

## 7. Our Long Range Transportation Plan

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

The transportation investments are summarized in the following categories:

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

### 7.1 Land Use & Development

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

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

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

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

## Summary of Comments on 2045 Metropolitan Transportation Plan

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

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

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

## 7.2 Roadways

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

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

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

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

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Start new paragraph. Then add "... and median cuts. On the other hand, local access sometimes needs to be maintained in urban areas when major roadways are turned into freeways or freeways receive operational improvements. As such, the MPOs will also work with NCDOT to ensure that central business districts, activity centers, and other intensely developed urban areas are not cut off from adequate transportation access in an effort to maximize mobility.

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Figure 7.2.1 below is a listing of the major highway projects by time period in each MPO. A larger version of the roadway map is available in Appendix 10 and on the MPO web sites.

Figure 7.2.1. Major Highway Projects by MPO and Time Period

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

### 7.3 Fixed Guideway and Premium Transit Services

A number of extensive transit planning efforts that have taken place in the last decade have resulted in transit plans in Durham, Orange, and Wake Counties. These county plans provide new dedicated revenue sources to finance significant transit improvements, including projects to produce enhanced regular bus service, implement high-quality fixed-guideway transit projects, build improved transit infrastructure, and develop new services to connect job centers and population centers throughout the region.

"... line accessing North Carolina Central University (NCCU), downtown Durham and Duke University and Medical Center."

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

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

The specific projects included in this 2045 MTP include:

- The Durham-Orange Light Rail Transit (D-O LRT) Project, a light-rail system connecting Chapel Hill and Durham. The project is currently within the Engineering phase of the Federal Transit Administration (FTA's) Capital Investment Grants/New Starts program and is under active development. The project is anticipated to begin construction in 2020 and be completed by 2028. Further information about D-O LRT is available at [ourtransitfuture.com](http://ourtransitfuture.com).
- A westward extension of the D-O LRT Project from its initial terminus at UNC Hospitals to serve the town centers of Chapel Hill and Carrboro. This project is scheduled for 2035-43.
- Chapel Hill Transit's North-South Corridor BRT, an 8-mile, 16-station project along the primary north-south corridor in Chapel Hill, Martin Luther King Jr. Blvd. and Columbia Street. It is currently in FTA's Small Starts Project Development program. Additional environmental analysis and project design is underway, and revenue service anticipated to begin before the end of the 2025 time period of this plan. Further information about this BRT project is available at [ncstudy.org](http://ncstudy.org).
- Rapid rail system with an initial focus linking, Garner, Raleigh, and Cary in Wake County with the Research Triangle Park downtown Durham and West Durham. This project is currently being evaluated as part of a Major Investment Study funded by Wake County and Durham County. This initial phase is scheduled for the 2026-35 time period of this plan.
- A westward extension of the rapid rail system from west Durham to Hillsborough, where a new Amtrak intercity rail station is currently being developed by NCDOT, and an eastward extension from Garner to Clayton. These extensions are scheduled for the 2036-45 time period of this plan.
- A rapid rail extension running between Apex and Wake Forest/Youngsville via Cary and Raleigh. This phase is scheduled for the 2036-2045 time period of this plan.
- A BRT system connecting Raleigh, Cary, Morrisville, Research Triangle Park, and Garner. These projects and services are currently being evaluated as part of the Major Investment Study funded by Wake and Durham County as well as the Bus Implementation Plan funded by Wake County. The initial phase includes portions of both dedicated fixed guideway as well as mixed traffic BRT service and is scheduled early in the 2026-2035 time period of this plan.
- An extension of dedicated fixed guideway for the initial BRT corridors in Wake County as well as the addition of BRT service to Midtown in Raleigh is scheduled for the latter part of the 2026-2035 time period of this plan.
- An extension of dedicated fixed guideway and BRT service to New Hope Rd. in the New Bern BRT corridor in Raleigh is scheduled for the 2036-2045 period of this plan.

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The project final engineering phase was suspended in April 2019 and will not be submitted to the federal New Starts program for grant funding. In place of the proposed D-O LRT, high capacity transit facilities will be implemented along the former D-O LRT corridor to connect Durham and Chapel Hill. These facilities will likely use differing combinations of BRT facilities such as dedicated bus lanes, enhanced bus stations, signal preemption and separate bus-only ramps at interchanges.

The corridor will include the former D-O LRT alignment and the following sections: US 15-501 between Durham and Chapel Hill; US 15-501 bypass in Chapel Hill; NC 54 between I-40 and the US 15-501/NC 54 interchange in Chapel Hill; US 15-501 between Durham and Chapel Hill; US 15-501 bypass in Durham; and the NC 147 and North Carolina Railroad line between downtown Durham and Duke University and Medical Center.

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A westward extension of the high capacity transit facilities from UNC Hospitals to serve the town center of Carrboro.

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[add bullet] High capacity transit service between Chapel Hill and Pittsboro, and Chapel Hill and Hillsborough. This might include service and amenity upgrades such as frequent headways, express service, full service terminals, sheltered bus stops and other characteristics often associated with BRT.

Author: Andrewh Subject: Sticky Note Date: 8/12/2019 5:18:09 PM  
"... is currently being developed by NCDOT, and further west to the MPO boundary to extend service to Mebane. An eastward extension...

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[new bullet] A BRT system from downtown Durham to the Research Triangle Park (RTP) area that uses the additional lanes being added to NC 147, from the East End Connector to I-40. RTP destinations might include the north and south RTP rapid rail stations, and the Frontier (Davis Dr/NC 54).

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

#### 7.4 Frequency- and Coverage-Based Bus Services

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

- Durham County: In 2011, Durham County commissioners and voters approved the Bus and Rail Investment Plan with a new ¼-cent sales tax and other revenues to fund transit expansion, including improved bus service, improved infrastructure; and premium transit services including D-O LRT and commuter rail. The plan was updated and renamed the Durham County Transit Plan in April 2017.
- Orange County: In 2012, Orange County commissioners and voters approved the County's Bus and Rail Investment Plan and identical funding sources as Durham County. The new dedicated revenues are being used to provide improved bus service and infrastructure, and pay the local share of the D-O LRT and North-South Corridor BRT premium transit services. The plan was updated and renamed the Orange County Transit Plan in April 2017.
- Wake County: The Wake Transit Plan and dedicated revenue sources were approved by county commissioners and voters in 2016. The plan focuses on four "Big Moves" to 1) connect the region; 2) connect all Wake County communities; 3) create a frequent and reliable urban transit network; and 4) provide enhanced access to transit. The plan proposes to develop a greatly expanded frequent bus network, bus service that connects the 12 Wake County municipalities, passenger infrastructure improvements; and the BRT and commuter rail services.

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

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

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

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

The proposed improvements in bus service include:

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

## 7.5 Bicycle and Pedestrian Facilities

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

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

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

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

#### Pedestrian Facilities

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



*Many thoroughfares lack sidewalks*

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

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

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

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Carrboro Sidewalk Policy (1989)</li> <li>• Chapel Hill Mobility &amp; Connectivity Plan (2017)</li> <li>• Durham Bike+Walk Implementation Plan (2017)</li> </ul>   | <ul style="list-style-type: none"> <li>• Durham Trails and Greenways Master Plan (2011)</li> <li>• Hillsborough Vision 2020 Plan (1991, revised 1998)</li> </ul>   |
| <ul style="list-style-type: none"> <li>• Angier Pedestrian Plan (2012)</li> <li>• Apex Bicycle &amp; Pedestrian Plan (2011)</li> <li>• Cary Pedestrian Plan (Imagine Cary) (2017)</li> <li>• Creedmoor Pedestrian Plan (2011)</li> <li>• Fuquay Varina Pedestrian Plan (2012)</li> <li>• Garner CTP (2018)</li> </ul> | <ul style="list-style-type: none"> <li>• Holly Springs CTP (2013)</li> <li>• Knightdale Pedestrian Plan (2011)</li> <li>• Raleigh Pedestrian Plan (2013)</li> <li>• Youngsville Bicycle/Pedestrian Plan (2014)</li> <li>• NCSU Bicycle/Pedestrian Plan (2011)</li> </ul> |

### Bicycle Facilities

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

The 2045 MTP identifies statewide and regional bicycle routes in the Triangle region. Statewide routes include NCDOT-designated Bicycling Highways as well as the East Coast Greenway.

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

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

Figure 7.5.2 – Local Plans Used for Bicycle Facility Recommendations

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

### Education, Enforcement & Encouragement

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



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

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The specific bike facility should be determined during project development and will be based on a street's basic design and motor vehicle traffic conditions including speed and volume. For instance, shared-use paths (SUP) may be the preferred facility along major arterials of four-lanes or more, or along roadways in which the posted speed exceeds 35 miles per hour.

"... (SUP) or other protected bicycle and pedestrian facilities..."