jordan Lake Scenic Byway

Points of interest
Jordan Lake
Scenic byway
County boundary
Streets

0 1,250 2,500 5,000 Feet

Orange County
Department of Environment,
Agriculture, Parks and Recreation
M Jones Land Records GIS 4/8/2013
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land_resources\histpres.mxd

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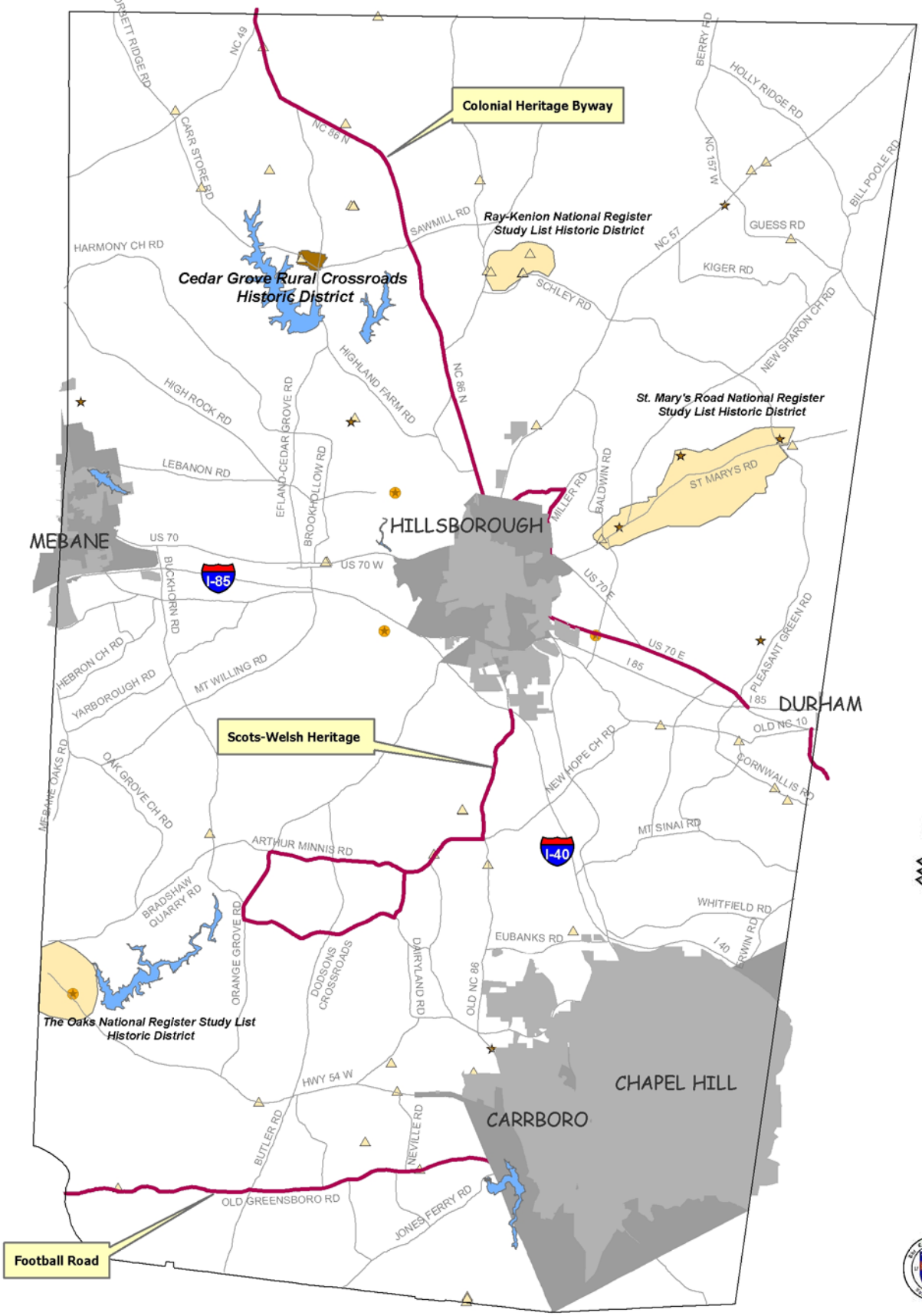
Cultural Resources

(unincorporated portions of Orange County)



Legend

- North Carolina Scenic Byways
- Municipal ETJs
- Cities
- Main roads
- Lakes
- Local Landmark & National Register
- National Register
- National Register Historic District
- National Register Study List
- National Register Study List Historic District

GIS Map prepared by
Orange County
Environment & Resource
Conservation Department

Note: This map does not include architectural resources in the municipalities of Hillsborough, Chapel Hill, Carrboro or Mebane, or in their extra territorial jurisdictions.

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N.C. SCENIC BYWAY APPLICATION TITLE SHEET

Applicants (PROPONENT): Orange County, Chatham County, and the Town of Chapel Hill

Address: C/O Orange County DEAPR, P.O. Box 8181, Hillsborough, NC 27278

Phone: 919-245-2514 **Fax:** 919-644-3351

Name of contact person: Rich Shaw, Land Conservation Manager

Address: Orange County DEAPR, P.O. Box 8181, Hillsborough, NC 27278

Phone: 919-245-2514 **Fax:** 919-644-3351

ROUTE DESCRIPTION (BEGINNING TO END): Begin at the Old Well on E. Cameron Street (UNC Campus, Chapel Hill); west and through Columbia Street intersection; then south on Pittsboro Street for 0.4 mile; merge onto S. Columbia St (NC 86) and go 1.0 mile and over the James Taylor Bridge; then left onto Mt. Carmel Church Road (SR 1008). Continue southeast on this rural road for 2.9 miles, past Mt. Carmel Baptist Church (on left) and cross into Chatham County where the road is named Mt. Carmel Road. Pass the Governor's Club and associated communities. Road name changes to Farrington Point Road and continues 3.5 miles to the north shore of Jordan Lake. At Farrington Point there is a boat ramp, swimming beach, and informal picnic area. From Farrington Point, continue south on Farrington Road 4.7 miles to where road ends at US Highway 64. Jordan Lake State Recreation Area Visitor Center is located 0.3 mile west on US 64, then south on State Park Road.

Option loop back to Chapel Hill: From US 64, drive north on Farrington Road (and Farrington Point Road) 6.4 miles; turn left (west) onto Lystra Road (SR 1721). Continue 4.5 miles on Lystra Road until it ends; then right onto US 15-501 for 1.4 miles, then turn right onto Old Lystra Road (SR 1915) northward 3.7 miles until it empties back onto Mt. Carmel Church Road. Turn left and drive northwest to complete the byway loop back to Chapel Hill. At the north end of Mt. Carmel Church Road, turn right and cross James Taylor Bridge. Cross a second, larger bridge over NC 54 Bypass and continue north. The road becomes South Columbia Street (NC 86) and winds north through older residential area and past UNC Chapel Hill Hospital and then other university buildings before S. Columbia Street curves sharply to the left and into the UNC campus area. Continue north to Franklin Street, the central hub of downtown Chapel Hill.

INTRINSIC QUALITIES CHECKLIST:

Scenic, Recreational, Historical, Educational, Natural, Wildlife, Cultural

Signature/Title: _____ Date: _____

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ORANGE COUNTY BOARD OF COMMISSIONERS

RESOLUTION IN SUPPORT OF THE OLD WELL TO JORDAN LAKE SCENIC BYWAY APPLICATION

WHEREAS, Orange County has an adopted goal of promoting the preservation of rural character in the County; and

WHEREAS, one of the stated County objectives for preserving rural character is to preserve and protect visual resources in rural sections of the County, including rural roadscapes that invoke the 'feel' of the countryside; and

WHEREAS, the NC Department of Transportation administers a North Carolina Scenic Byways program, which encourages residents and visitors to experience North Carolina history, geography and culture through a system of beautiful roadways without regulating future development or land use along the roadway; and

WHEREAS, staff from Orange County, Chatham County, and the Town of Chapel Hill, in collaboration with citizen volunteers, have developed a joint application to the NC Department of Transportation to have certain roadways between Chapel Hill and Jordan Lake designated as a North Carolina Scenic Byway; and

WHEREAS, the proposed byway starts at the Old Well on the campus of the University of North Carolina at Chapel Hill and travels generally southward out of Chapel Hill and through the rural Mt. Carmel Church and newer Governor's Club communities to the Jordan Lake State Recreational Area in Chatham County; and

WHEREAS, the road travels by several local historic landmarks and communities, including the Carolina Inn, Merritt Store, James Taylor Bridge, Old Sparrow Farm, Mt. Carmel Baptist Church, Windy Oaks, Lystra Baptist Church, and Farrington Point; and

WHEREAS, a preliminary application resulted in the proposed byway being placed on the study list for Scenic Byway designation with a more detailed application needing to be submitted by August 31, 2013 for further consideration;

NOW, THEREFORE, BE IT RESOLVED that the Orange County Board of Commissioners does hereby support the designation of roadways linking Chapel Hill to Jordan Lake as a North Carolina Scenic Byway and asks that the NC Department of Transportation look favorably on the application.

This the 23rd day of April, 2013.

_____
Barry Jacobs, Chair
Orange County Board of Commissioners

ATTEST:

_____
Donna Baker
Clerk to the Board

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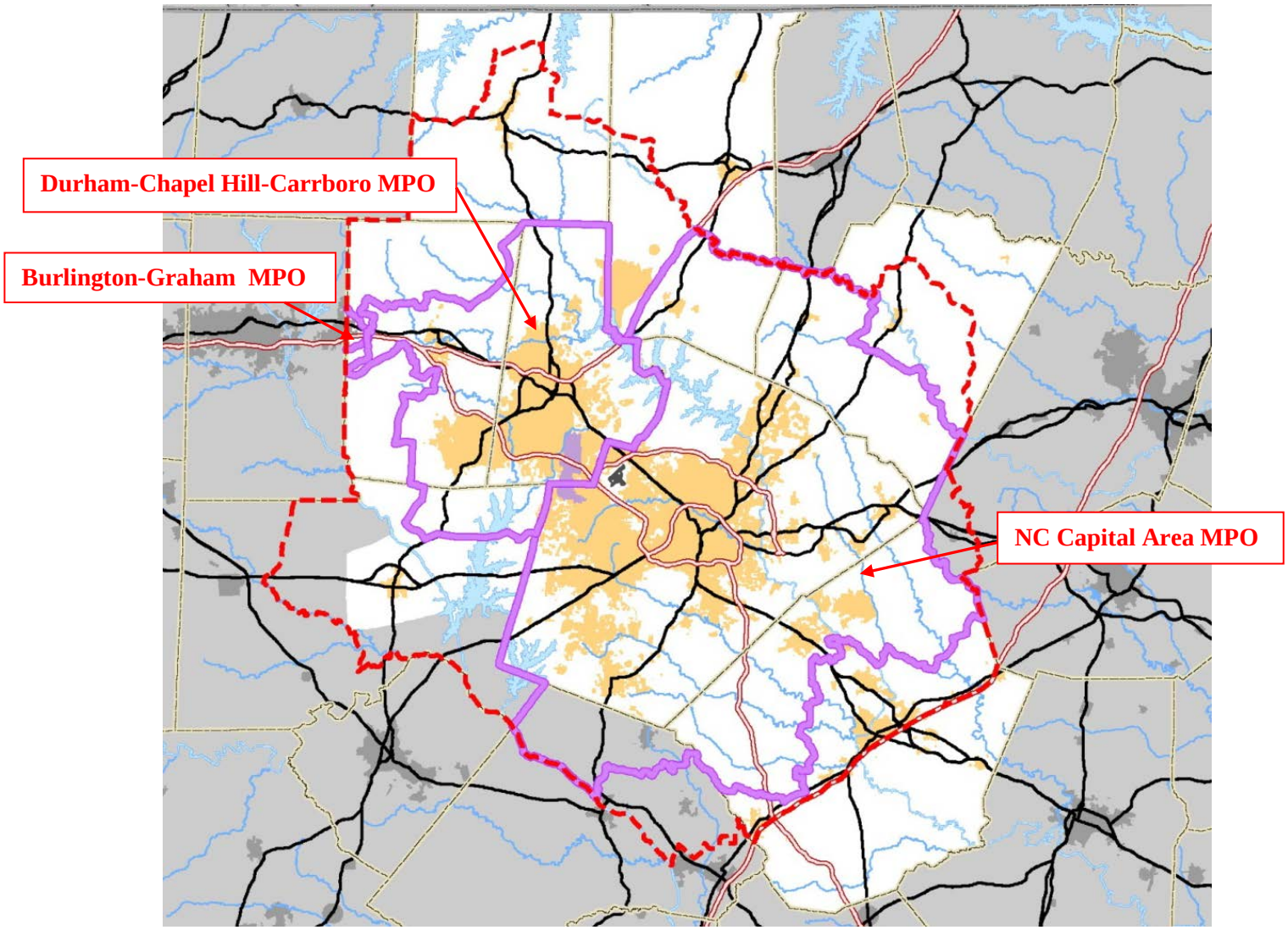
ITEM 6.c.

RESEARCH TRIANGLE REGION

Conformity Determination Report

2040 Metropolitan Transportation Plan
2012–2018 Transportation Improvement Program



Legend

- Triangle Ozone Maintenance Area
- TRM Modelled Area
- MPO Boundary
- Major Road Or Highway
- RTP
- Municipal Limit
- County Boundaries

TRIANGLE J COUNCIL OF GOVERNMENTS
P.O. BOX 12276
RESEARCH TRIANGLE PARK, NC 27709
919-549-0551 ❖ WWW.TJCOG.ORG

April 2, 2013

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Contact Information

Additional copies of this report can be obtained from the Triangle J Council of Governments at the following address:

Triangle J Council of Governments
P.O. Box 12276
Research Triangle Park, NC 27709

This document, including the appendices, can be downloaded from the website:

www.triangleair.org

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Appendix B: Triangle Ozone SIP Federal Register Notice

Appendix C: Interagency Consultation, including Pre-Analysis Consensus Plan

Appendix D: 2040 Metropolitan Transportation Plan Project Lists

Appendix E: Adoption and Endorsement Resolutions and Agency Determinations (to be included in final version)

Appendix F: Mobile 6.2 Emission Factors

Appendix G: Public and Agency Comments and Responses (to be included in final version)

Appendix H: Off-Model Analysis

Appendix I: Emissions Analysis

Appendix J: VMT and Speeds

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List of Acronyms

BG MPO:	Burlington-Graham Metropolitan Planning Organization
CAAA:	Clean Air Act Amendments of 1990 (United States)
CAMPO:	Capital Area Metropolitan Planning Organization
CFR:	Code of Federal Regulations
CMAQ:	Congestion Mitigation/Air Quality
CO:	Carbon Monoxide
DAQ:	Division of Air Quality (North Carolina)
DCHC MPO:	Durham-Chapel Hill –Carrboro Metropolitan Planning Organization
DENR:	Department of Environment and Natural Resources (North Carolina)
DMV:	Division of Motor Vehicles
DOT:	Department of Transportation (North Carolina)
EPA:	Environmental Protection Agency (United States)
FHWA:	Federal Highway Administration
FTA:	Federal Transit Administration
HBO:	Home Based Other (trip purpose)
HBS:	Home Based Shopping (trip purpose)
HBW:	Home Based Work (trip purpose)
HOV:	High Occupancy Vehicle
HPMS:	Highway Performance Management System
I/M:	Inspection/Maintenance
ISTEA:	Intermodal Surface Transportation Efficiency Act
ITRE:	Institute for Transportation Research and Education
KT RPO:	Kerr-Tar Rural Transportation Planning Organization
MAP-21:	Moving Ahead for Progress in the 21st Century
MPO:	Metropolitan Planning Organization
MTIP:	Metropolitan Transportation Improvement Program (regional equivalent of the STIP)
MTP:	Metropolitan Transportation Plan
NAAQS:	National Ambient Air Quality Standards
NCDOT:	North Carolina Department of Transportation
NHB:	Non Home Based (trip purpose)
NO_x:	Nitrogen Oxides
RPO:	Rural Transportation Planning Organization
RTAC:	Rural Transportation Advisory Committee
RTCC:	Rural Technical Coordinating Committee
RVP:	Reid Vapor Pressure
SAFETEA-LU:	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SIP:	State Implementation Plan
STIP:	State Transportation Improvement Program (statewide equivalent of the MTIP)
TAC:	Transportation Advisory Committee
TAZ:	Traffic Analysis Zone
TARPO:	Triangle Area Rural Transportation Planning Organization
TCC:	Technical Coordination Committee
TCM:	Transportation Control Measure
TDM:	Transportation Demand Management
TIP:	Transportation Improvement Program
TRM:	Triangle Regional Model
UCPRPO:	Upper Coastal Plain Rural Transportation Planning Organization
USEPA:	United States Environmental Protection Agency
VKT:	Vehicle Kilometers of Travel
VMT:	Vehicle Miles of Travel
VOC:	Volatile Organic Compound

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Conformity Analysis and Determination Report

2040 Metropolitan Transportation Plans:

- **Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO)**
- **NC Capital Area Metropolitan Planning Organization (NC CAMPO)**

FY 2012 – 2018 Transportation Improvement Programs

- **NC Capital Area Metropolitan Planning Organization**
- **Durham-Chapel Hill-Carrboro Metropolitan Planning Organization**
- **Burlington-Graham Metropolitan Planning Organization (BG MPO)**

Projects from the FY 2012-2018 State Transportation Improvement Program:

- **the portions of Chatham, Franklin, Granville, Johnston, Orange and Person Counties that are within the Triangle Ozone Maintenance Area but Outside the NC Capital Area and Durham-Chapel Hill-Carrboro Metropolitan Planning Organization Areas**

Executive Summary

- This report addresses the 2040 Metropolitan Transportation Plan and projects in the FY2012-18 MTIP; Appendix D gives project details.

- A regional emissions analysis is required (6-22-12 interagency consultation meeting).

- Four organizations will be responsible for making the conformity determinations in four distinct parts of the Triangle Ozone Maintenance Area:

  - the NC Capital Area MPO within the CAMPO metropolitan area boundary – all of Wake County plus parts of Franklin, Granville and Johnston Counties.
    - Adopt the 2040 MTP and 2012-18 TIP
    - Make conformity finding on the 2040 MTP and conforming 2012-18 TIP
  - the Durham-Chapel Hill-Carrboro MPO within its metropolitan area boundary – all of Durham County and parts of Orange and Chatham counties.
    - Adopt the 2040 MTP and 2012 TIP
    - Make conformity finding on the 2040 MTP and conforming 2012-18 TIP
  - the Burlington-Graham MPO within its portion of the metropolitan area boundary in western Orange County.
    - Make conformity finding on the MTP and conforming 2012-18 TIP
  - the NCDOT in a rural area comprised of those portions of Chatham, Orange, Person, Franklin, Granville and Johnston Counties that remain outside of any MPO metropolitan area boundary.
    - Make conformity finding on the 2012-18 STIP

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1. Introduction

The Clean Air Act requires the United States Environmental Protection Agency (USEPA) to set limits on how much of a particular pollutant can be in the air anywhere in the United States. National Ambient Air Quality Standards (NAAQS) are the pollutant limits set by the USEPA; they define the allowable concentration of pollution in the air for six different pollutants – Carbon Monoxide, Lead, Nitrogen Dioxide, Particulate Matter, Ozone, and Sulfur Dioxide.

The Clean Air Act specifies how areas within the country are designated as either "attainment" or "non-attainment" of an air quality standard, and authorizes USEPA to define the boundaries of non-attainment areas. For areas designated as non-attainment for one or more NAAQS, the Clean Air Act defines a specific timetable to attain the standard and requires that non-attainment areas demonstrate reasonable and steady progress in reducing air pollution emissions until such time that an area can demonstrate attainment. Each state must develop and submit a State Implementation Plan (SIP) that addresses each pollutant for which it violates the NAAQS. Individual state air quality agencies are responsible for defining the overall regional plan to reduce air pollution emissions to levels that will enable attainment and maintenance of the NAAQS. This strategy is articulated through the SIP.

In North Carolina, the agency responsible for SIP development is the North Carolina Department of Environment and Natural Resources, Division of Air Quality (NC DENR/DAQ). The delineation and implementation of strategies to control emissions from on-road mobile sources is a significant element of the state plan to improve air quality, which links transportation and air quality planning activities within a non-attainment or maintenance area. The process of ensuring that a region's transportation planning activities contribute to attainment of the NAAQS, or "conform" to the purposes of the SIP, is referred to as transportation conformity. In order to receive federal transportation funds within a non-attainment or maintenance area, the area must demonstrate through a federally mandated conformity process that the transportation investments, strategies and programs, taken as a whole, contribute to the air quality goals defined in the state air quality plan.

In order to ensure the conformity requirements are met, Section 176 (c) of the Clean Air Act authorizes the USEPA Administrator to "promulgate criteria and procedures for demonstrating and assuring conformity in the case of transportation plans, programs, and projects." This is accomplished through the Transportation Conformity Rule, developed by the USEPA to outline all federal requirements associated with transportation conformity. The Transportation Conformity Rule in conjunction with the Metropolitan Planning Regulations direct transportation plan and program development as well as the conformity process.

The purpose of this report is to comply with the provisions of the Clean Air Act Amendments of 1990 in concurrence with all conformity requirements as detailed in 40 CFR Parts 51 and 93 (the Transportation Conformity Rule) and 23 CFR Part 450 (the Metropolitan Planning Regulations). It demonstrates that the financially constrained metropolitan transportation plans and the transportation improvement programs (TIPs) eliminate or reduce future violation of the National Ambient Air Quality Standards (NAAQS) in the following jurisdictions:

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- The NC Capital Area Metropolitan Planning Organization (CAMPO)
- The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO
- The Burlington-Graham Metropolitan Planning Organization (BG MPO)
- The rural "donut" portions of the Triangle Ozone Maintenance Area outside of the MPOs in four townships in Chatham County and Orange, Franklin, Granville, Johnston and Person Counties

The above-named MPOs and rural areas combine to form a region known as the "Triangle." The entire Triangle maintenance region is shown as a map in Figure 1.

All Federally funded projects and regionally significant projects, regardless of funding source, in areas designated by the United States Environmental Protection Agency (USEPA) as air quality non-attainment or maintenance areas must come from a conforming long-range transportation plan and transportation improvement program (TIP). The Triangle region is required by 40 CFR 51 and 93 to make a conformity determination on any newly adopted or amended fiscally constrained long-range transportation plan and TIP. In addition, the United States Department of Transportation (USDOT), specifically, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), must make a conformity determination on MPO Plans in the Triangle region and the related TIPs in all non-attainment and maintenance areas.

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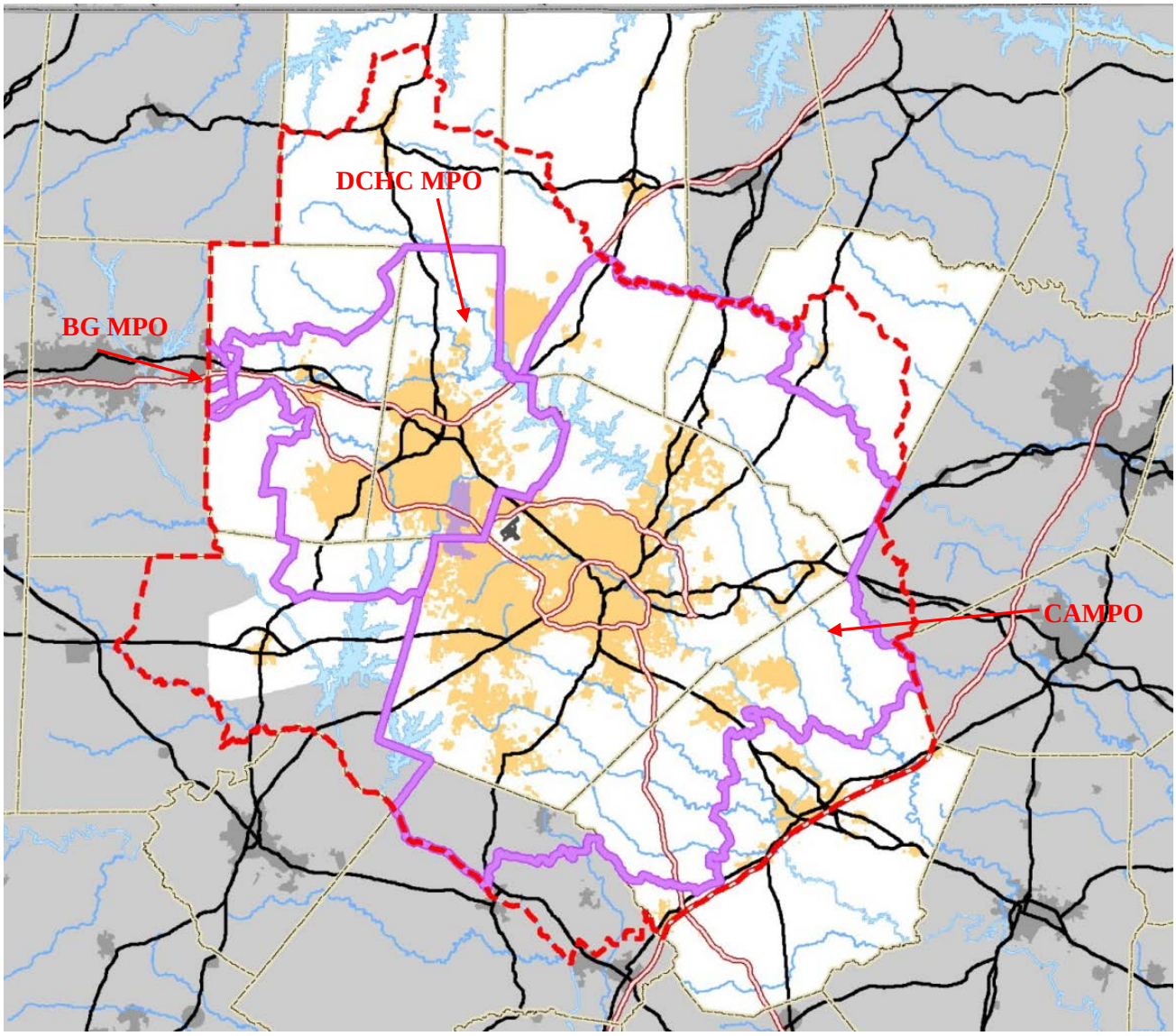
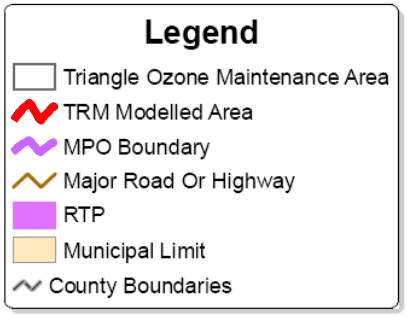
Figure 1. Triangle Ozone Maintenance Area





BG MPO is Burlington-Graham MPO (small part of Orange County in the maintenance area).

CAMPO is Capital Area MPO (all of Wake County and parts of Franklin, Granville, Harnett and Johnston Counties)

DCHC MPO is Durham-Chapel Hill-Carrboro MPO (all of Durham and parts of Orange and Chatham Counties

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40 CFR Part 93 requires that a conforming transportation plan satisfy six conditions:

- The transportation plan must be consistent with the motor vehicle emissions budget(s) in an area where the applicable implementation plan or implementation plan submission contains a budget (*40 CFR Part 93.118*).
- The transportation plan, TIP, or FHWA/FTA project not from a conforming plan must provide for the timely implementation of TCMs from the applicable implementation plan (*40 CFR Part 93.113b*).
- The MPO must make the conformity determination according to the consultation procedures of *40 CFR Part 93.105*.
- The conformity determination must be based on the latest emissions estimation model available (*40 CFR Part 93.111*).
- The conformity determination must be based on the latest planning assumptions (*40 CFR Part 93.110*).
- The Transportation Plan, TIP, or FHWA/FTA project must meet the interim emissions tests where applicable (40 CFR Part 93.119).

This report shows that each MPO's 2040 Transportation Plan (2035 Plan for Burlington-Graham MPO), the 2012-18 MTIPs and projects from the 2012-18 STIP in the donut areas meets each condition. Each condition is discussed in subsequent sections of this report. This report documents the interagency consultation process, public involvement process, and analysis used to demonstrate transportation conformity for the 2040 MTP and 2012-18 TIP.

These analyses are consistent with the Transportation Conformity Regulation (40 CFR Parts 51 and 93). Based on the analysis documented in this report, the following Transportation Plans and TIPs conform to the purpose of the Triangle Area SIP:

- NC Capital Area MPO 2040 MTP and the 2012-18 MTIP
- Durham-Chapel Hill-Carrboro MPO 2040 MTP and the 2012-18 MTIP
- Burlington-Graham MPO 2035 LRTP and the 2012-18 MTIP
- Projects from the 2012-2018 STIP in the donut areas of the Triangle Maintenance Area

The Transportation Plan and 2012-18 TIP accomplish the intent of the North Carolina State Implementation Plan (SIP). This conformity determination is based on the regional emissions analysis that uses the transportation network approved by each of the above-named Metropolitan Planning Organizations (MPOs) and NCDOT, in coordination with the affected Rural Planning Organizations (RPOs), for the 2040 transportation plan, and the emissions factors developed in cooperation with the North Carolina Department of Environment and Natural Resources (DENR).

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2. Air Quality Planning

USEPA originally declared Durham County, Wake County and Dutchville Township in Granville County non-attainment for ozone (O_3) under the 1-hour ozone standard and Durham County and Wake County non-attainment for Carbon Monoxide (CO) on November 15, 1990. Ozone, the primary component of smog, is a compound formed when volatile organic compounds (VOC) and oxides of nitrogen (NO_x) mix together in the atmosphere with sunlight. NO_x and VOC are referred to as ozone "precursors." Durham County, Wake County and Dutchville Township were redesignated by USEPA to attainment with a maintenance plan for ozone under the 1-hour standard on June 17, 1994 and Durham County and Wake County were redesignated by USEPA to attainment with a maintenance plan for CO on September 18, 1995.

In 1997 the NAAQS for ozone was reviewed and revised to reflect improved scientific understanding of the health impacts of this pollutant. When the standard was revised in 1997, an eight-hour ozone standard was established that was designed to replace the one-hour standard. The USEPA designated the entire Triangle area as a "basic" non-attainment area for ozone under the eight-hour standard with an effective date of June 15, 2004; the designation covered the following geographic areas:

- Durham County
- Wake County
- Orange County
- Johnston County
- Franklin County
- Granville County
- Person County
- Baldwin, Center, New Hope and Williams Townships in Chatham County

On December 26, 2007, the Triangle Area was redesignated as attainment with a maintenance plan for ozone under the eight-hour standard. The USEPA direct final rule from the Federal Register for CO is found in Appendix A. The USEPA direct final rule for ozone is provided in Appendix B.

2.1 Emissions Budgets

DENR prepared emissions budgets as part of their CO and 8-hour ozone maintenance plans for those areas subject to budgets. Each of the eight counties or portions of counties in the bulleted list above is part of the Triangle ozone maintenance area under the 8-hour ozone standard and has emissions budgets for NO_x. Emissions budgets were established for 2008 and 2017. The 2008 budgets apply for years up to and including 2016, while the 2017 budgets apply for 2017 and all subsequent years. The December 26, 2007 Federal Register notice establishing the NO_x budgets deemed VOCs insignificant, hence no VOC budgets apply to the region.

Durham and Wake Counties have CO maintenance requirements under the most recent SIP Maintenance Plan update, which supplemented the pre-existing 2005 CO budgets with new 2015 budgets for each county. Under the update, the existing 2005 budgets from the prior SIP apply between 2005 and 2014 and the newer 2015 budgets apply from 2015 onwards.

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Tables related to CO in this report reflect the motor vehicle emission budgets published in the March 24, 2006 Federal Register and effective May 23, 2006 (see Appendix A).

Tables 1 and 2 list the motor vehicle emission budgets for those portions of the Triangle subject to SIP budgets.

Table 1. NO_x Budget for Triangle Counties

NO_x: Redesignation SIP (kilograms/day)		
Area	SIP Budget year	
	2008	2017
Chatham	1,565	948
Durham	13,106	4,960
Franklin	2,048	1,139
Granville	4,649	1,714
Johnston	12,583	5,958
Orange	9,933	3,742
Person	1,359	791
Wake	36,615	16,352

* the last NO_x emission budgets are for 2017; all subsequent years are compared to the 2017 budget.

Table 2. CO Budget - Durham and Wake Counties

CO: from State Implementation Plan (SIP)	
Area	motor vehicle emissions budget (tons/day)
	March 24, 2006 Federal Register -- Maintenance Plan Update (2015 budget)
Durham County	177.22
Wake County	384.27

* the last CO emission budgets are for 2015; all subsequent years are compared to the 2017 budget.

3. Metropolitan Transportation Plans

The *2040* Transportation Plans were developed between 2010 and 2013. Federal law *40 CFR part 93.104(b)(3)* requires a conformity determination of transportation plans no less frequently than every four years. As required in *40 CFR 93.106*, the analysis years for the transportation plans are no more than ten years apart.

The CAMPO area includes all of Wake County and parts of Franklin, Granville, Harnett and Johnston Counties. The DCHC MPO area includes all of Durham and parts of Orange and Chatham Counties. The BGMPO area includes a small portion of Orange County within the 8-hour maintenance area for ozone. The remaining portions of the non-attainment area are rural (donut) areas within the Triangle Area, Kerr-Tar and Upper Coastal Plain RPOs.

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3.1 Consultation

The Transportation Plan and the FY2012-18 TIP are consistent with consultation requirements discussed in *40 CFR 93.105*. Consultation on the development of this conformity determination was accomplished through interagency consultation meetings held on June 22, 2012, August 17, 2012 and December 14, 2012 and subsequent consultations by phone and email as needed.. A summary of the topics discussed and decisions reached is included in Appendix C.

3.2 Financial Constraint Assumptions

The Transportation Plans are fiscally constrained as discussed in *40 CFR 93.108*. The DCHC MPO, Capital Area MPO and Burlington-Graham Transportation Plans are fiscally constrained to the year 2040 (2035 for Burlington-Graham MPO). All projects included in the 2012-18 TIP are fiscally constrained, and funding sources have been identified for construction and operation. The estimates of available funds are based on historic funding availability and methods used in the preparation of the NCDOT 2040 Statewide Plan, and include federal, state, private, and local funding sources. Additional detail on fiscal constraint is included in each MPO transportation plan. It is assumed that the projects listed for each horizon year will be completed and providing service by the end of the indicated calendar year (December 31). These transportation networks are described in the respective MPO Transportation Plans.

3.3 Latest Planning Assumptions

The 2040 Transportation Plans used the latest adopted planning assumptions as discussed in 40 CFR 93.110, and were adopted as part of the Plans. Four components combine to represent planning assumptions and translate them into travel:

a. A single travel demand model was developed for the urbanized portion of the Triangle maintenance area. A new version of the model, termed TransCAD version 5, was adopted by the DCHC MPO and CAMPO and used for the modeled area.
b. A single set of population, housing and employment projections was developed and adopted by the MPOs, using new growth allocation software (CommunityViz).
c. A set of highway and transit projects that was consistent across jurisdictional boundaries was developed and refined through MPO and partner cooperation.
d. Forecasts of travel entering and leaving the modeled area were updated to reflect the most recent traffic count data and a special study conducted for I-95; the updates were developed in consultation between the model service bureau, the MPOs, NCDOT, FHWA, DENR and other partners.

This collection of socioeconomic data, highway and transit networks and travel forecast tools and methods, representing the latest planning assumptions, was finalized through the adoption of their respective Transportation Plans by the MPOs. Additional detail on planning assumptions is available in the MPO Transportation Plan documents.

3.4 Future year roadway projects

Roadway improvements used for conformity modeling were developed in the Transportation Plan process in each MPO. Outside of the MPO boundaries, TIP projects from the 2012-2018 TIP served as the future year roadway projects. For the MPO Transportation Plans, lists of projects were developed based on congestion and identified local needs. Improvements were coded into the TRM and analyzed. The final 2015, 2017, 2020, 2030, 2035, and 2040 networks are fiscally constrained.

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Projects were added from MPO priority lists until estimated project costs equaled available funding. The base network (2010) and the six future networks (2015, 2017, 2020, 2030, 2035, and 2040) used for the conformity determination were the same as the networks used for the MPO Transportation Plans. Throughout the process to develop the roadway networks, the MPOs and NCDOT identified any initial inconsistencies in project timing and characteristics (e.g. cross-section) for those projects crossing jurisdictional boundaries and reached consensus on consistent solutions.

Project details, including the proposed number of lanes, distance and air quality analysis year are listed in Appendix D, color-coded by MPO and grouped by analysis year. The analysis also specifically includes the following two projects that were modeled in the air quality analysis:

- A 2030 project in the Burlington-Graham MPO portion of Orange County: **Mattress Factory Road (SR 1146) @ I-40/I-85 Interchange, Local ID: ALAM0007-H.** The purpose of the Mattress Factory Road (SR 1146) Interchange on I-40/I-85 is to improve mobility and connectivity by providing access from I-40/I-85 to the central business district of Mebane.
- A 2020 project to widen a short segment of Avent Ferry Road in Wake County. This project is included in a pending TIP amendment (U5529) and is described in more detail in Appendix D.

The interagency partners also jointly developed lists of regionally significant and exempt projects. The checklist below was used to identify regionally significant projects. After the MPOs, RPOs and NCDOT generated initial lists, the lists were reviewed by DENR, EPA, FTA and FHWA.

Regionally Significant Project Checklist

1. The facility serves regional transportation needs (i.e. facilities that provide access to and from the region or that provide access to major destinations in the region).
2. The facility is functionally classified higher than a minor arterial (minor arterials may be regionally significant if their main purpose is to provide access to major facilities in the region).
3. The facility is a fixed guideway transit facility.
4. The facility is included in the travel model for the region (in many cases collector streets are modeled and not regionally significant).

To be regionally significant a facility should meet one or more criteria. 40 CFR Part 93.101

3.5 Transit networks

Each MPO developed transit projects for its Plan. The base year network was modeled from existing routes and fares for the transit systems in 2010. Future year networks were based on fiscally-constrained projected new or expanded services from regional and county plans, local bus system short range plans, and corridor transit plans. The MPOs and NCDOT rectified any initial timing or project characteristic inconsistencies where transit projects crossed jurisdictional boundaries.

3.6 Congestion Mitigation/Air Quality (CMAQ) Projects

The NC DOT has established an allocation and review process for CMAQ projects. Each MPO and RPO in a non-attainment or maintenance area receives an allocation of CMAQ funds based on population and air quality status. In addition, a statewide pool of CMAQ funds is allocated to projects serving more than one non-attainment or maintenance area on a competitive basis.

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4. Regional Emission Analysis

In areas with an USEPA approved attainment demonstration or maintenance plan, an emissions budget comparison satisfies the emissions test requirement of 40 CFR Part 93.118. For pollutants for which an emissions budget has been submitted, the estimated emissions from the transportation plan must be less than or equal to the emissions budget values. Emissions factors were provided by DENR.

All parts of the Triangle Ozone Maintenance Area have emissions budgets. Table 3 shows what parts are covered by the Triangle Regional Model (TRM) and how each part was analyzed for each pollutant in each comparison year.

Four counties in the maintenance area are completely within the Triangle Regional travel demand Model (TRM) boundary: Durham, Orange, Wake and the four townships in Chatham County that are covered by the maintenance area. The other 4 counties, Granville, Franklin, Johnston and Person, have parts that are within the modeled area and parts that are outside of the modeled area.

4.0.1. Sub-area emission budgets

Each county or, in the case of Chatham County, county portion, have NO_x emission budgets. In addition, Durham and Wake Counties have CO emission budgets. These Motor Vehicle Emission Budgets were used in performing the emissions analysis.

4.0.2 Emissions analysis source

Vehicle Miles of Travel (VMT) and speeds for the emissions analysis were derived from the TRM where it is available. VMT and speeds for the portions of Franklin, Granville, Person and Johnston Counties outside the modeled area came from the NCDOT non-modeled area analysis spreadsheet factored by the percentage of each county's population in the rural area, a method that has been used in prior analyses.

4.0.3 Emissions comparison years (ozone)

For affected *areas with budgets under the 8-hour standard* (Durham, Franklin, Granville, Johnston, Orange, Person and Wake Counties and the four townships in Chatham County), emissions must be analyzed for years where there is an 8-hour emissions budget, the attainment year (if a region is in non-attainment), the horizon year and intermediate years such that intervals do not exceed 10 years. The Triangle area is currently an attainment maintenance area, so no attainment year analysis is required. The following years were analyzed to meet the requirements: 2017 (8-hour budget year), 2020 and 2030 (intermediate years), 2035 (horizon year for BG MPO) and 2040 (MTP horizon year for DCHC MPO and CAMPO).

All analyzed years were modeled; interpolation was not used in the analysis. In accordance with 40 CFR 93.118, since there was no budget for the required analysis years 2020, 2030, 2035 and 2040, the 2017 budgets were used for these years.

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Table 3. Triangle Area Transportation Conformity Analysis Matrix (2040 MTPs)

County	Area model status	Area emissions budget status	Emissions analysis source	Emissions comparison years					
				2015[1]	2017[1]	2020	2030	2035[3]	2040
Person	modeled area	emissions budget	TRM		O3	O3	O3	O3	O3
	rural area	emissions budget	NMAA (factored)[2]		O3	O3	O3	O3	O3
Granville	modeled area	emissions budget	TRM		O3	O3	O3	O3	O3
	rural area	emissions budget	NMAA (factored)[2]		O3	O3	O3	O3	O3
Franklin	modeled area	emissions budget	TRM		O3	O3	O3	O3	O3
	rural area	emissions budget	NMAA (factored)[2]		O3	O3	O3	O3	O3
Johnston	modeled area	emissions budget	TRM		O3	O3	O3	O3	O3
	rural area	emissions budget	NMAA (factored)[2]		O3	O3	O3	O3	O3
Chatham (part)	modeled (all)	emissions budget	TRM		O3	O3	O3	O3	O3
Orange	modeled (all)	emissions budget	TRM		O3	O3	O3	O3	O3
Durham	modeled (all)	emissions budget	TRM	CO	O3	CO O3	CO O3	O3	CO O3
Wake	modeled (all)	emissions budget	TRM	CO	O3	CO O3	CO O3	O3	CO O3

TRM: Triangle Regional Model NMAA: Non-Modeled Area Analysis O3: Ozone CO: Carbon Monoxide

[1] 2015 is a CO budget year for Durham and Wake Counties; 2017 is an ozone budget year

[2] where part of a county is covered by the regional model, the remainder of the county was analyzed using the NCDOT rural spreadsheet, factored by the percentage of county's population that lives outside of the modeled area.

[3] 2035 is modeled since it is the horizon year for the Burlington-Graham Metropolitan Transportation Plan.

4.0.4 Emission comparison years (CO)

Durham and Wake Counties have CO maintenance requirements under a 2006 updated SIP. This Maintenance Plan update supplements the pre-existing 2005 budgets with a 2015 budget for each county. Under the update, the pre-existing 2005 budgets apply between 2005 and 2014 and the new 2015 budgets apply from 2015 onwards. Both counties are entirely within the modeled area and have emissions budgets under the updated SIP; the TRM was used as the analysis tool. Listed below is specific CO budget and comparison year information:

- SIP Budget Years: 2005, 2015 (Durham and Wake Counties)
- Comparison Years for CO SIP – 2015, 2020, 2030, 2040 (Durham and Wake Counties)

4.1 Emissions Model

MOBILE 6.2 was used to develop the emissions factors since the analysis began on December 12, 2012, prior to the end of the Mobile6.2 grace period on March 2, 2013; the region has existing Mobile6.2-based MVEBs. Motor vehicle emissions controls considered in the MOBILE6.2 model include the following:

Strategy	**Methodology/Approach**
I/M Program (per NC SIP)	*Ran Model in Place*

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Tier 2 vehicle's Emission Standards	*Ran Model in Place*
Low Sulfur Gasoline and Diesel fuels	*Ran Model in Place*
Heavy Duty Vehicle Rules 2004 and 2007	*Ran Model in Place*
Low RVP Gasoline	*Ran Model in Place*
On board vapor recovery	*Ran Model in Place*

Also, area specific information is used for such items as vehicle starts, vehicle age distribution and vehicle type distribution rather than national default values, as documented below.

4.1.1 Development of Emissions Factors

A critical element of any emissions analysis or estimate is the development and utilization of the emissions factors applied to the travel estimates. In order to assure that the emissions factors used in the conformity analysis were compatible with those used in the development of the North Carolina SIP, DENR provides emission factors and model inputs for each non-attainment and maintenance area in North Carolina. The MOBILE6.2 emissions factor model was used to develop the emissions factors in 2013 for the Triangle. These factors are shown in Appendix F.

NCDENR provides motor vehicle emissions factors by federal functional classification of the roadway system. In addition the percentage of motor vehicles subject to the inspection and maintenance program is estimated from accident data. The scope of North Carolina's motor vehicle inspection and maintenance program expanded to forty-eight counties by 2007. The percentage of vehicles in each county subject to the I/M program is shown in Table 4.

Table 4. Percentage of Vehicles Subject to Inspection and Maintenance Programs

Location	2007-2040
Wake County	95%
Durham County	92%
Johnston County	91%
Chatham County	96%
Granville County	83%
Orange County	89%
Franklin County	90%

4.1.2 Development of VMT Mix by Vehicle Type

The North Carolina Department of Transportation (NCDOT) provides data on VMT for six urban and six rural road types; vehicle mix data are available for the same road types. Automatic traffic recording stations and selected Highway Performance Monitoring System (HPMS) locations were used and counts taken in 2010 are used to determine the percentage of vehicles, by vehicle type, for various road types. Vehicle classification data was used in conjunction with MOBILE6.2 default vehicle mix to estimate fleet distribution by functional class. The classification data was iteratively adjusted to replicate MOBILE6.2's national classification default within the analysis area.

4.1.3 Vehicle Age Distributions

The vehicle age distribution is based on the North Carolina Department of Motor Vehicles' 2011 (DMV) registration records for the in-use fleet in the Triangle area. DMV provided the information. The data was modified and arranged to comply with MOBILE6.2.

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4.2 Transportation Control Measures

The North Carolina State Implementation Plan lists no transportation control measures pertaining to the Triangle.

4.3 Estimation of Vehicle Starts

A component of the emissions rates for each functional class is an estimate of the start-based emissions. This rate is based on an assumed number of starts per vehicle and is added to running emissions to produce a single rate to apply to vehicle miles traveled. Mobile 6 includes national default rates. However, the use of default rates isn't the best practice for heavily urbanized areas with an updated Travel Demand Model. Area-specific rates were calculated by dividing the total number of trips from the travel demand model by the total number of registered vehicles. This methodology has been previously endorsed by USEPA and has been used in the prior conformity analysis in the Triangle.

4.4 Off-model Analysis

The Triangle Regional Model (TRM) does not include algorithms that can calculate the effects on VMT and speeds (and hence air quality) of certain transportation related activities designed to influence people's travel modes or affect the supply of or demand for transportation services. Examples of such activities that either currently exist or are planned in the Triangle include:

- Transportation Demand Management (TDM) programs such as the SmartCommute@RTP program which cover approximately 10% of the region's workforce,
- Land use strategies, such as compact, mixed-use, pedestrian- and transit-oriented development and design initiatives, over and above those reflected in the Traffic Analysis Zone (TAZ) socioeconomic data,
- Commuter Services Programs operated by the Triangle Transit Authority, such as the Guaranteed Ride Home program, rideshare matching software and the vanpool program, and
- Incident management programs conducted on the region's Interstate highways and other freeways in Wake and Durham Counties, including surveillance cameras, the Motorist Assistance Patrols, and traveler information activities.

In order to accurately account for the impacts of such activities, they are reflected through "off-model" analyses. Although these and other programs are suitable for off-model analysis, this conformity determination included off-model analysis only for the interstate incident management program. As more experience is gained in other activities, they may be reflected in future conformity analyses. FHWA Region IV's *Off-Model Air Quality Analysis: A Compendium of Practice* provided guidance on estimating these emissions effects. Appendix H includes the calculations for this off-model analysis in Durham and Wake Counties.

4.5 Emissions Comparison Tests by Location and Pollutant

USEPA originally declared Durham County, Wake County and Dutchville Township in Granville County non-attainment under the 1-hour standard for ozone (O_3) and Durham County and Wake County non-attainment for Carbon Monoxide (CO) on November 15, 1990. Durham County, Wake County and Dutchville Township were redesignated by USEPA to attainment with a

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maintenance plan for ozone on June 17, 1994 and Durham County and Wake County were redesignated by USEPA to attainment with a maintenance plan for CO on September 18, 1995.

In 1997 the NAAQS for ozone was reviewed and revised to reflect improved scientific understanding of the health impacts of this pollutant. When the standard was revised in 1997, an eight-hour ozone standard was established. The USEPA designated the entire Triangle area as a "basic" non-attainment area for eight-hour ozone with an effective date of June 15, 2004. The Triangle Area was subsequently redesignated to a Maintenance Area for eight-hour ozone on December 26, 2007.

The current maintenance designation covers the following geographic areas:

- Durham County
- Wake County
- Person County
- Granville County
- Orange County
- Johnston County
- Franklin County
- Baldwin, Center, New Hope and Williams Townships in Chatham County

Both volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) are precursors of ozone. In the most recently approved maintenance plans for ozone for the areas listed above, the North Carolina Department of Environment and Natural Resources (DENR) prepared emissions budgets for only NO_x, as VOC was deemed insignificant. USEPA approved the most recent emissions budgets on December 26, 2007 with an effective date of the same day. The USEPA approval and promulgation rulings for CO and ozone containing the budgets are in Appendices A and B.

Four organizations are responsible for conformity determinations; each must make a conformity determination for its respective area in order for all of the areas to be designated in conformity:

- the Capital Area MPO within the CAMPO metropolitan area boundary – currently all of Wake County, and portions of Franklin, Granville and Johnston Counties.
- the DCHC MPO within its metropolitan area boundary – all of Durham County and parts of Orange and Chatham counties.
- the Burlington-Graham MPO within its portion of the metropolitan area boundary in western Orange County.
- the NCDOT in the rural "donut" area that is comprised of those portions of Chatham, Orange, Person, Franklin, Granville and Johnston Counties that remain outside of any MPO metropolitan area boundary.

For this report, emissions were calculated and reported at the County level, or for part of a county if only a part is in the maintenance area (Chatham County). Table 5 summarizes the emissions test used and decision-making responsibility for conformity findings in each County.

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Table 5. Emissions Test and Responsibility for Conformity Findings

Location	Pollutant(s)	Emissions Test	Conformity Finding Responsibility
Wake County	O3, CO	budget	Capital Area MPO
Durham County	O3, CO	budget	Durham-Chapel Hill-Carrboro MPO
Johnston County	O3	budget	NC DOT (consultation with Upper Coastal Plain RPO)
Chatham County *(Baldwin, Center, New Hope, Williams Townships)*	O3	budget	Durham-Chapel Hill-Carrboro MPO NC DOT (consultation with Triangle Area RPO)
Granville County	O3	budget	NC DOT (consultation with Kerr-Tar RPO)
Orange County	O3	budget	Durham-Chapel Hill-Carrboro MPO Burlington-Graham MPO NC DOT (consultation with Triangle Area RPO)
Person County	O3	budget	NC DOT (consultation with Kerr-Tar RPO)
Franklin County	O3	budget	NC DOT (consultation with Kerr-Tar RPO)

The results of the emission comparisons are summarized by County in Tables 6 through 13. Detailed emissions analysis results by county are contained in Appendix I.

Emissions from vehicles are expected to show dramatic decreases, even with continuing increases in vehicle miles of travel (VMT), for several reasons:

- Fleet turnover. Older, more polluting vehicles (gasoline and diesels) continue to be retired and replaced with newer, cleaner vehicles.
- Newer vehicles have gotten cleaner with each model year. The most recent Federal tailpipe standards are set at an average standard of 0.07 grams per mile for nitrogen oxides for all classes of passenger vehicles beginning in 2004. This includes all light-duty trucks, as well as the largest SUVs. For more detail, including phase-in by vehicle type, see USEPA's Tier 2 Vehicle Standard Final Rule at: www.epa.gov/otaq/regs/ld-hwy/tier-2/finalrule.htm
- Gasoline fuels are improving. Refiners and importers of gasoline were required to meet stricter sulfur content requirements by 2006. Low sulfur gasoline enables better emission controls, and can lead to further emission reductions from today's catalyst-equipped fleet. See USEPA's Gasoline Sulfur Program Final Rule at: www.epa.gov/otaq/regs/ld-hwy/tier-2/finalrule.htm

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- Emissions from heavy-duty on-highway vehicles are expected to decrease due to USEPA's Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements. Stricter NOx emission standards were phased in between 2007 and 2010 for diesel engines. New standards for on-road diesel fuel (15 ppm sulfur content) were phased in at the terminal level by July 15, 2006 and at the retail stations by September 1, 2006. See: http://www.epa.gov/otaq/diesel.htm#hd2007

- Expansion of vehicle inspection and maintenance programs to more counties in North Carolina so that more polluting vehicles are identified and repaired, thus lowering emissions.

The combination of the technology/fuel improvements/vehicle maintenance and resulting emission reductions exceeds the effect of increased VMT in the Triangle area. The trend in the Triangle area is not uncommon. On a national level this trend is also seen in data gathered by the Federal Highway Administration (FHWA). For additional detail, see the FHWA web site on vehicle miles traveled and vehicle emissions at: http://www.fhwa.dot.gov/environment/vmtems.htm

Table 6. Durham County Emissions Comparison Summary *(kg/day)*

Year	NO_X		CO[1]		
	SIP Budgets	MTP Emissions	SIP Budgets (tons)	SIP Budgets (kg)	MTP Emissions (kg)
2015[2]	N/A	N/A	177.22	160,771	92,149
2017[2]	4,960	4,515	177.22	160,771	N/A
2020[3]	4,960	3,377	177.22	160,771	83,790
2030[3]	4,960	2,513	177.22	160,771	92,660
2035[4]	4,960	2,578	177.22	160,771	N/A
2040[4]	4,960	2,863	177.22	160,771	110,774

Table 7. Wake County Emissions Comparison Summary *(kg/day)*

Year	NO_X		CO[1]		
	SIP Budgets	MTP Emissions	SIP Budgets (tons)	SIP Budgets (kg)	MTP Emissions (kg)
2015[2]	N/A	N/A	384.27	348,604	264,148
2017[2]	16,352	13,147	384.27	348,604	N/A
2020[3]	16,352	9,014	384.27	348,604	215,945
2030[3]	16,352	7,959	384.27	348,604	274,662
2035[4]	16,352	8,347	384.27	348,604	N/A
2040[4]	16,352	9,154	384.27	348,604	326,051

Table 8. Granville County Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Metropolitan Transportation Plan or TIP Emissions
2017[2]	1,714	1,599
2020[3]	1,714	1,119
2030[3]	1,714	605
2035[4]	1,714	572
2040[4]	1,714	590

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Table 9. Franklin County Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Metropolitan Transportation Plan or TIP Emissions
2017[2]	1,139	1,070
2020[3]	1,139	775
2030[3]	1,139	481
2035[4]	1,139	477
2040[4]	1,139	509

Table 10. Johnston County Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Metropolitan Transportation Plan or TIP Emissions
2017[2]	5,958	5,654
2020[3]	5,958	3,883
2030[3]	5,958	2,243
2035[4]	5,958	2,106
2040[4]	5,958	2,207

Table 11. Orange County Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Metropolitan Transportation Plan or TIP Emissions
2017[2]	3,742	2,810
2020[3]	3,742	1,988
2030[3]	3,742	1,480
2035[4]	3,742	1,508
2040[4]	3,742	1,626

Table 12. Person County Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Metropolitan Transportation Plan or TIP Emissions
2017[2]	791	601
2020[3]	791	468
2030[3]	791	361
2035[4]	791	362
2040[4]	791	376

Table 13. Chatham County (part) Emissions Comparison Summary *(kg/day)*

Year	NO_X SIP Budgets	NO_X Metropolitan Transportation Plan or TIP Emissions
2017[2]	948	855
2020[3]	948	629
2030[3]	948	383
2035[4]	948	388
2040[4]	948	428

1. To obtain kilograms per day, multiply tons per day by 907.18; SIP CO budgets are listed in tons/day
2. Budget year 3. MTP interim year 4. MTP Horizon year

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5. Public Involvement and Interagency Consultation

The Transportation Plan is consistent with consultation requirements discussed in *40 CFR 93.105.* Interagency consultation was a cooperative effort on the part of the Capital Area MPO, the Durham-Chapel Hill-Carrboro MPO, the North Carolina Department of Transportation and the Federal Highway Administration. The process was administered by the Triangle J Council of Governments on behalf of the partners and interagency consultation meetings were held on June 22, 2012, August 17, 2010 and December 14, 2012. Discussion summaries are included in Appendix C.

Public review of this report is being handled in accordance with each MPO's public participation policy. A copy of the public participation policies are available for review. Comments from the public participation process are incorporated into the final Conformity Analysis and Determination Report. Those comments are included in Appendix G of the final report.

6. Conclusion

Based on the analysis and consultation discussed above the following transportation plans and TIPs conform to the purpose of the North Carolina State Implementation Plan. In every horizon year for every pollutant in each geographic area, the emissions expected from the implementation of the transportation plans and TIPs are less than the emissions budgets established in the SIP.

Table 14: Summary of Conformity Status of Triangle Transportation Plans

Criteria (√ indicates the criterion is met)	**Burlington-Graham MPO 2035 LRTP & 2012-18 TIP***	**Durham-Chapel Hill-Carrboro MPO 2040 MTP & 2012-18 TIP***	**Capital Area MPO 2040 MTP & 2012-18 TIP***	**Rural (Donut) Area of the Triangle 2012-18 STIP**
Less Than Emissions Budgets	√	√	√	√
TCM Implementation	The NC SIP includes no Transportation Control Measures in the Triangle Area			
Interagency Consultation	√	√	√	√
Latest Emissions Model	√	√	√	√
Latest Planning Assumptions	√	√	√	√
Fiscal Constraint	√	√	√	√

* The 2012-18 TIPs are direct subsets of the 2040 MTPs

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Specific conformity findings for each of these areas are listed below:

Burlington-Graham MPO Ozone Conformity Finding for the MPO Transportation Plan and 2012-2018 Transportation Improvement Program

Based on the analysis and consultation and involvement processes described in this report, the Burlington-Graham MPO Transportation Plan and 2012-2018 Transportation Improvement Program are found to conform to the purpose of the North Carolina State Implementation Plan. The emissions expected from the implementation of the Burlington-Graham 2012-18 Transportation Improvement Program are in conformity with the 8-hour ozone standard.

Capital Area MPO Ozone and Carbon Monoxide Conformity Finding for the 2040 Metropolitan Transportation Plan and 2012-2018 Transportation Improvement Program

Based on the analysis and consultation and involvement processes described in this report, the Capital Area MPO 2040 Metropolitan Transportation Plan and 2012-2018 Transportation Improvement Program are found to conform to the purpose of the North Carolina State Implementation Plan. The emissions expected from the implementation of the Capital Area MPO 2040 Metropolitan Transportation Plan and 2012-2018 Transportation Improvement Program are less than the applicable budgets for NO_x and CO; therefore the MTP and TIP are in conformity with the 8-hour ozone standard and the carbon monoxide standard.

Durham-Chapel Hill-Carrboro MPO Ozone and Carbon Monoxide Conformity Finding for the 2035 Long-Range Transportation Plan and 2012-2018 Transportation Improvement Program

Based on the analysis and consultation and involvement processes described in this report, the Durham-Chapel Hill-Carrboro MPO 2040 Metropolitan Transportation Plan and 2012-2018 Transportation Improvement Program are found to conform to the purpose of the North Carolina State Implementation Plan. The emissions expected from the implementation of the Durham-Chapel Hill-Carrboro MPO 2040 Metropolitan Transportation Plan and 2012-2018 Transportation Improvement Program are less than the applicable budgets for NO_x and CO; therefore the MTP and TIP are in conformity with the 8-hour ozone standard and the carbon monoxide standard.

NCDOT Triangle Rural (Donut) Area Ozone Conformity Finding for the 2012-2018 State Transportation Improvement Program

Based on the analysis and consultation and involvement processes described in this report, the 2012-2018 State Transportation Improvement Programs for the rural areas of counties in the Triangle that are outside of the MPO boundaries are found to conform to the purpose of the North Carolina State Implementation Plan. The emissions expected from the implementation of the 2012-2018 State Transportation Improvement Program are less than the applicable budgets for NO_x in the SIP; therefore the TIP is in conformity with the 8-hour ozone standard.

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ITEM 6.d

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Current Planning
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(919) 644-3002 (FAX)
www.orangecountync.gov

131 West Margaret Lane
P O Box 8181
Hillsborough,
North Carolina, 27278

April 4, 2013

Durham-Chapel Hill-Carrboro MPO Technical Advisory Committee
c/o Andy Henry, Transportation Planner
City of Durham, Transportation Dept.
101 City Hall Plaza
Durham, NC 27701

Durham-Chapel Hill-Carrboro MPO Technical Advisory Committee:

On behalf of Orange County Planning Staff and consistent with County plans, the following comments/requests are offered on bicycle facilities included in the draft 2040 Metropolitan Transportation Plan. Specifically, these comments pertain to the "On-Road Bicycle Facilities Map" as provided on the DCHC MPO website:
http://www.dchcmpo.org/dmdocuments/2040MTPOffRoad.pdf

1. Old NC 86 segment between New Hope Church and Davis is identified as a Regional Bicycle Facility. Consistent with the County's Comprehensive Transportation Plan (March 2013), we are requesting that this designation be removed. New NC 86 provides the preferred alternate connection to Hillsborough from points south *(If needed, the section of New Hope Church Road, connecting Old NC 86 to New NC 86 and beyond to Old NC 10, could be identified as a Regional Bicycle Facility rather than a Local Bicycle Facility).*

2. St. Mary's Road segment between US 70 Bypass and Durham County line is identified as a Regional Bicycle Facility. Consistent with the County's existing bicycle route system (2010 NCDOT bicycling brochure), we are requesting that this designation be removed. The preferred alternate to Hillsborough from the Durham County line is via Guess Rd., New Sharon Church Rd., Walker Rd., Miller Rd., to Saint Mary's Rd.

3. NC 86 North segment between the intersections with Coleman Loop Road is identified as a Local Bicycle Facility. Consistent with the County's Comprehensive Transportation Plan (March 2013), we are requesting that this designation be removed and Coleman Loop Road be used as the preferred alternate.

4. Orange Grove Road and Dodsons Crossroads Road segments within MPO boundaries could be shown as Regional Bicycle Facilities rather than Local and may provide more of a regional connection south to Chatham County. The Orange County Comprehensive Transportation Plan includes the connections that complete the route.

A sketch map is attached as a reference and key to the above comments.

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Orange County Staff will be in attendance at the April 10th TAC Meeting to address any questions it may have.

Thank you,

Tom Altieri, AICP
Orange County Comprehensive Planning Supervisor

Cc:
Craig Benedict, Orange County Planning Director
Frank W. Clifton, Orange County Manager
Donna Baker, Clerk to the BOCC
Orange County BOCC, including DCHC MPO TAC member, Alice Gordon
Paul Guthrie, Chair, Orange County Unified Transportation Board

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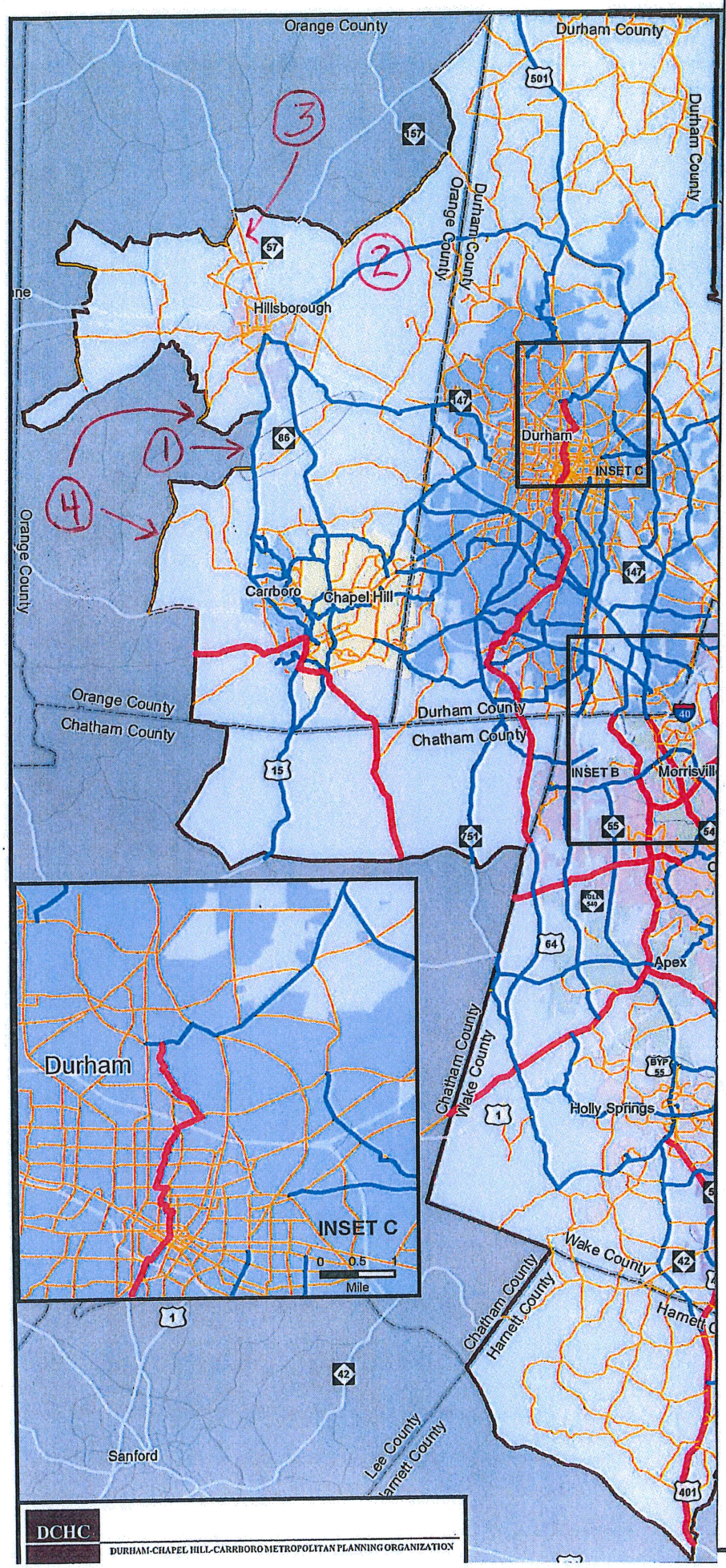
2040 Metropolitan Transportation Plan

February 28, 2013



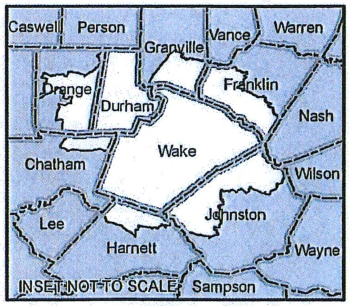
On-Road Facilities

State Bicycle Facilities

Regional Bicycle Facilities

Local Bicycle Facilities

*DCHC MPO State and Regional routes are shown on the On-Road Facilities map. Appendix 4 provides a listing of the routes.



This map was compiled using the best available data, however, the Capital Area MPO is not responsible for errors, omissions, and/or misuse. Subject to change.

0 2.5 5 10

Miles

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2040 MTP and AQ Report

April 10, 2013

Update

MTP Report

The following changes the MTP are proposed in response to comments from Orange County staff.

1. Remove the designation of Old NC 86 between Hillsborough and Carrboro as a "regional bicycle route." The project will be added to the DCHC CTP. If funding becomes available to correct sight distance and vertical and horizontal curves, the project will be added back into the MTP. Sections of Old NC 86 north of Davis Road and south of New Hope Church Road will be designated as "local bicycle routes" in the MTP.
2. Maintain St. Mary's Road as a "regional bicycle route" in the MTP for the time being. As part of the DCHC CTP, review other regional route alternatives to St. Mary's Road. If a route other than St. Mary's Road is selected, amend the MTP to reflect the preferred regional route.
3. Remove a portion of NC 86 North (between the two intersections with Coleman Loop Road) as a local bicycle route.
4. Designate the section of Orange Grove Road and Dodson's Crossroads Road in the MPO area as a "regional bicycle route" between Hillsborough and Chatham County.

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Triangle Area Rural Planning Organization
4307 Emperor Blvd., Suite 110, Durham, NC 27703
Mailing Address: P.O. Box 12276, Research Triangle Park, NC 27709
Phone: (919) 558-9397 Fax: (919) 549-9390
www.tarpo.org

April 2, 2013

You are invited to participate in a half-day workshop for the Triangle Area Rural Planning Organization (TARPO) Locally Coordinated Human Service Public Transportation Plan. The workshop will be held on **April 26, 2013**, from 9:00 AM-12:00 PM, at the Orange County Southern Human Services Center (2501 Homestead Road) in Chapel Hill, North Carolina. The workshop will focus on the needs of rural Chatham and Orange Counties as a part of the larger TARPO region, and will be facilitated by RPO staff with assistance from the North Carolina Department of Transportation (NCDOT) and the local transit service agencies. Please note that this plan will not be focusing the urban transit services provided by Chapel Hill Transit or Triangle Transit, but will instead be focused on the more rural services provided by Chatham Transit Network and Orange Public Transportation.

This workshop is one of many being held around the state in early 2013. The recommendations that come out of this workshop will be incorporated into the Locally Coordinated Human Service Public Transportation Plan for the region, which includes Chatham, Lee, Moore, and Orange Counties. This plan ensures that transit systems and other transportation providers in the region remain eligible for certain federal funds, including FTA Section 5310 (Enhanced Mobility for Seniors and Individuals with Disabilities Program), and ensures coordination with other funding sources. The plan is intended to identify the specific areas of need for individuals with disabilities, older adults, and persons with low incomes; to propose strategies for meeting these needs; and to prioritize public transportation services to meet these needs.

In addition to the workshop, which is open to the public, you are also invited to complete a survey that will be used to provide information for the Locally Coordinated Plan. This survey can be accessed online at http://www.surveymonkey.com/s/9N3SNYF or by going to the plan's website at http://www.tarpo.org/topics/lcp.shtml and clicking on the survey link. Additional information can also be found on the plan website, including a link to the previous plan (developed in 2009). Please feel free to share the survey link and workshop information with others who may be interested. Both the survey and the workshop are open to the general public.

If you have any questions about the workshop or the Locally Coordinated Plan process in general, please direct them to Matt Day, TARPO Senior Planner, at mday@tjcog.org or 919-558-9397.

Thank you in advance for your participation in this important effort. We look forward to seeing you on April 26th.

Sincerely,

Matthew M Day

Matthew M. Day
Senior Planner
Triangle Area Rural Planning Organization

ITEM 6.f

ORANGE COUNTY
BOARD OF COMMISSIONERS

ACTION AGENDA ITEM ABSTRACT
Meeting Date: May 7, 2013

Action Agenda Item No. _____

SUBJECT: Amendment Outline and Schedule for Upcoming Item – Eno Economic Development District Access Management Plan

DEPARTMENT: Planning and Inspections

PUBLIC HEARING: (Y/N) No

ATTACHMENT(S):
1. Comprehensive Plan and Zoning Atlas Amendment Outline Form (Other-2013-01)

INFORMATION CONTACT:
Abigaile Pittman, Transportation/Land Use Planner, 245-2567
Tom Altieri, Comprehensive Planning Supervisor, 245-2579
Craig Benedict, 245-2592

PURPOSE: To authorize staff to proceed with steps for the development and adoption of the Eno Economic Development District (EDD) Access Management Plan according to the schedule proposed in the Amendment form (Attachment 1).

BACKGROUND: The Eno Economic Development District (EDD) Area Small Area Plan (adopted June 24, 2008; amended February 3, 2009) recommended the approval of an access management program for US 70 and Old Highway 10 to provide better transportation systems and capacities as development proceeds in the area.

Since adoption, several Plan recommendations have been implemented including:
- Land Use Plan Map amendments designating the development potential categories of the Eno EDD; and
- Unified Development Ordinance amendments for the creation and regulation of uses and development standards for the Eno EDD.

Additionally, there has been progress with the Plan's Water and Sewer recommendations:
- An inter-local utility service agreement with the City of Durham was adopted in January 2012; and
- A consultant (CDM Smith) was hired to complete a preliminary engineering study for a public water and sewer master plan.

These initiatives are in preparation for economic development in the Eno EDD area which comprises approximately 562 acres of land. Land development in the EDD is intended to occur under Orange County development regulations in coordination with Durham.

As properties are developed for non-residential land uses, transportation interconnectivity and access will become increasingly important. In preparation, staff is recommending the BOCC

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initiate a process to formally adopt an access management plan for the area. Formally adopted transportation plans are necessary to procure federal and state funding for projects and to require developer action and contribution in providing transportation infrastructure consistent with a master plan. Adopted access management plans can also be incorporated into regional transportation plans, which will enhance Orange County's collaboration with the western and eastern Metropolitan Planning Organizations. A UDO amendment was adopted in August 2011 to further require integration of development proposals (whether through conditional zoning or site plans) to adopted access management plans.

Attachment 1, for the Commissioners' review and approval, is an Amendment form outlining the rationale, process, and implications of the development and adoption of the Eno EDD Access Management Plan.

FINANCIAL IMPACT: Other than staff time, there is no financial impact associated with receiving, considering and authorizing the staff to proceed with for the development and adoption of the Eno EDD Access Management Plan. This work will be completed by existing Planning staff in the Department's Comprehensive Planning Division. Following development and adoption, Plan implementation will be performed by staff and coordinated with the City of Durham and NCDOT as warranted.

RECOMMENDATION(S): The Manager recommends the Board:

1. Approve the attached Amendment form (Attachment 1) for the Eno EDD Access Management Plan; and
2. Direct Planning staff to proceed accordingly.

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DATE: April 8, 2013

TO: Tom Altieri, Comprehensive Planning Supervisor
Perdita Holtz, Planning Systems Coordinator

FROM: Abigaile Pittman, Transportation/Land Use Planner

RE: Proposed process and calendar for Eno Access Management Plan

I proposed the following revised schedule for the Eno EDD Access Management Plan:

Date	Activity
April 17, 2013	Internal deadline for Land Use/UDO Amendment Form Due 12:00 Noon for 5-7-2013 BOCC
April 22, 2013	Abstract and Land Use/UDO Amendment Form Attachment Due 12:00 Noon for 5-7-2013 BOCC
May 7, 2013	BOCC approval of Land Use/UDO Amendment Form
May-June 2013	AP's Development of Eno Access Management Plan
July 2013	Public Outreach
August 7, 2013	Planning Board Meeting
August 23, 2013	Deadline for finalization of Eno Access Management Plan materials and Abstract for 9-9-2013 BOCC QPH
August 23, 2013	Legal ad to newspapers by noon for 9-9-2013 BOCC QPH
August 26, 2013	Abstract Due 12:00 Noon for 9-9-2013 BOCC QPH
September 4, 2013	Power Point presentation due for 9-9-2013 BOCC QPH
September 9, 2013	BOCC Quarterly Public Hearing (initiation)
September 18, 2013	OUTBoard Meeting
September 25, 2013	Internal deadline for 10-15-2013 BOCC mtg. materials
September 30, 2013	Abstract Due 12:00 Noon for 10-15-2013 BOCC mtg.
October 15, 2013	BOCC Public Hearing (adoption consideration)

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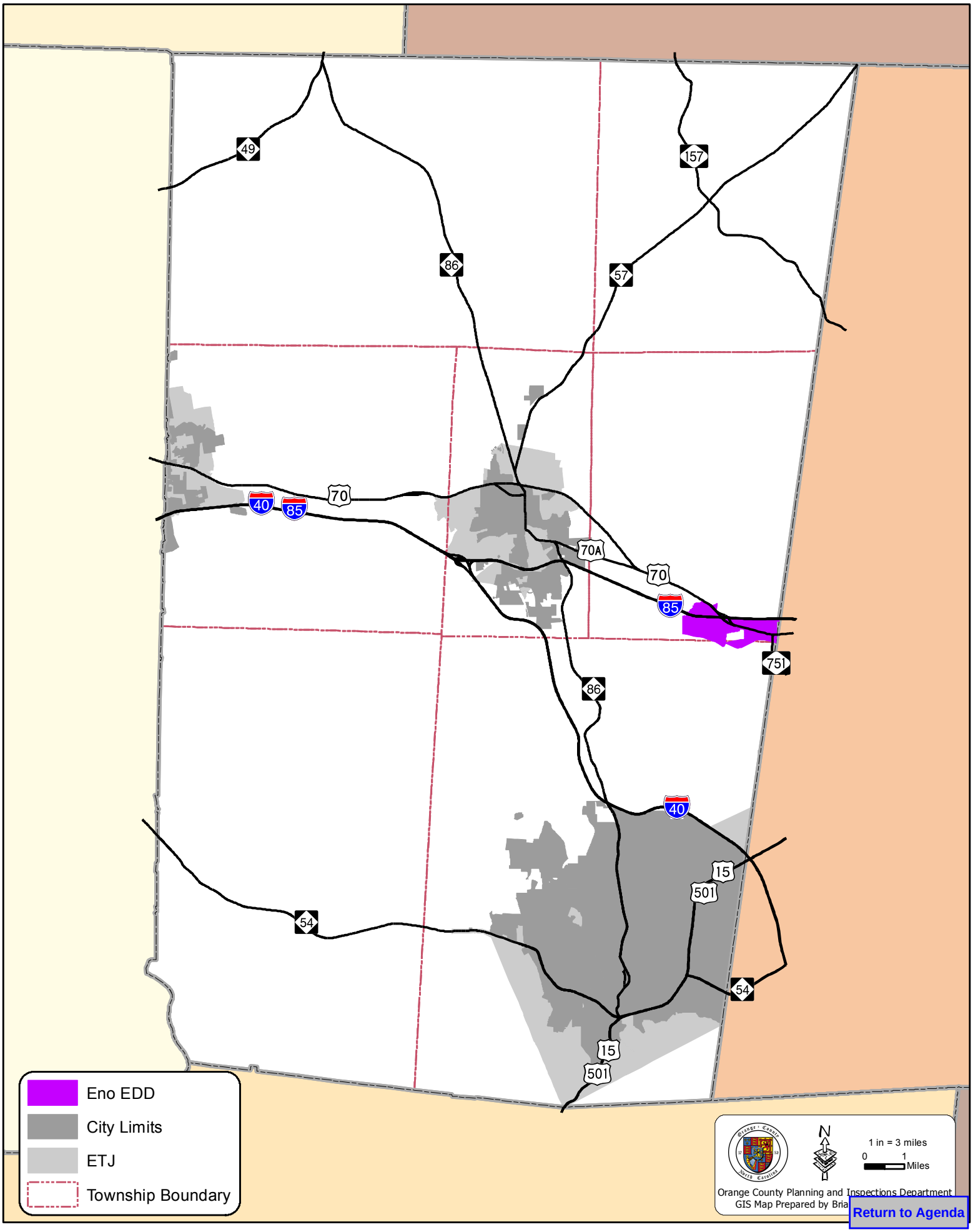
Eno EDD Vicinity Map



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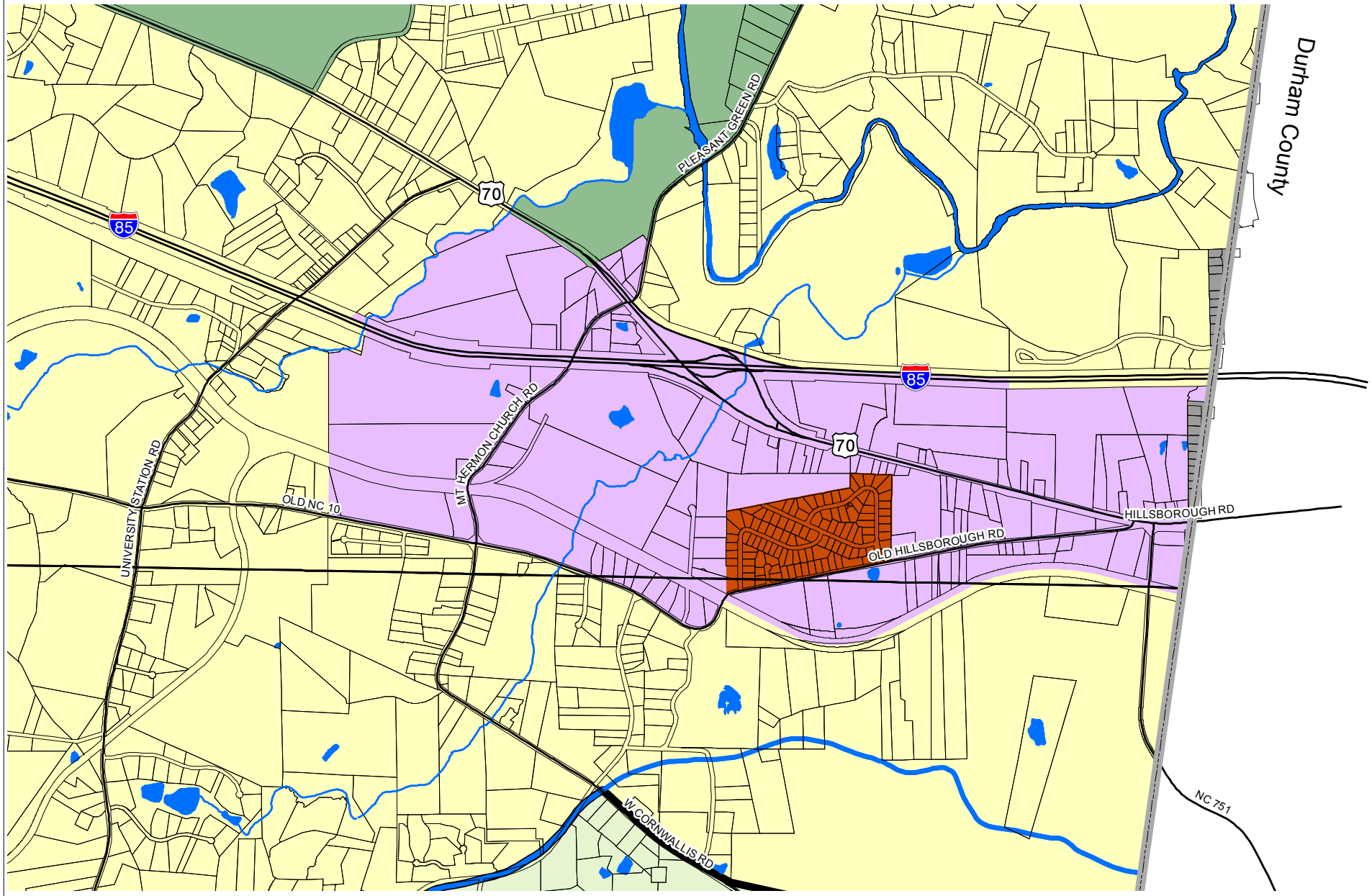
Future Land Use Map
of the Orange County Comprehensive Plan



Water Supply Watersheds
OC/CH/CA Joint Planning Area
10 Year Transition
Rural Residential
Rural Buffer
Agricultural Residential
City Limits
Activity Nodes
Economic Development Transition

N
W E
S
0 1,000 Feet
1 in = 2,000 feet

Adoption Date: Nov 18,2008
Amended through September 2012

Orange County and Planning and Inspections Department.
This copy printed April 08, 2013.
Map is for reference use only.
Contact Planning staff for confirmation of data.

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