

North Fulton County
Comprehensive Transportation Plan

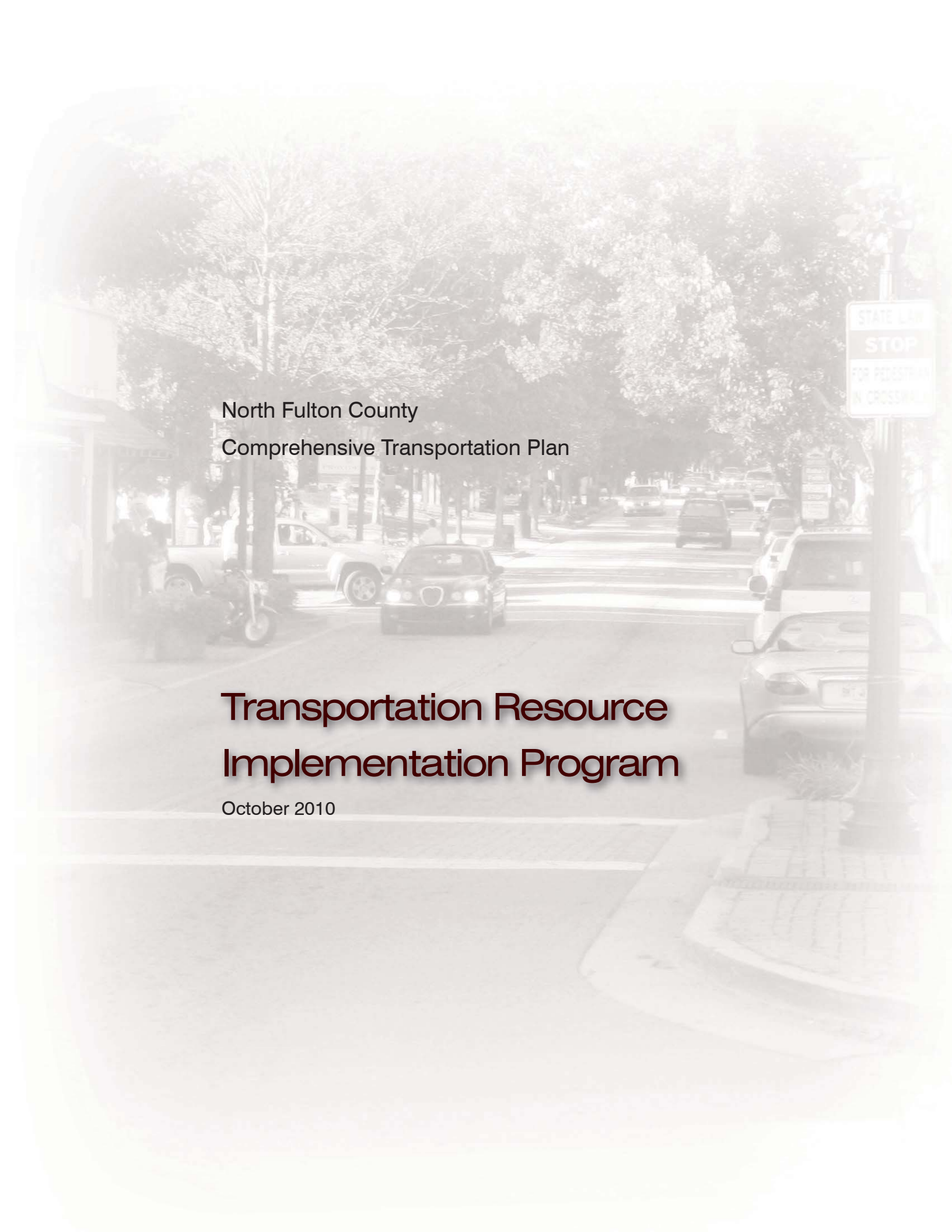


October

2010

Transportation Resource
Implementation Program

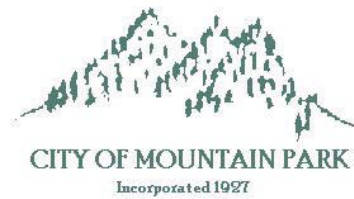




North Fulton County
Comprehensive Transportation Plan

Transportation Resource Implementation Program

October 2010



POLICY COMMITTEE

Arthur Letchas..... Alpharetta
 Mike Bodker..... Johns Creek
 Joe LockwoodMilton
 Jim Still Mountain Park
 Jere Wood Roswell
 Eva Galambos..... Sandy Springs

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| | |
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| | Chris Owens |
| Johns Creek | Tim Jennette |
| | Edward “Skip” Rolquin |
| | Jim Warren |
| Milton | Mike Williams |
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| Roswell | Erik Alford |
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| North Fulton Chamber of Commerce | Tedra Cheatham |
| North Fulton CID | Ann Hanlon |
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PROJECT MANAGEMENT TEAM

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 Cindy Jenkins Johns Creek
 Sara LeadersMilton
 Carter LucasMilton
 Chris Chovan Roswell
 Cedric Clark Sandy Springs
 Regan Hammond.....ARC

In addition to the participants listed above, there have been additional municipal staff, related organizations, and involved citizens who were very engaged throughout the development of the North Fulton CTP. Although they are greater in number than can be listed here, their participation was vital to the success of this plan.

CONSULTANT TEAM



Joel Stone, Inc.



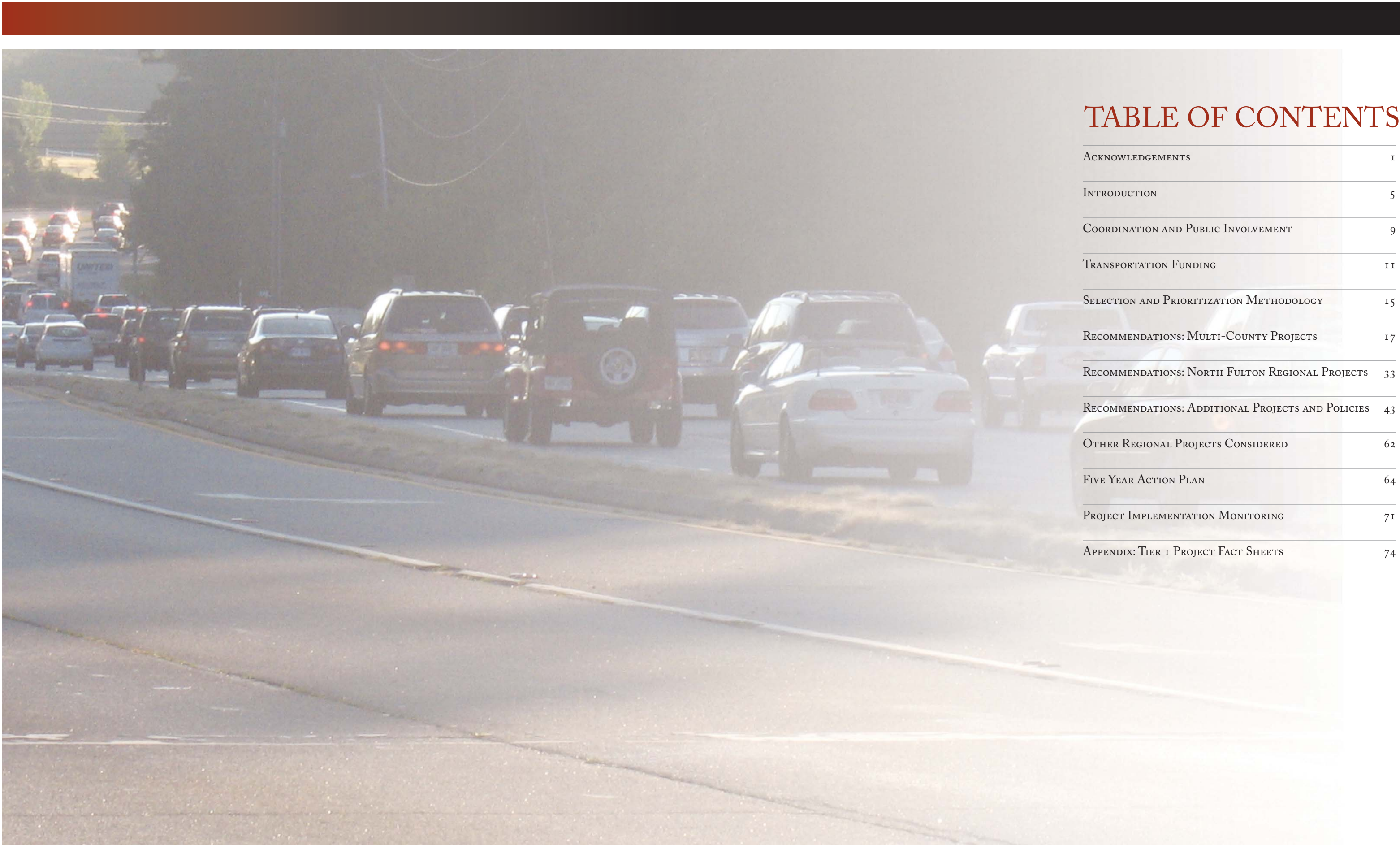


TABLE OF CONTENTS

| | |
|---|----|
| ACKNOWLEDGEMENTS | 1 |
| INTRODUCTION | 5 |
| COORDINATION AND PUBLIC INVOLVEMENT | 9 |
| TRANSPORTATION FUNDING | 11 |
| SELECTION AND PRIORITIZATION METHODOLOGY | 15 |
| RECOMMENDATIONS: MULTI-COUNTY PROJECTS | 17 |
| RECOMMENDATIONS: NORTH FULTON REGIONAL PROJECTS | 33 |
| RECOMMENDATIONS: ADDITIONAL PROJECTS AND POLICIES | 43 |
| OTHER REGIONAL PROJECTS CONSIDERED | 62 |
| FIVE YEAR ACTION PLAN | 64 |
| PROJECT IMPLEMENTATION MONITORING | 71 |
| APPENDIX: TIER 1 PROJECT FACT SHEETS | 74 |

North Fulton is comprised of six municipalities including Alpharetta, Johns Creek, Milton, Mountain Park, Roswell, and Sandy Springs, each of which has unique transportation needs. Together these municipalities form a subarea of Fulton County and the greater metropolitan Atlanta. North Fulton is a significant subarea within metro-Atlanta because over the past several decades, it has developed into a major employment center with some of the highest-paying jobs in the region. The area also has very high land values with a very attractive housing stock and public services. North Fulton is supported by an extensive transportation network composed of roadways, sidewalks, bike lanes, and access to the ninth largest transit system in the United States. Recognizing the need for strong cross-jurisdictional and multimodal planning and coordination, the cities of North Fulton joined together with the Atlanta Regional Commission (ARC) to sponsor the development of the North Fulton Comprehensive Transportation Plan (CTP). This plan will assist local governments within the North Fulton subarea by clearly defining cross-jurisdictional goals, needs, and priorities. The information that comes out of this plan can be used by local governments to update their individual transportation plans which can then be used as input into the regional transportation planning process. While ARC typically completes needs assessments and transportation plans focusing on regional needs and solutions, a successful local transportation plan and program is also critical. One of the key results of the North Fulton CTP is a list of regionally significant cross-jurisdictional projects that the communities of North Fulton collectively support. These identified projects form the basis of future funding requests submitted to ARC and GDOT during Transportation

The TRIP document provides an overview of the process and recommendations developed as part of the North Fulton CTP. The document is generally organized as follows:

- *Background and Development of the CTP*
- *Major Multi-County Recommendations*
- *North Fulton Regional Project Recommendations*
- *General Policy Recommendations*
- *Plan Implementation*

Throughout the document, all specific recommendations are denoted with red italicized text while prioritized North Fulton projects are listed in tables broken up into three priority levels (or tiers).

At the end of the TRIP document, a Five Year Action Plan as well as an Implementation Monitoring section have been included to aid in execution of the North Fulton CTP.

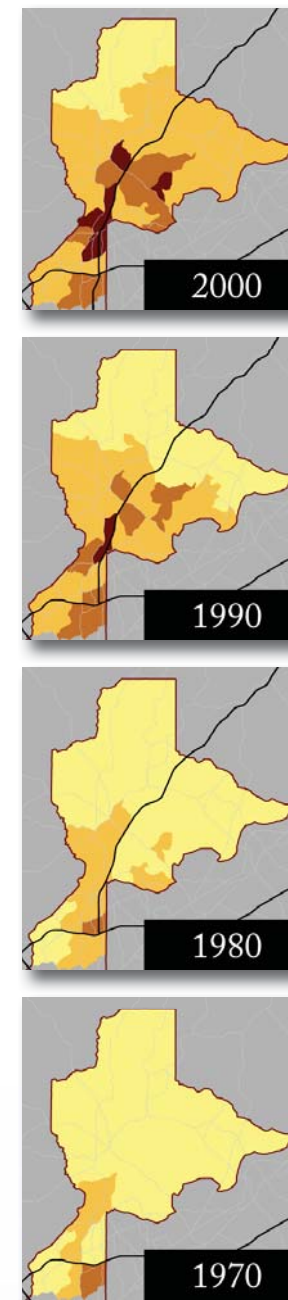
Improvement Program (TIP) and Regional Transportation Plan (RTP) update cycles.

This report, the *Transportation Resource Implementation Program (TRIP)*, is the summary document that concludes the development of the CTP. This document provides an overview of the planning process, the resulting recommendations, and the necessary actions for ensuring ongoing implementation. Associated with this report are three other technical documents which provide more detailed information regarding the CTP development and final recommendations. The first report is the *Existing Conditions Report* (published January 2010), which provides a thorough overview of the existing transportation network in North Fulton. The second report, the *Needs Assessment Report* (published April 2010), builds on that foundation and focuses on assessing current and future transportation deficiencies in the area. The final report is the *Recommendations Report* (published October 2010), which provides a final list of prioritized transportation enhancement recommendations. Readers may go to www.atlantaregional.com/nfctp to access these reports online.

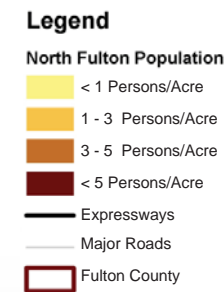
PROJECT VISION STATEMENT

The North Fulton Comprehensive Transportation Plan's vision is to develop a functional, reliable and implementable transportation system that...

- ◆ Supports economic vitality, environmental responsibility, innovation, and quality of life
- ◆ Is designed to achieve safety, connectivity, accessibility, and mobility for users of all modes and support lifelong communities enabling independence as citizens age
- ◆ Works cooperatively with the area's infrastructure and jurisdictional land use policies
- ◆ Is developed cooperatively with respect for the preservation of an individual jurisdiction's community character



POPULATION GROWTH



If we continue to alleviate congestion by widening roads, GA 400 would need an additional 12 lanes to accommodate the growth expected over the next 20 years.

OVERVIEW OF TOOLS AND RESOURCES USED

To survey existing conditions, to identify transportation needs, and to create final recommendations for the North Fulton transportation system, many approaches and tools were used. The following is a summary of those tools:

Public Involvement was one of the primary methods used for developing a list of transportation needs, particularly current ones. Residents and stakeholders in the area represent an important source of information for those system needs that currently exist. Many opportunities for public input were utilized including public charrettes, a statistically valid public opinion survey of 1,000 residents, email correspondence, telephone calls, a project website, and comments through a project Facebook page.

Existing Studies were reviewed for areas across North Fulton to build a strong foundation for this plan by giving consideration to work done in previous studies. Studies and plans reviewed include Municipal Comprehensive Plans and Comprehensive Transportation Plans, Livable Centers Initiatives Studies, Tax Allocation District Applications, Revitalization, Redevelopment, and Master Plans, Corridor Studies, and other various studies.

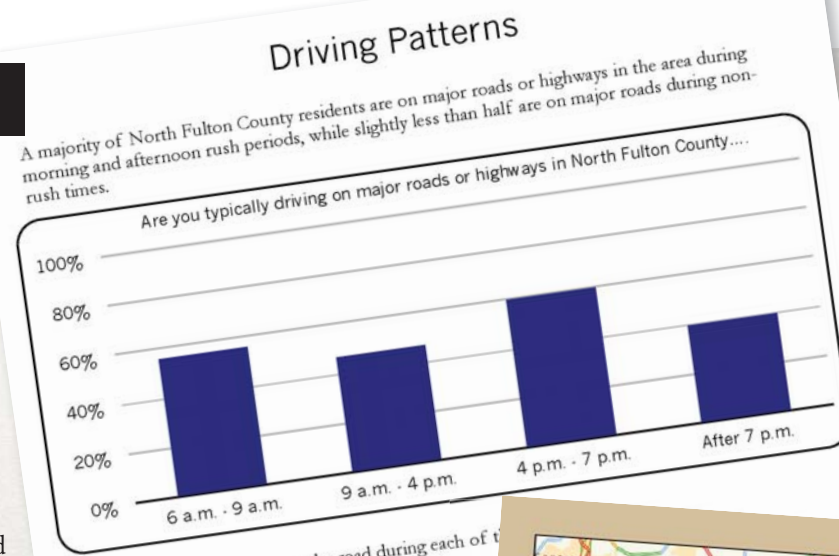
Geographic Information Systems (GIS) is a software tool used to relay spatial information in the form of maps. Economic, census, land, and transportation data were displayed using this software. Unless noted otherwise, the maps included in this document were created using the software ESRI ArcGIS Version 9.3 (ArcView).

Census Data and American Community Survey data from the US Census Bureau were obtained for the purposes of understanding population and employment trends. This information was used for identifying area employment centers, areas with greater density, and areas with aging populations, lower incomes, lower auto ownership, or a larger disabled population that may have different transportation needs. These data have limitations based on the size of the census tracts and because the census is conducted every 10 years. The most recent census with available data was conducted in 2000 so this data is nearly 10 years old.

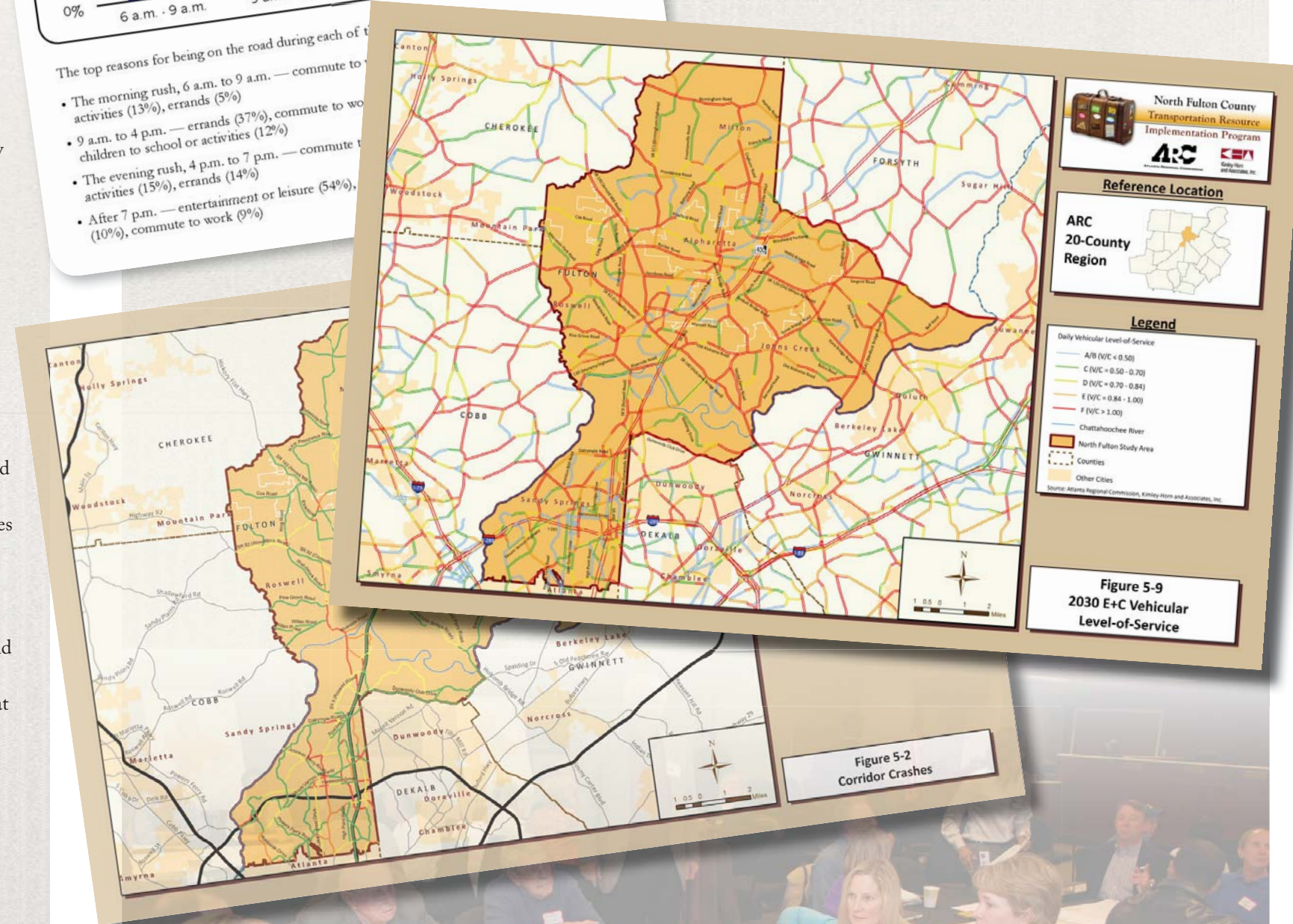
The Atlanta Regional Commission's (ARC) Travel Demand Model is a computer generated simulation of travel patterns in the Atlanta region. By taking into account the existing and planned roadway network, travel behaviors, land use patterns, and socioeconomic data from North Fulton and the metro area as a whole, this model is used to approximate regional traffic patterns along the primary roadway network for both present and future conditions. The model also was used to test the vehicular capacity and transit projects to assess associated impacts.

Coordination with ARC's Ongoing Planning Initiatives was necessary to develop the North Fulton plan in accordance with region-wide goals and strategies. ARC is the designated Metropolitan Planning Organization (MPO) for the Atlanta region, of which North Fulton is a subarea. Coordinating with ongoing regional initiatives that are being implemented by ARC ensures that the North Fulton CTP will be aligned with those goals that extend beyond its borders: Recommended projects that are locally beneficial and yet, are still aligned with regional goals. Some of the initiatives the North Fulton CTP incorporated include the PLAN 2040 Update, Unified Growth Policy Map, Livable Centers Initiative (LCI), Strategic Regional Thoroughfares Plan, and the Regional Resource Plan.

Crash Data statistics were analyzed in order to identify safety needs and trends within the transportation system. These data provide insight into the nature of vehicular, bicycle, pedestrian, and commercial vehicle crashes. Geospatial data were also obtained from the Georgia Department of Transportation (GDOT) so that locations of these crashes could be identified.



- The top reasons for being on the road during each of the following times are:
- The morning rush, 6 a.m. to 9 a.m. — commute to work (13%), errands (5%)
 - 9 a.m. to 4 p.m. — errands (37%), commute to work (12%), children to school or activities (12%)
 - The evening rush, 4 p.m. to 7 p.m. — commute to work (15%), errands (14%)
 - After 7 p.m. — entertainment or leisure (54%), errands (10%), commute to work (9%)



PROJECT COORDINATION

A transportation plan should be developed with consistent input from the community and with coordination between participating jurisdictions and agencies. As part of the North Fulton CTP, numerous meetings were held with Stakeholders, municipal staff, and other organizations to gain input and guide the development of the plan.

At the outset of the North Fulton CTP, a Project Management Team was established to directly guide the development of the plan. This team consisted of a core group of municipal staff assigned by the cities of Alpharetta, Johns Creek, Milton, Roswell, and Sandy Springs.

The Stakeholder Committee consisted of 21 local business leaders, elected officials, and involved citizens appointed by the North Fulton municipalities. The group aided in developing the vision and goals at the beginning of the project and then provided

on-going input at critical points throughout the development of the plan.

Over the course of the project, the Consultant Team attended four North Fulton Mayors Meetings in order to update the mayors on the status of the project. Also, individual phone interviews and individual in-office interviews were conducted with each mayor.

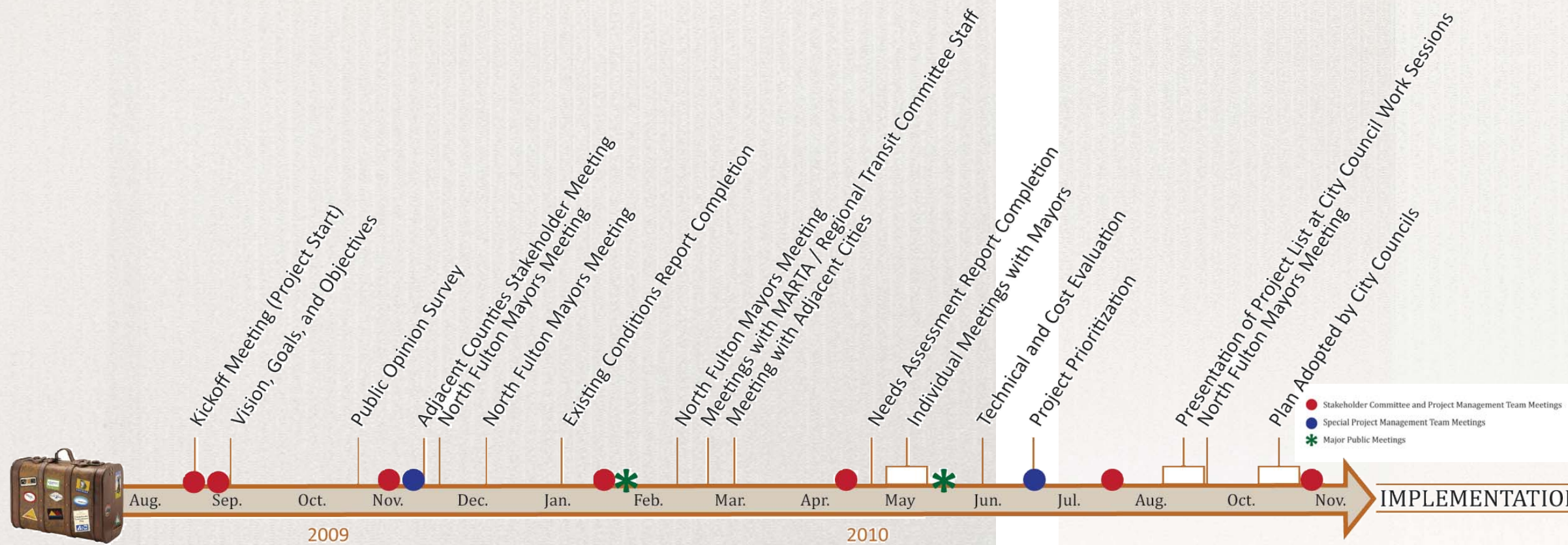
The CTP was discussed at City Council work sessions in each North Fulton municipality (with the exception of Mountain Park) in an effort to finalize project prioritization.

In addition, meetings were held with related organizations and nearby jurisdictions in order to ensure regional coordination. These entities included adjacent counties, GDOT, MARTA, Regional Transit Committee, cities of Atlanta and Dunwoody, and the Fulton County District 3 Commissioner.

PUBLIC INPUT

Comments from the public were used to define transportation needs and to prioritize the final list of recommended projects. The most direct opportunity for engaging the public and obtaining specific input was through two rounds of public design charrettes. The first round consisted of charrettes held in January of 2010 in each North Fulton municipality to identify deficiencies in the transportation system. The second round was also held in each North Fulton community in May of 2010, but with a focus on gaining feedback on a preliminary list of recommendations.¹ Attendees were asked to vote in favor of or against each individual project using a system of green and red dots to place on large maps and project lists. Attendees were also allowed to suggest new projects that had not been added to the lists. Voting results from the second round of charrettes were later used to aid in prioritizing the final list of recommendations.

** In the second round, Mountain Park opted for a general project update to be provided to the City Council in lieu of a full charrette.*



IMPLEMENTATION



FUNDING BACKGROUND

The number and scale of transportation projects required to keep pace with the increase in travel demand is growing nationwide, across the state of Georgia, and locally in North Fulton. Meanwhile, the financial resources available to local and state departments of transportation are either holding steady or dwindling.

Competition among states and municipalities for transportation funding is growing as a simple function of supply and demand: fewer dollars available for projects and more projects needed than ever.

In undertaking this plan, the municipalities of North Fulton have taken the first step in positioning themselves for future funding. For implementation of this plan to be successful, the municipalities must continue to coordinate efforts in the following:

- ◆ Jointly advocating for North Fulton projects regardless of the city in which they are located
- ◆ Understanding existing funding sources (and their requirements) and prioritizing projects for those dollars
- ◆ Keeping abreast of potential new funding sources and adopting policies (to qualify for these sources) consistently across municipal boundaries
- ◆ Advancing local and regionally significant (specifically, cross-jurisdictional) projects to various levels of completion to be in position to accept funding where other projects may fall short.

Within the Atlanta region, a multitude of municipal interests are represented. This inherently places Atlanta at a disadvantage when competing for transportation funds due to a perception that efforts between municipalities and agencies are not coordinated. When no over-arching priorities are established among competing applications for funding, this perception is reinforced and reduces the likelihood that any project from the region will be selected.

The efforts of the North Fulton municipalities can be an example of a unified, coordinated effort for the rest of the Atlanta region. Through the North Fulton CTP, regionally significant projects within North Fulton have been grouped into three different priority tiers. This will communicate a unified show of support among the North Fulton municipalities for a feasible list of projects. Tier 1 projects are generally the highest priority of projects specific to North Fulton and conceivably could be funded using traditional funding sources. Tier 2 projects are the next level of priority and should be considered if additional funding sources become available or if Tier 1 projects are delayed, modified, or do not qualify for funding. Tier 3 projects are the lowest priority of the three tiers. While the Tier 3 projects still are of importance to North Fulton, funding does not appear likely. Tier 3 projects could be considered if additional funding sources become available or if Tier 1 and 2 projects are delayed, modified, or do not qualify for funding.



TRADITIONAL FUNDING SOURCES

Tier 1 projects will most likely be funded by traditional federal and state funding sources; however, these projects could be funded by additional sources, if available.

The Safe Accountable Flexible Efficient Transportation Act – A Legacy for Users (SAFETEA-LU) is the most recent federal authorization bill for transportation spending. This bill has expired and then been extended a number of times under continuing resolutions from the US House and Senate. Federal funding is provided to the state in two forms – formula based general funds which fund the bulk of TIP projects and competitive applications which are typically granted in smaller amounts. Any earmarks provided by federal legislation are taken from the formula based funds provided to the state and region.

General funds which typically finance TIP projects include:

- ◆ High Priority Projects (HPP)
- ◆ National Highway System (NHS)
- ◆ Surface Transportation Program (STP)
- ◆ Highway Safety Improvement Program (HSIP)
- ◆ Local Maintenance and Improvement Grant Program (LMIG)
- ◆ Congestion Mitigation and Air Quality (CMAQ)

Competitive applications which can finance projects excluded from the TIP or augment the funding for TIP projects include:

- ◆ Safe Routes to School (SRTS)
- ◆ Recreational Trails Programs
- ◆ Transportation Enhancement (TE)
- ◆ Livable Centers Initiative (LCI) (local program funded by the STP)
- ◆ Georgia Transportation Enhancement (GATEway)

In addition to the SAFETEA-LU extensions, one-time grants have been given in the form of Transportation Investment Generating Economic Recovery (TIGER) grants and TIGER II grants.

Legislation is currently under development at the federal level for a new authorization of funding. A new federal transportation bill would reestablish funding targets and federal transportation policy. The new bill is expected to be a turning point for new policies and funding formulas in recognition of a number of national issues – obesity, rising fuel prices, and the need for alternative fuel sources. With the new authorization, significant changes to the general and competitive funding forms are anticipated; however, the nature and extent of the changes are unknown at this time.

To best maintain competitiveness for funding in future years, the North Fulton municipalities should develop projects that are multimodal, multijurisdictional, and multifaceted (incorporating land use, environmental and social planning).

POTENTIAL FUNDING SOURCES

The communities of North Fulton should consider additional funding sources to provide flexibility in project development and to maximize the potential funds available to match federal and state dollars. Additional local revenue could be used to advance local and regionally significant projects to various levels of completion to be in position to accept funding where other projects may fall short. The term “shovel ready” has become commonplace in funding discussions. Having projects designed and permitted, with right-of-way acquisition complete, means projects are “shovel ready” and in an advantageous position to win new federal grants. Having projects at this level of completion takes time and money – money that’s frequently not available from state or federal resources. There are, however, a number of other potential revenue sources for the communities of North Fulton. These include but are not limited to the proposed regional one-cent sales tax (the Transportation Investment Act of 2010, or House Bill 277), a Special Purpose Local Option Sales Tax (SPLOST), expanded or additional Community Improvement Districts (CID), and additional property taxes.

Transportation Investment Act of 2010

Georgia residents will be voting in the 2012 primary elections on a referendum for a one-percent sales tax to fund transportation projects. A list of projects to be funded by the tax will be developed by a Regional Transportation Roundtable – made up of local elected officials – prior to the referendum. If this referendum passes, up to \$9 billion could be made available for transportation projects in the Atlanta region over the life of the tax (10 years). Fifteen percent of the total revenue from the tax would be distributed to local governments. An estimated \$10 million would be available annually to the North Fulton municipalities through this local distribution. Ideally, this money would be utilized to develop or provide local matches for projects not included on the referendum’s list of projects.

In the Transportation Investment Act there are two scenarios that may require significant increases in the amount of local matches required for state grants. If the Regional Transportation Roundtable cannot agree to a project list for the referendum, the local match required for LMIG grants from the state will increase to 50 percent of a project’s total cost instead of the typical match of 20 percent. If the project list is agreed upon, the referendum takes place and does not pass, a local match of 30 percent will be required. Conversely, if the referendum passes, the local match required for LMIG grants will be reduced to 10 percent.

Special Purpose Local Option Sales Tax

A SPLOST is typically a one percent sales tax levied by a local government for funding of projects. These projects can include construction of schools, municipal buildings, prisons, transportation projects, etc. Most of these taxes have a 4 to 5-year term limit and are approved by voters through a local referendum. A North Fulton SPLOST would generate an estimated \$77 million annually if all municipalities were to participate.

Property Taxes

Residential property taxes may also be a mechanism to raise revenues for transportation projects. There are approximately 156,000 homes within the North Fulton municipalities. An example increase of \$200 in annual property tax per home could generate approximately \$31.2 million in additional annual revenue. Although public perception and opinion need to be evaluated, it is clear that increases in residential property taxes could help alleviate funding gaps.

Similarly, increased taxes on commercial properties could supply a significant amount of money for transportation projects. For example, a one mill tax increase on all commercial properties in North Fulton (1 mill equals one tenth of one percent) could provide approximately \$9 million annually.

Community Improvement Districts

A community improvement district (CID) can be a good partner for the municipalities of North Fulton in leveraging funds towards priority projects in the area of the CID. A CID is a self-taxing district that uses additional commercial property taxes to help develop and accelerate infrastructure improvement projects. CIDs may tax office, industrial, or retail properties. Residential properties cannot be taxed by a CID. A simple majority of owners may elect to create a CID. However, the majority must represent at least 75 percent of the taxable value of property. North Fulton has two CIDs: the Fulton Perimeter CID, which together with the DeKalb Perimeter CID comprise the Perimeter CID, and the North Fulton CID. Combined, these entities have invested over \$20 million in North Fulton County and North DeKalb County infrastructure over the past 10 years.

Levels of funding to be expected from a CID composed of all commercial properties in North Fulton could be assumed to be similar to estimates provided in the increased commercial property tax example on the left.

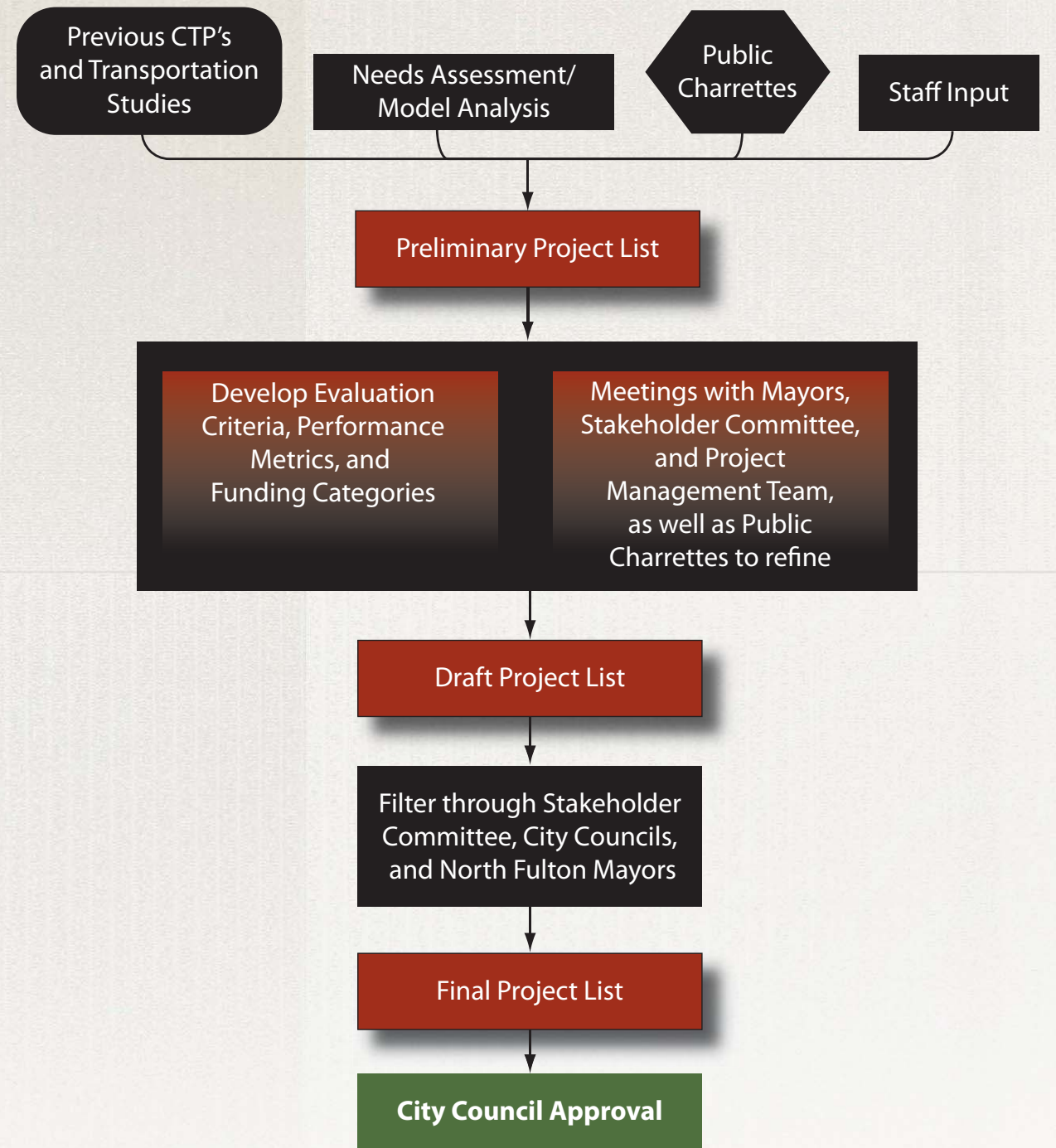
PROJECT SELECTION AND PRIORITIZATION METHODOLOGY

A Preliminary Project List was developed in early spring of 2010. Sources for the project list included previous CTPs and other transportation plans conducted by the local governments, results of the Needs Assessment and travel demand model analyses, input from public charrettes, and input from the staff and elected officials of the six jurisdictions.

Over the ensuing months, the project list was refined using a number of tools, selection criteria, and meetings with stakeholders. An evaluation matrix was developed to assess each of the projects relative to the priorities of the North Fulton TRIP. This matrix included factors such as reduction in vehicular congestion, creation of new connections, improvements to bicycle, pedestrian, and transit modes, and environmental/social impacts. Opinions of probable cost as well as potential operating and maintenance costs were considered relative to the likely benefits of the project; monetary benefits were estimated for vehicular projects. Feasibility of construction was considered as well as whether or not the project is already part of the Regional Transportation Plan. Meetings with Mayors, voting by the Stakeholder Committee, frequent coordination with the Project Management Team, and input from Public Charrettes helped to refine the projects into a Draft Project List.

Once developed, the Draft Project List, split into Multi-County Projects and three tiers of North Fulton funded projects, was once again put through a rigorous stakeholder process for refinement. The Stakeholder Committee first provided comments to the Consultant Team. Then the project list was taken to each of the five primary City Councils for review and comment. An updated list of projects was then presented to the North Fulton Mayors for final summary. The finalized project list and all recommended policies are being presented to all six City Councils for adoption in October 2010.

| Project Name/Number | Notes/Description | Point Value | Individual Point Value | Category Point Value |
|---|--|---|------------------------|----------------------|
| Evaluation Matrix | | | | |
| Vehicular Resources/ Congestion | | | | |
| 1. Reduces intensity of congestion | Intensity (ARC Methodology) = Congested travel time - free flow travel time (in minutes) | $\frac{1000 - (1000 - 1000 \times 0.25)^2}{1000}$ | 0-10 | 32 |
| 2. Reduces duration of congestion | Duration (ARC Methodology) = Congested hours x link length (in miles) | $\frac{1000 - (1000 - 1000 \times 0.25)^2}{1000}$ | 0-10 | |
| 3. Reduces extent of congestion | Extent (ARC Methodology) = Sum of link total vehicle delay | $\frac{1000 - (1000 - 1000 \times 0.25)^2}{1000}$ | 0-2 | |
| Transit, Pedestrian, and Bicycle Resources | | | | |
| 4. Increases level of service | Connections may serve commuters (service lines or serve as connections) | 0 - No, 1 - Yes | 0-5 | 15 |
| 5. Increases intermodal connectivity | Creates an interface among multiple modes of transportation | 0 - No, 1 - Yes | 0-5 | |
| Environmental/Social | | | | |
| 6. Reduces air pollution | ARC's AQPM, see within one activity center, or connects to community assets (e.g. parks) | 0 - No, 1 - Yes | 0-5 | 18 |
| 7. Reduces noise | ARC's AQPM, see within one activity center, or connects to community assets (e.g. parks) | 0 - No, 1 - Yes | 0-5 | |
| Other | | | | |
| 8. Reduces travel time | ARC's AQPM, see within one activity center, or connects to community assets (e.g. parks) | 0 - No, 1 - Yes | 0-5 | 15 |
| 9. Reduces travel time | ARC's AQPM, see within one activity center, or connects to community assets (e.g. parks) | 0 - No, 1 - Yes | 0-5 | |



MULTI-COUNTY ROADWAY RECOMMENDATIONS

Given its location north of the City of Atlanta, North Fulton is extremely dependent on the operations of GA 400 and I-285. GA 400 provides access not only into the central city but also to the north well beyond the limits of North Fulton. I-285 provides east/west access to the other critical interstates of I-75 and I-85 as well as to the south side of metro Atlanta. These facilities are part of an Atlanta Region picture that is larger than just North Fulton alone. Likewise, transit routes and operations are part of a larger regional context. Not only does access of the freeways and transit extend beyond the limits of the northern part of the county, but the ability to fund improvements along them also extends beyond the capabilities of North Fulton. For this reason, recommendations to GA 400, I-285, and major transit systems have been separated from the funding-oriented projects listed later in this report. Recommendations regarding the Multi-County projects are made here, but without regard to specific funding sources.

As people continue to move to North Fulton and other nearby commercial and business centers expand, more demand is created along the GA 400 corridor. At one time, common solutions would have included the addition of general purpose lanes as demand exceeded capacity; however, cities and metropolitan regions have begun to realize that attempting to out-build congestion is not sustainable. The addition of general purpose lanes to GA 400 would not solve the long term congestion issue. Meanwhile, the cross-section of GA 400 would rapidly become similar or larger than that of the downtown Connector, impacting existing properties and removing tree cover. Additionally, funding this type of project would be difficult, as federal funding for widening with general purpose lanes is disappearing and is being replaced with funding for projects with multimodal improvements.

GA 400 Roadway Recommendations

Recommendation: Provide managed lanes along GA 400 with interchanges at key crossings.

In limited areas, some general purpose widening may be a logical recommendation; however, the construction of a managed lane system is more likely the necessary approach for the entire corridor. Today, no HOV or HOT lanes exist along GA 400, meaning that no travel time incentives exist for those who carpool. The express buses that run along GA 400 have been able to

take advantage of the reinforced shoulders for bypassing queues; otherwise, no travel time incentives would exist for taking transit either. The construction of a managed lane system provides travel time incentives for those that carpool (likely HOV 3+), those that take transit, and those that opt to pay for a reliable trip. Most other major interstates in the region already have HOV lanes, and the addition of managed lanes to GA 400 is critical to the creation of reliable trips along the corridor. Although a number of scenarios are being considered, preliminary modeling shows that the construction of a 2-lane reversible managed lane system has the ability to reduce delay by over one million person-hours per day.

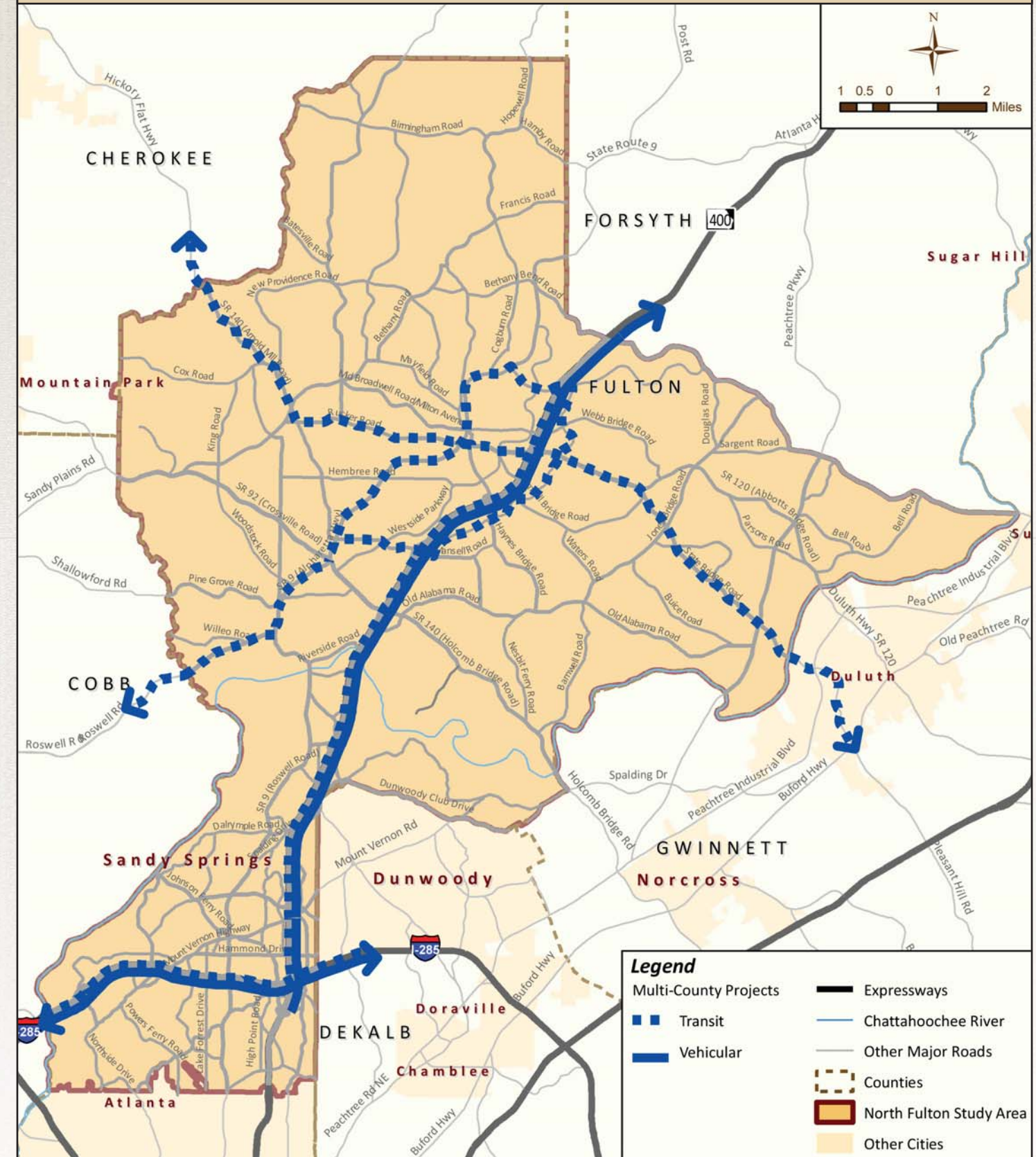
Conceptual work on the GA 400 managed lanes system will commence in late 2010 or early 2011 as part of a GDOT project. During that process, more detail will be determined on the numbers of lanes, locations of managed lane interchanges, and potential pricing scenarios. Additionally, analysis of the existing GA 400 interchanges should also occur, as many of them currently operate at a substandard Level-of-Service and likely will require modifications or reconstruction with the construction of a managed lane system.

Recommendation: Provide collector-distributor system from south of I-285 to Spalding Drive, parallel to GA 400.

Another key project being considered along GA 400 is the collector-distributor (C/D) system from south of I-285 to Spalding Drive in Sandy Springs. This roadway system potentially would include two lanes in each direction parallel to GA 400, providing access not only to GA 400 and the I-285 C/D system but also to Hammond Drive through a half-diamond interchange (currently under construction), Abernathy Road, and other Sandy Springs roadways. This additional access to Sandy Springs would allow vehicles to access the southern portion of North Fulton without having to directly use GA 400. This C/D system has the potential to reduce delay by approximately 400,000 person-hours per day according to preliminary modeling.

North Fulton CTP Multi-County Projects

October 2010



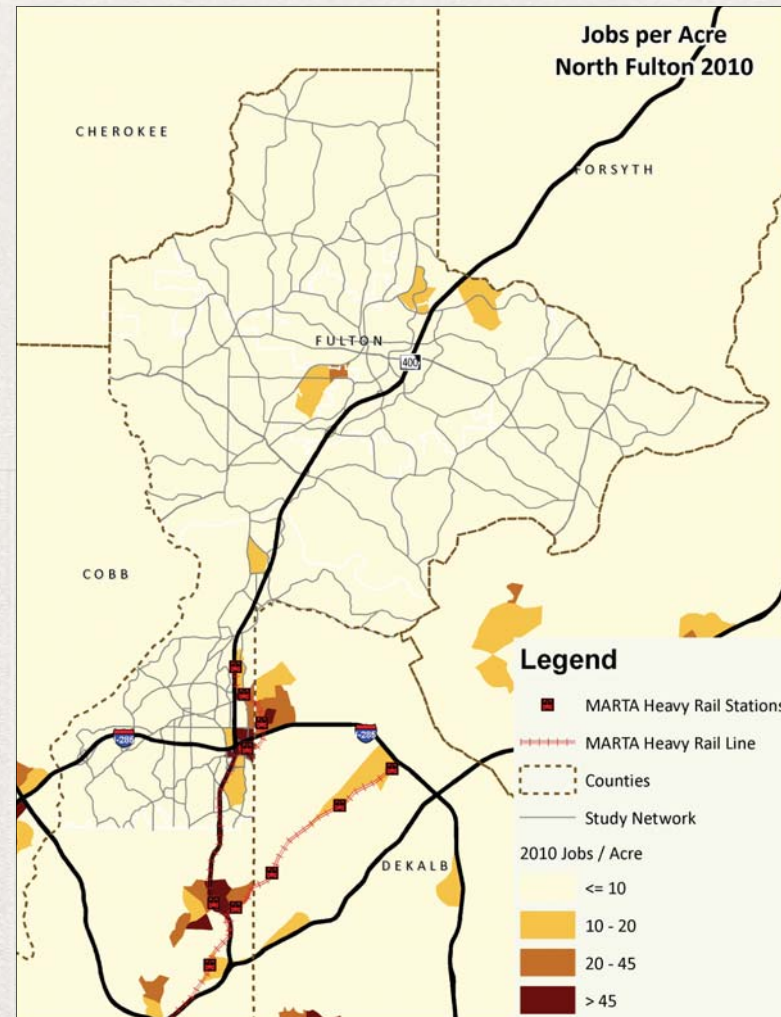
I-285 Roadway Recommendations

Recommendation: Monitor and support the recommendations of the Revive285 study, particularly managed lanes and transit recommendations along the corridor.

Just as GA 400 is a critical component of north-south access within North Fulton, I-285 provides critical access east to west between I-75 and I-85. The top end Perimeter is severely congested during peak periods and currently is being studied as part of the Revive285 Top End study. A No-Build Alternative and three Build Alternatives are being considered:

- ◆ Alternative 4 includes express bus and operational improvements
- ◆ Alternative 6A includes express bus and operational improvements as above in addition to managed lanes and reservation of future enhanced transit right-of-way
- ◆ Alternative 6B is very much like 6A above but with lane reconfiguration of the existing general purpose lanes

The results of the *Revive 285* study will provide recommended improvements to the Top End that, in conjunction with improvements to GA 400, likely will result in significant improvements to both vehicular and transit access within and around North Fulton.



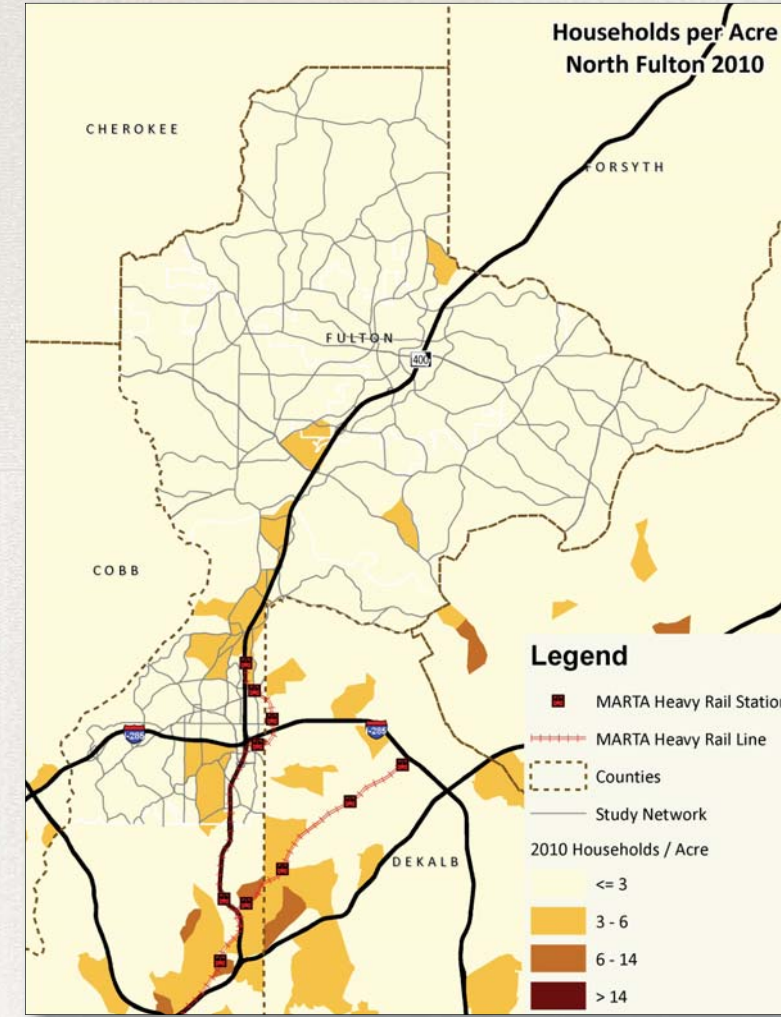
Employment Densities in North Fulton
Source: ARC Travel Demand Model and Kimley-Horn and Associates, Inc.

TRANSIT AND LAND USE RECOMMENDATIONS

As North Fulton continues to experience growth over the next two decades, expanded regional and local transit service should be considered as a complement and alternative to roadway investments. Effective transit service and land use are inextricably

of land uses to be separated from one other. The lack of growth boundaries for the metro region (bodies of water, mountain ranges, defined urban growth boundaries, etc.) allowed people to live further and further away from the central city and to

commute long distances to work. The combination of these two factors along with other considerations has resulted in the sprawling development patterns that are common throughout metro Atlanta. North Fulton is an example of this sprawling, low-density development enabled by the construction of GA 400. As documented in the Existing Conditions report, North Fulton has three MARTA heavy rail stations and twelve MARTA bus routes. The heavy rail stations are located in Sandy Springs while the majority of bus service is along or parallel to SR 9 in Sandy Springs and Roswell. Some bus service also exists east of GA 400, primarily along North Point Parkway in Alpharetta. Limited express bus service is also provided by GRTA.



Housing Densities in North Fulton
Source: ARC Travel Demand Model and Kimley-Horn and Associates, Inc.

The figures to the left show the jobs per acre and the households per acre, respectively, in 2010 throughout North Fulton. In these figures, employment and household estimates are mapped by Traffic Analysis Zone (TAZ) as used in the travel demand model. Note that the residential densities throughout most of North Fulton are three units per acre or less – a density assumed to be too low effective local bus service. The TAZs with residential densities between three and six units are located mostly along the SR 9 corridor in Sandy Springs and Roswell where existing local bus routes currently operate. Employment densities are greatest around the Medical Center station as well as the Dunwoody station, which is adjacent to Sandy Springs. The Windward employment center and areas within Roswell and the North Fulton CID are also denser than the minimum transit threshold.

linked. Efficient transit cannot exist without the appropriate mix and density of land uses surrounding the stations and routes. Likewise, concentrated density without transit can create an excess of vehicular trips that overwhelms a roadway system. Atlanta's significant over the last 30 years was guided by major investments in automobile mobility which allowed different types

Because of its purpose as a transportation plan, this study does not directly address land use changes within the North Fulton Cities; however, some land use discussion relative to transit is warranted. If North Fulton is interested in pursuing additional transit routes and modes in the future, some changes to key locations within the Cities will be necessary in order to sufficiently support an enhanced system.

Existing MARTA Rail Station Recommendations

Recommendation: If increasing transit opportunities within North Fulton is a priority, support increases in density, particularly residential density, around the existing MARTA rail stations.

Land use changes should first occur around the existing MARTA heavy rail stations. When MARTA was designed in the 1970s and 1980s, station area plans were created for each heavy rail station. Many of the plans were not implemented, however, and densities and the mix of uses around the stations necessary to efficiently support transit are lacking today. The figures to the right show the households and jobs per acre, respectively, within the ½ mile buffers of each of the four northernmost rail stations. This socioeconomic data was derived from the ARC travel demand model.

The household density around the MARTA stations fall within the lowest tier, with the exception of some portions of the northernmost two buffer areas. Overall, the number of households surrounding these rail stations is extremely low. The parking decks located at these stations allow commuters to park at the stations and to ride transit into the central city; however, relatively few people live within a reasonable walking distance of any of the stations. Employment density around the stations is better than the household density. Northside and St. Joseph's Hospitals, other medical facilities, and the Concourse ("King and Queen") buildings provide for a strong employment base around the Medical Center station. Perimeter Mall and some large office complexes fall within the Dunwoody station buffer area. Although many large employers fall within the ½ mile buffers of the rail stations, many of them require walking trips of 50 to 100 percent greater distance due to significant barriers such as GA 400 and I-285, lack of pedestrian connections, or superblocks surrounded by parking. Concentrating more dense residential uses and further increasing jobs around the MARTA stations will provide residents and employees around the stations more multimodal transportation opportunities and will also increase the ridership potential to the MARTA system.

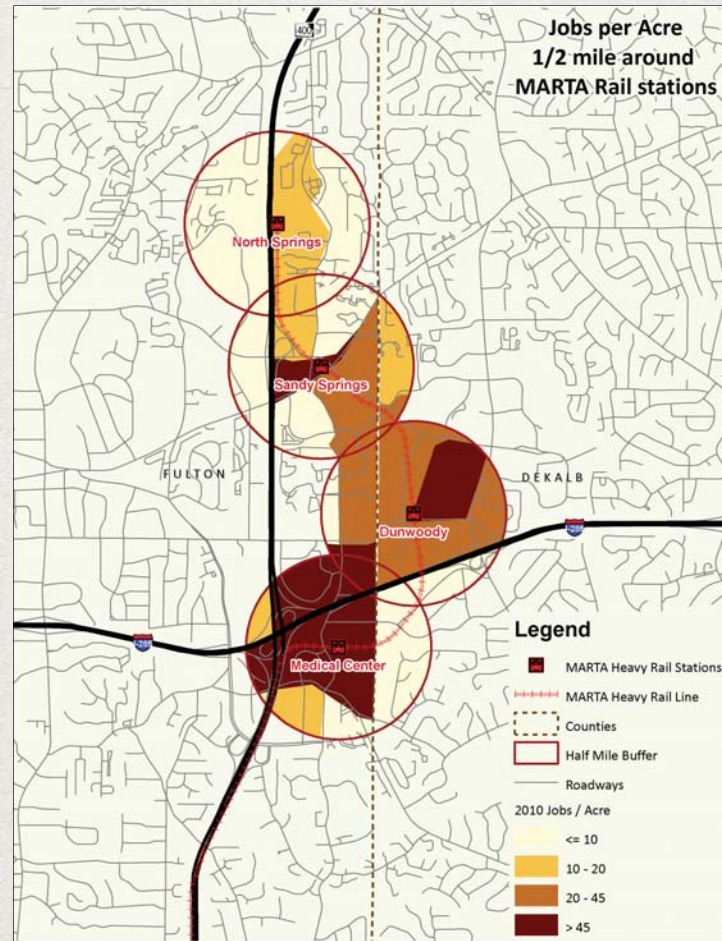
GA 400 Rail Extension Recommendations

The results of this study identified the need for a high-capacity regional transit service to operate along or parallel to GA 400 as far north as Windward Parkway. Through the public outreach activities there was support for this concept and significant interest in extending MARTA's existing heavy rail service northward through North Fulton. Similar to this feedback, the

results of the *Concept3* Report recommend a 13.3 mile light rail (LRT) line within the GA 400 corridor. Based on work completed for this study, there are several obstacles to moving forward with either of these rail options in the short term, including the following:

Capital Costs: Using an order of magnitude cost per mile methodology, the *Concept3* Report estimated implementation of the three phased LRT projected would be \$1.0 billion. The *Concept3* Report also included an order of magnitude cost per mile estimate to expand heavy rail service in the area. Based on the information from the report, the heavy rail cost per mile estimate was approximately 3.6 times higher than the LRT cost per mile figure. Assuming a heavy rail extension would follow the same alignment as the recommended LRT project, the order of magnitude estimate for the heavy rail extension would be approximately \$3.6 billion.

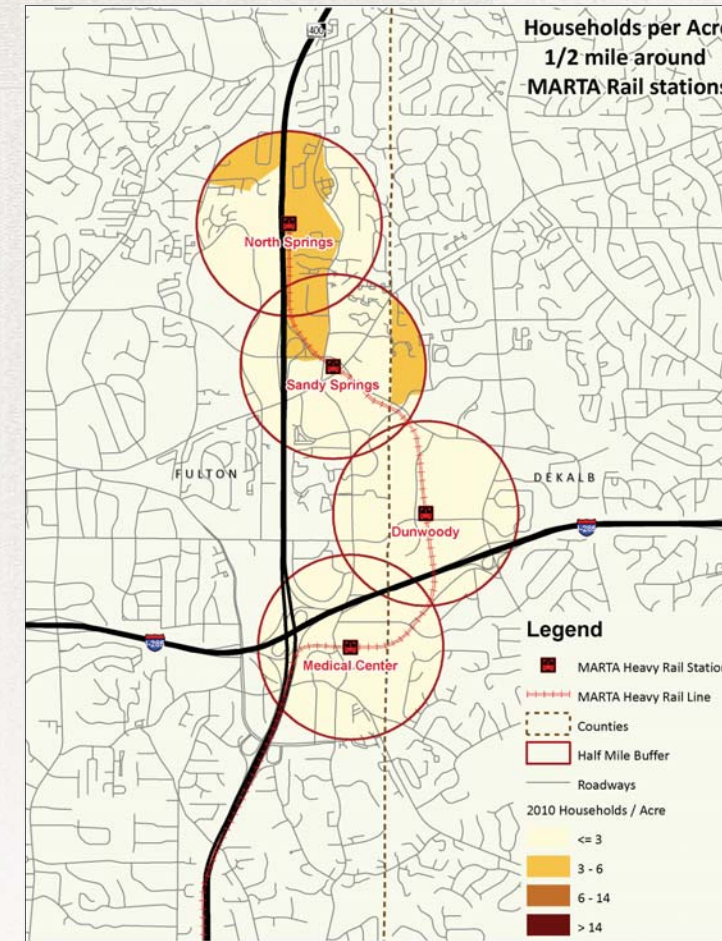
Operating Cost: The *Concept3* Report also developed order of magnitude cost per hour estimates to estimate annual operating and maintenance (O&M) costs for heavy rail and LRT. The order of magnitude operating cost estimate for *Concept3's* LRT



Source: 2000 ARC Travel Demand Model and Kimley-Horn and Associates, Inc.

alignment was \$24 million. Based on information in the *Concept3* Report, the cost per hour estimate for heavy rail is double the cost per hour estimate for LRT. Assuming the same Level-of-Service would be provided on a heavy rail extension as the service levels proposed for the *Concept3* LRT alignment, the order of magnitude annual operating cost for the heavy rail extension would be approximately \$48 million.

Funding: In order to implement the heavy rail extension or the LRT alignment, the various partners within the Atlanta region would need to agree that the project was a priority and should pursue federal funding through the Federal Transit Administration (FTA) New Starts program. This is a competitive grant program in which local agencies must document their ability to achieve "Medium" or higher ratings for several technical and financial criteria. One of the key criteria is a cost-effectiveness measure, which compares project ridership estimates to the capital costs to implement the project. Based on ridership projections developed for this study using existing land use patterns, neither the heavy rail nor the LRT project would achieve a competitive cost-effective rating.



Source: 2000 ARC Travel Demand Model and Kimley-Horn and Associates, Inc.

Additionally, the partners in the region would need to document that they have the ability to fund at least 50 percent of the total project costs. Based on the order of magnitude cost estimates, this would be approximately \$500 million for the LRT project and approximately \$1.8 billion for the heavy rail project. Given the level of transportation investment needed for the Atlanta region, this level of local dollars used for one project would be a significant challenge.

In addition to the capital funding challenges, on-going funding for operations would be a major issue. It is likely that MARTA would be the operator of either the heavy rail extension or LRT project. Given MARTA's on-going challenges to provide funding for local bus service, the prospect of adding \$24 to \$48 million annually in long term operating costs is likely not feasible without a significant increase in operating funds.

Current Land Use Patterns: Because of the low-density development throughout North Fulton, it is difficult to project a successful extension of rail (either heavy or light) up the GA 400 corridor at this time. Accessibility to new rail stations likely would occur via automobile because few residential and employment uses are located within a ½ mile of the proposed rail corridor. Land use changes need to occur around the proposed transit stations in order to provide necessary ridership base for the future extensions.

Recommendation: Implement high capacity transit enhancements within the GA 400 corridor through the following phased approach:

- ◆ *Short term – Initiate express bus operations within managed lanes along GA 400 for the near future. This concept is consistent with an on-going GDOT study that is evaluating the construction of High Occupancy Vehicle/High Occupancy Toll (HOV/HOT lanes) along GA 400. It is recommended that express buses would share the HOV/HOT lanes and could either connect to the MARTA rail station at North Springs or continue to major destinations farther south toward downtown Atlanta.*

- ◆ *Short term – At the same time the express bus service is being implemented, it is recommended that GDOT and the North Fulton region preserve right-of-way within the corridor for future potential rail transit (heavy or LRT), if future land use and development patterns and associated ridership levels support the level of investment required. This strategy should also include identifying and securing property for potential future transit stations.*

- ◆ *Mid term – Promote clustered, walkable development at appropriate densities around key express bus stations in anticipation of permanent rail stations. As transit routes are added along the GA 400 corridor, particularly accessing locations within North Fulton, cities can encourage land use changes around the key station areas. Some transit-oriented developments that are being considered at this time include the North Point TOD, the Holcomb Bridge Road TOD, and the Windward area, each near GA 400.*

- ◆ *Long term – potentially extend rail in the GA 400 corridor to Windward Parkway (either heavy or light rail) if development at key stations increases and sufficient ridership is projected. Develop station area plans for the proposed rail stations / stops.*

The concentration of walkable, higher-intensity residential and employment uses around the BRT stations will provide an increased ridership base for the GA 400 transit corridor. A cyclic process can be initiated: improved transit access can encourage increased densities around the stations. The concentration of residents and employees around the stations reinforces the need for transit. In future years, it is possible that with focused energy in

appropriate areas, the extension of rail could become a reality. This land use strategy to concentrate walkable development also enables commercial areas near GA400 to absorb greater growth while limiting increased congestion and infringement upon lower intensity areas away from the corridor.

Arterial Express Bus Recommendations

Recommendation: Conduct detailed analysis to evaluate the potential for implementing express bus or Bus Rapid Transit service along the following corridors:



North Point LCI Sample Concept

- ◆ *Arnold Mill Road (SR 140) / Rucker Road, tying into GA 400 transit*
- ◆ *Marietta Highway (SR 120) / Alpharetta Highway (SR 120) / Old Milton Parkway (SR 120) / State Bridge Road*
- ◆ *Other routes identified in Concept3 or Revive285 that are identified as high priority such as along Hammond Drive*

Consistent with the recommendations from the Transit Planning Board's

Concept3 report, the results of this study identified a need for an enhanced regional east-west transit service connecting jurisdictions within North Fulton with adjacent counties. These findings were also consistent with feedback received from the local jurisdictions indicating that a key component of the transit network that is missing is express bus or Bus Rapid Transit (BRT) service between major activity centers within North Fulton and the adjacent counties east and west.

It should be noted that the recommendation for BRT along State Bridge Road differs from the *Concept3* Report, which recommends Abbotts Bridge Road for this section of the alignment. As part of the recommended detailed analysis of this corridor, both alignments would be evaluated based on a series of technical criteria.

The goal of the enhanced east-west service will be to provide competitive travel times (to vehicular travel) between major activity centers and employment nodes along the corridors. For example, a route along Hammond Drive could serve as an east-west connection to the Perimeter employment area. While specific

features of the express bus service or BRT service were not analyzed in this study, they could include the following: frequent rush hour service, traffic signal priority, and the potential for dedicated transit-only lanes and queue-jumper lanes at major intersections, where applicable.

In addition to increasing development intensity around existing MARTA rail stations and future high capacity transit stations along GA 400, it will be important for the Cities to consider the redevelopment potential of key nodes along some of the more regional corridors that are projected to support future bus routes or enhanced transit service.

The maps on the following pages show portions of three of the regionally significant corridors in North Fulton that are recommended for future transit. As various forms of transit are considered along corridors such as Holcomb Bridge Road, Old Milton Parkway, and SR 9, important redevelopment should take place at key nodes.

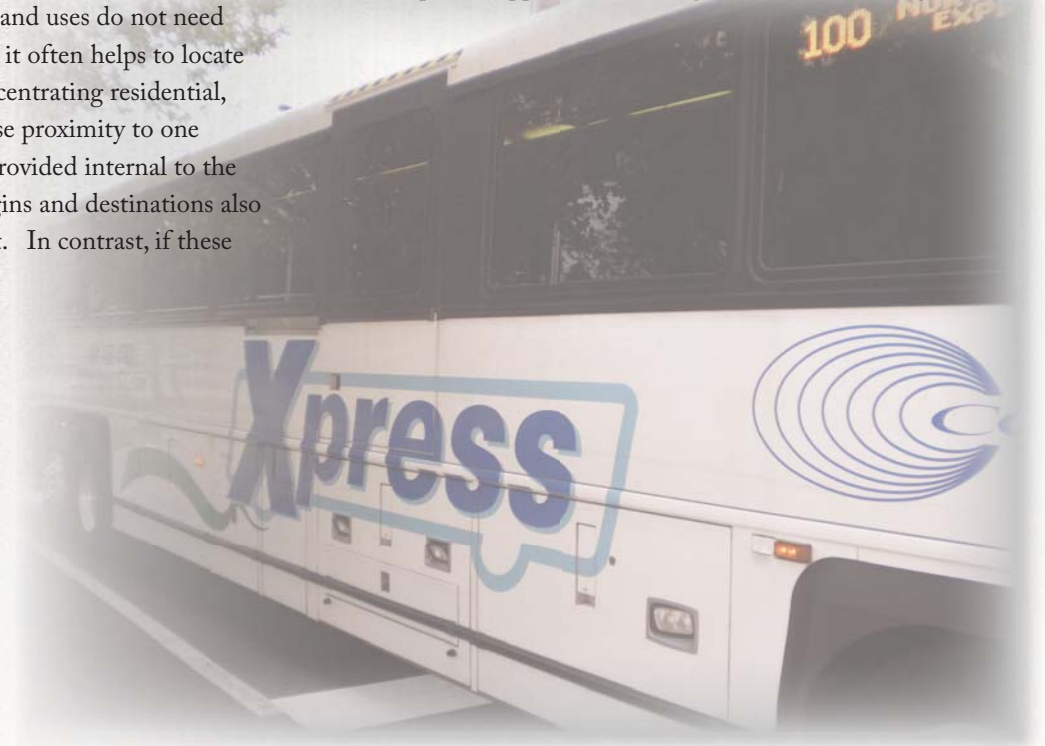
The map showing Holcomb Bridge Road shows ¼ mile and ½ mile buffer areas around the intersections of Georgia 400 at Holcomb Bridge Road and SR 9 at Holcomb Bridge Road. Currently, much of Holcomb Bridge Road is commercial land use with large surface parking lots. Some residential is located near the interchange, but it is relatively sparse.

Transit facilities provide the greatest mobility and see the highest levels of ridership when they are built around land uses that are reasonably dense and walkable. While land uses do not need to be mixed in order for transit to work, it often helps to locate different uses near one another. By concentrating residential, commercial, and often office uses in close proximity to one another, opportunities for walking are provided internal to the development. The concentration of origins and destinations also creates efficient opportunities for transit. In contrast, if these

same densities and land uses were spread out over a much larger area, much like conventional development patterns, opportunities for walking and transit trips would turn into automobile trips.

A common concern arising from dense land uses is the resulting increase in automobile trips on the roadway network in the vicinity of new dense developments. The map showing Old Milton Parkway focuses on addressing this particular scenario. Locally, if growth were to be concentrated into a walkable area, intersections and corridors on the surrounding roadway network would see an increase in vehicular trips. However, looking more regionally, if the same level of growth were to be spread out in an automobile dependent pattern, the net increase in vehicular trips would be greater and those vehicular trips would be more regional in nature, thereby increasing the overall impact on the roadway network. If zoning requirements are well-thought out and walkable site development incorporates good transportation principals, many of the vehicular trips attributed to new developments could avoid these main intersections and corridors completely. Examples of good transportation principals that support this goal include building a grid-style layout with backage roads parallel to the main corridor and bypass roadways around main intersections.

Opportunities exist along the Old Milton Parkway corridor for a better mix of uses, particularly at the interchange where office primarily is concentrated. Additionally, the Alpharetta Downtown Master Plan LCI formulates a strong plan for redevelopment opportunities along SR 9 at Webb Bridge Road.



**Land Use and Transit:
Holcomb Bridge Road**

Transit is related to walkability, mixed-uses, and density.
Dense areas with a mixture of uses are inherently more walkable. Nearly every transit trip begins and ends as a walking trip.

Figure A:
Density comparisons for high density residential



Current maximum allowable density- 5-8 units/acre.

If there's an enhanced transit future, higher densities in strategic locations will better support this goal.



15 units/acre



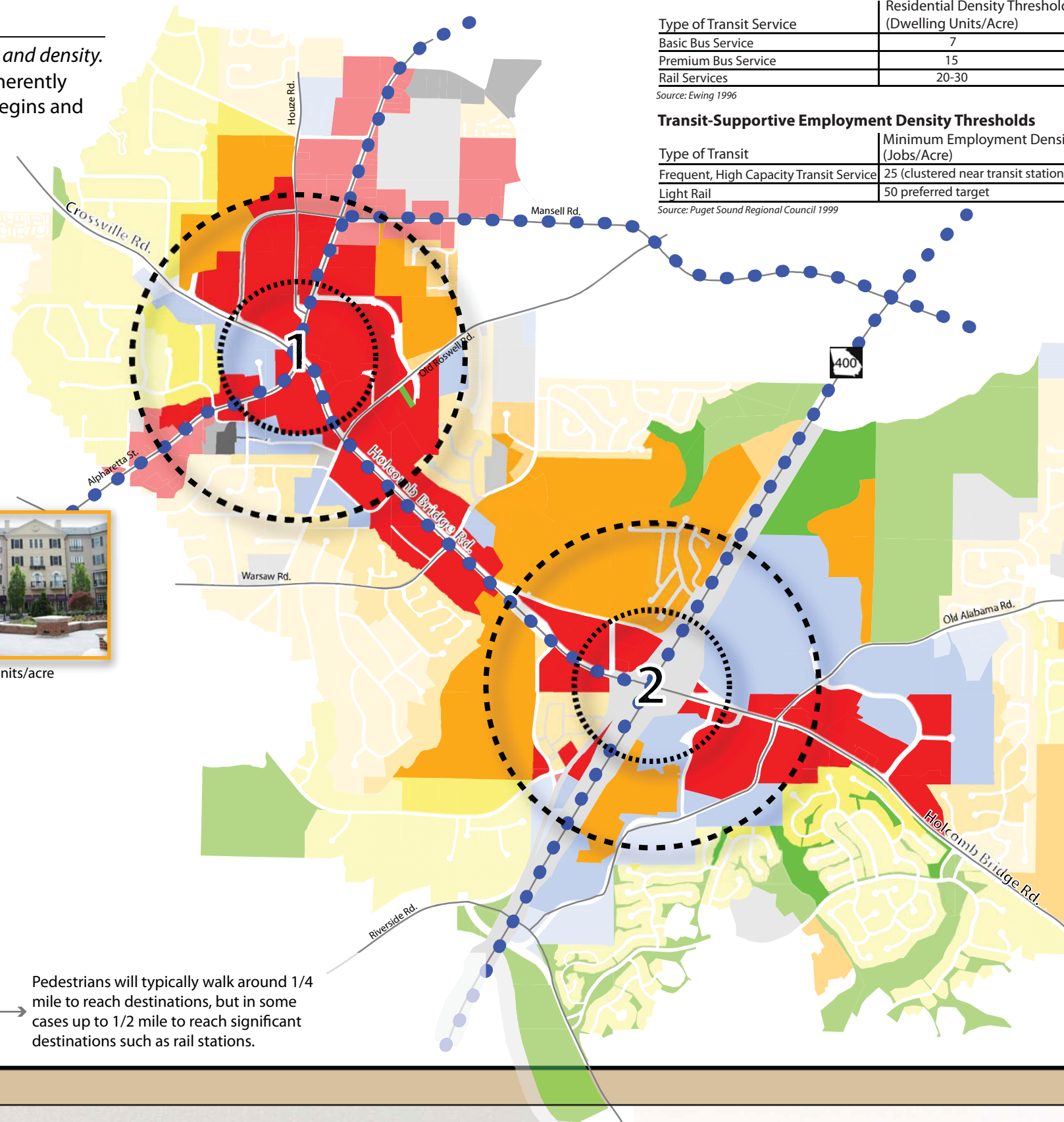
30 units/acre

**Future Land Use
Current Municipal Policy (2010)**

- low density residential
- medium density residential
- high density residential
- general commercial
- office/professional
- parks and recreation
- public/institutional

existing and potential transit routes

- 1/4 mile radius around each node
- 1/2 mile radius around each node



Pedestrians will typically walk around 1/4 mile to reach destinations, but in some cases up to 1/2 mile to reach significant destinations such as rail stations.

Transit-Supportive Residential Density Thresholds

| Type of Transit Service | Residential Density Threshold (Dwelling Units/Acre) |
|-------------------------|---|
| Basic Bus Service | 7 |
| Premium Bus Service | 15 |
| Rail Services | 20-30 |

Source: Ewing 1996

Transit-Supportive Employment Density Thresholds

| Type of Transit | Minimum Employment Density (Jobs/Acre) |
|---|--|
| Frequent, High Capacity Transit Service | 25 (clustered near transit station) |
| Light Rail | 50 preferred target |

Source: Puget Sound Regional Council 1999

Redevelopment of Key Nodes:

**Node 1:
State Route 9 and Holcomb Bridge Road**
Potential Transit Enhancement Route

The current future land use is Office/Professional and General Commercial. Higher density residential housing would need to be considered to support transit ridership. This mix of uses would aid in the node becoming both a trip origin as well as a destination.

**Node 2:
Georgia 400 and Holcomb Bridge Road**
Potential Transit Enhancement Route

The current maximum allowable density for the Medium Residential Density designation is 3-5 dwelling units per acre according to City of Roswell Ordinance. The maximum residential density for the High Density Residential designation is 5-8 dwelling units per acre. Higher residential densities are needed to support premium bus service which offers greater frequency and more routes. Residential densities of around 20-30 units per acre (Figure A) are typically needed to support heavy rail transit such as MARTA rail.

Additional Corridor Comments:

A Mixed-Use future land use category would help foster redevelopment goals. This will offer additional flexibility in the areas surrounding the proposed transit nodes, creating greater opportunities for reduced automobile trips.

The on-going Comprehensive Plan update process offers an opportunity to consider alternative scenarios, if transit is desired.

**Land Use and Mobility:
State Bridge Road/Old Milton Parkway**

Future economic growth will place additional demands on the transportation network. How well the transportation network functions in the future will largely be determined by the shape of that future growth.

Focusing growth into multimodal developments will create less congestion than the same amount of growth spread out over a large area.

Consolidating growth into strategically designed locations can eliminate some vehicular trips by providing the options of walking, biking, or transit - options that will not be available if growth is distributed across the region.

A well designed land use plan at major transportation nodes (such as major intersections) can create efficiencies in the transportation system, both locally and regionally.

Figure A:
Alpharetta Downtown Master Plan - LCI
Source: Alpharetta Downtown Master Plan



Figure C:
LCI design elements



textured pavement



pedestrian amenities

Source: Alpharetta Downtown Master Plan

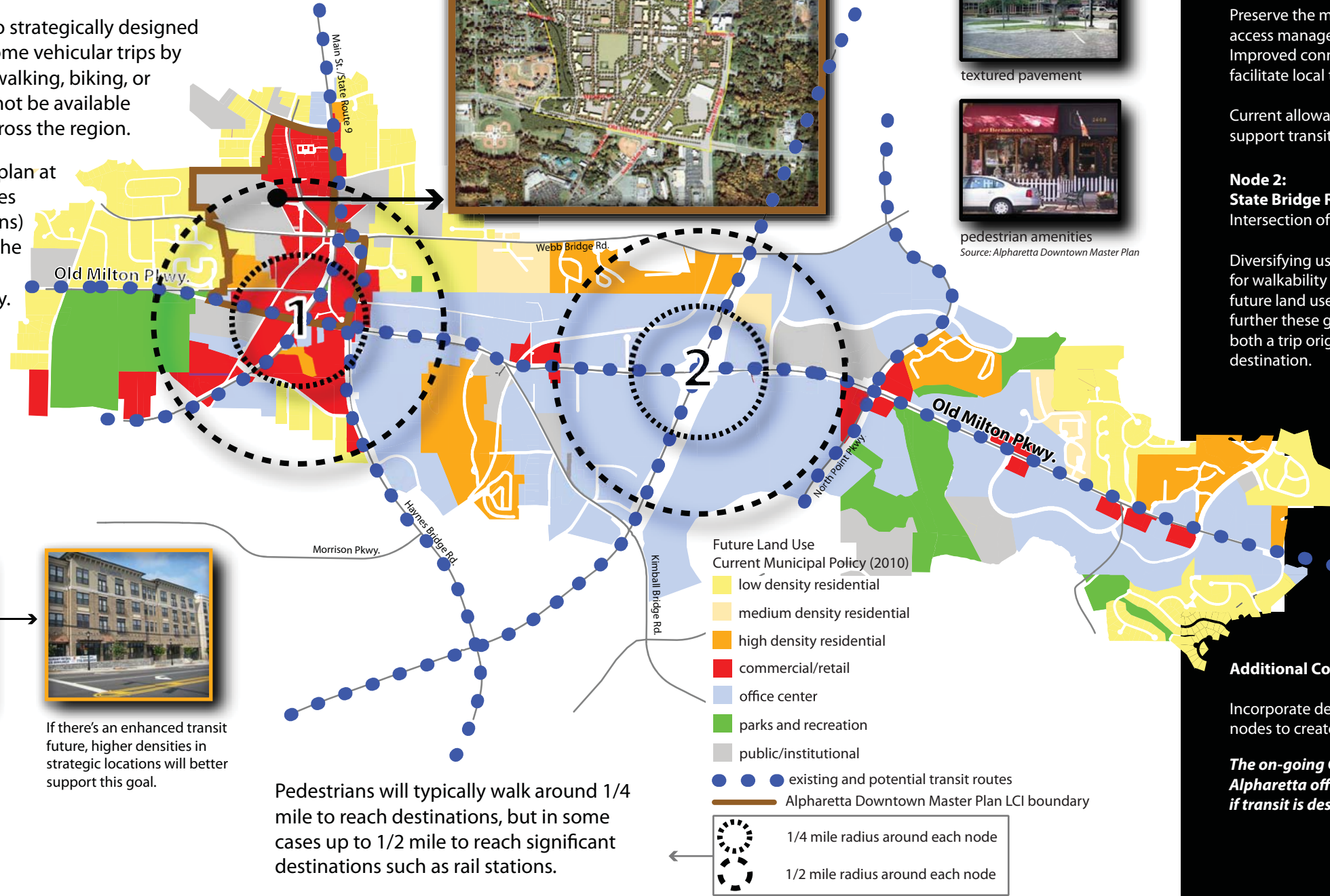


Figure B:
Density comparisons for high density residential



Current maximum allowable density- 10 units/acre



If there's an enhanced transit future, higher densities in strategic locations will better support this goal.

Pedestrians will typically walk around 1/4 mile to reach destinations, but in some cases up to 1/2 mile to reach significant destinations such as rail stations.

Redevelopment of Key Nodes:

Node 1: State Route 9 and State Bridge Road
Intersection of existing and proposed transit routes.

Create conditions which support walkability, cycling, and transit. Growth that allows for mode choices will create fewer new vehicular trips. (Figure A)

Preserve the mobility and function of main thoroughfares through access management, signal timing, and good connectivity. Improved connectivity will create alternate routes which can facilitate local trips.

Current allowable density is 10 units/acre. Higher density will better support transit goals. (Figure B)

**Node 2:
State Bridge Road and Georgia 400**
Intersection of two proposed transit routes

Diversifying uses in this node would provide greater opportunity for walkability and transit. The development of a mixed-use future land use category which incorporates residential uses would further these goals. The potential transit node can thus become both a trip origin while continuing to serve as an office center destination.

Additional Corridor Comments:

Incorporate design elements shown in the LCI Master Plan in both nodes to create a transit oriented node identity. (Figure C)

The on-going Comprehensive Plan update for the City of Alpharetta offers an opportunity to consider alternative scenarios, if transit is desired.

Local Bus Service Recommendations

Recommendation: Work with MARTA to evaluate the existing local bus network in relationship to changing travel patterns based on recent demographic and land use changes, growing employment nodes and multi-purpose activity centers, as well as the potential impact of major development projects planned in the near term. The fiscally constrained evaluation should focus on balancing the need to continue to provide effective and efficient transit service to the traditional major destinations within the Atlanta region with the local circulation needs among the North Fulton jurisdictions.

A common theme from the key leader interviews was that the current transit system does not reflect the recent development patterns within the region and within the local jurisdictions. This input was verified during the study's technical analyses. The existing conditions analysis identified twelve existing MARTA routes that provide service within the North Fulton area; however, only four of these routes currently provide service among multiple North Fulton jurisdictions. The predominant focus of the existing transit network is to provide access to MARTA's rail stations. Similarly, the results of the transit needs assessment identified

areas with growing transit dependent populations and evolving employment activity centers in locations where the existing transit network is not designed to serve as a competitive alternative to the automobile.

Whether or not transit service along SR 9 is elevated from local bus service to express bus / BRT, land uses and densities can be modified or increased at particular nodes to further support the transit that exists in the corridor.

The SR 9 corridor has a significant amount of retail along the corridor, as can be seen in Figure 6-6, some of which may be available for redevelopment in the next ten years. As redevelopment occurs along this corridor, some of the commercial properties could be converted to residential or mixed use developments. By enhancing the supporting roadway network parallel to SR 9 and around some of its key intersections, opportunities could be provided for drivers to avoid SR 9 in order to reach local destinations, thereby freeing up capacity along SR 9 to serve more regional trips. Redevelopment of key nodal parcels in a pedestrian-friendly design can change the pattern of travel along portions of the corridor and reduce automobile trips.



Transit Facility Recommendations

Recommendation: When planning for near term and long term enhancements to the transit system, ensure that opportunities for park and ride and transit centers are maximized.

The North Fulton region currently has two bus park and ride facilities: the Windward Park and Ride, which is served by three MARTA routes (140, 143, and 185) and the Mansell Park and Ride, which is served by two MARTA routes (85 and 140). Based on feedback received during public outreach activities and from the local jurisdictions, there is a desire for additional park and ride facilities as well as transit centers, as passenger demand warrants, along existing and planned transit corridors. In general, there are many parts of the region that are likely to continue to follow the current low density, suburban development pattern well into the future. Given the traditional travel behavior of residents in this type of development, the provision of a local bus connection to an enhanced regional transit system likely would not be cost-effective; however, there is a greater potential to capture portions of this population with park and ride facilities associated with the enhanced regional east-west and north-south service recommendations.

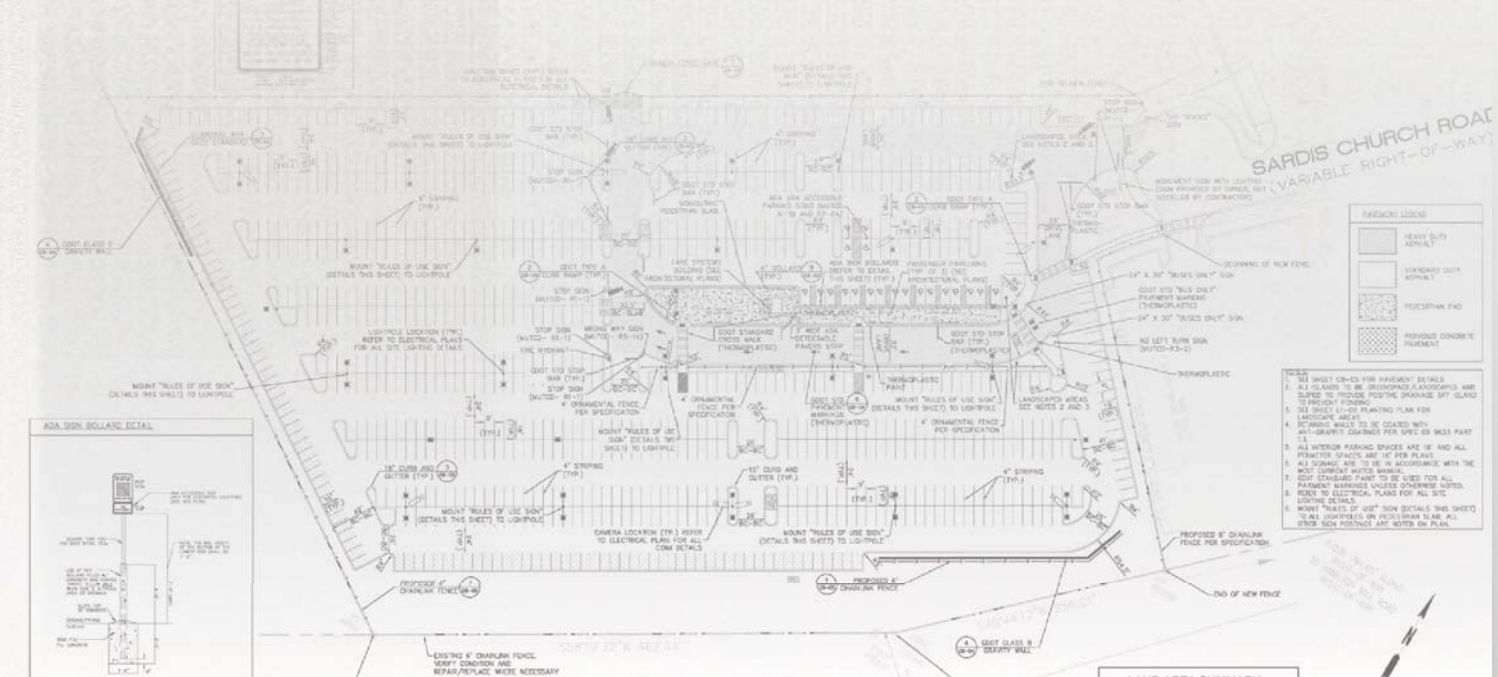
Additionally, based on the previously described recommendations, the potential near term restructuring of the existing local transit service and implementation of enhanced regional east-west and north-south bus service likely would result in increased transfer activity for passengers. For the passenger's convenience and efficiency of the future system, transfer locations would likely be required at key route intersections.



In order to successfully implement this recommendation, the Coordinating Committee should work with MARTA staff to gain a clear understanding of the agency's standard for implementation of a new facility including, but not limited to, the following: property size, appropriate adjacent land uses, passenger activity, level of transit service, and opportunities for transit-oriented development around the facility.

Recommendation: Work with MARTA to determine a suitable location in North Fulton for a bus maintenance facility.

MARTA buses are currently stored and maintained far south of North Fulton and this causes longer initial/return bus trips (or deadheading) at the beginning and end of the day. A new bus maintenance facility in North Fulton would increase the efficiency of MARTA's existing bus operations and improve MARTA's ability to provide expanded service in the future.



**Land Use and Implementation:
State Route 9**

Many redevelopment opportunities exist in North Fulton which make implementation of better design standards possible. Although incremental, lot-by-lot improvements can make corridors more livable **and** more functional.

Some imbalances between housing, retail, and office space have developed as a result of the changing economy. North Fulton has 85.6 square feet of retail space per resident. This is twice the national average of 43.7 square feet per person. As facilities age, redevelopment becomes more likely.

The median year of construction of retail buildings in Sandy Springs is 1983, which is by far the oldest of the cities in North Fulton.

Future Land Use
Current Municipal Policy (2010)

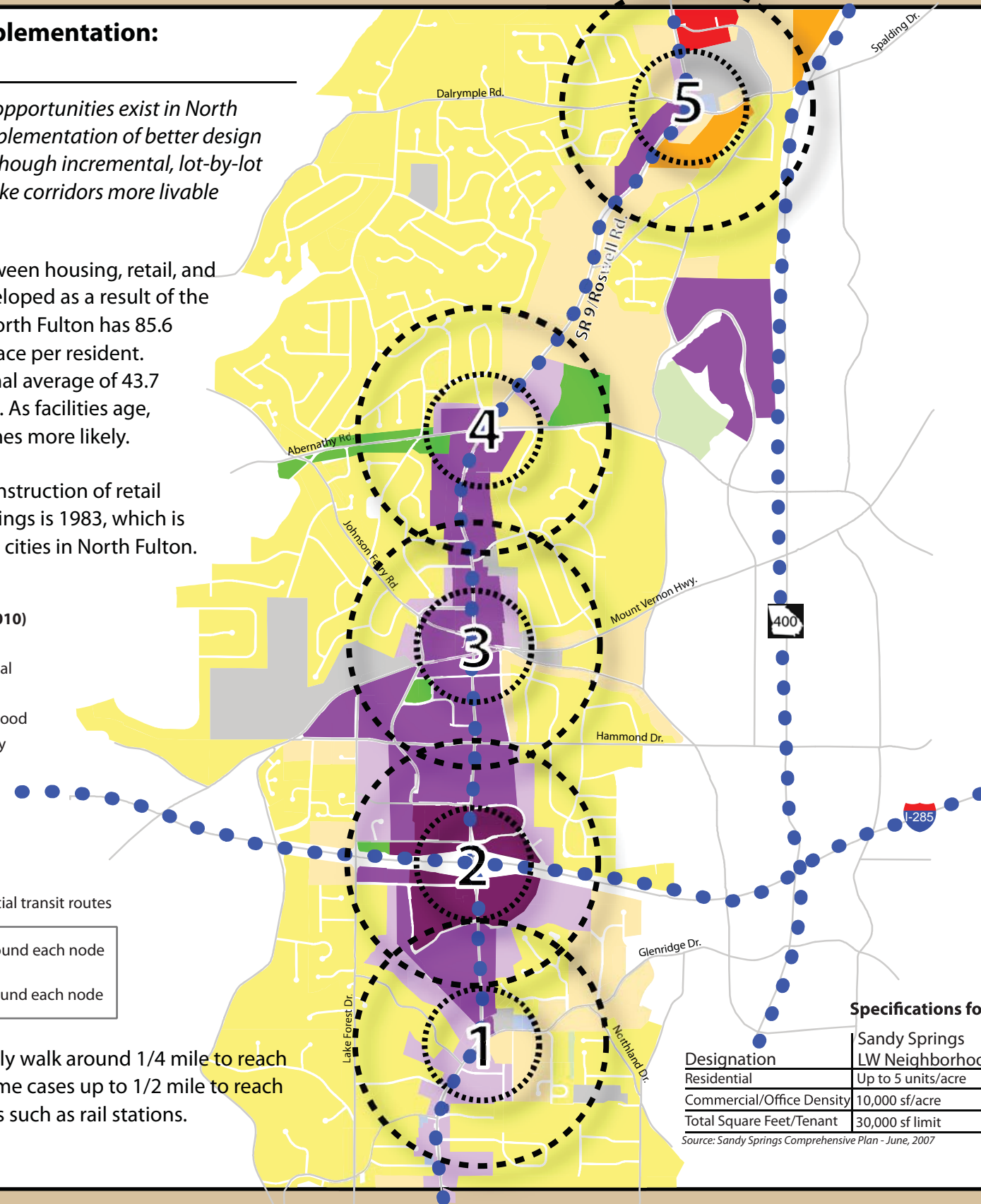
- low density residential
- medium density residential
- high density residential
- living-working neighborhood
- living-working community
- living-working regional
- commercial/retail
- office center
- parks and recreation
- public/institutional

existing and potential transit routes

1/4 mile radius around each node

1/2 mile radius around each node

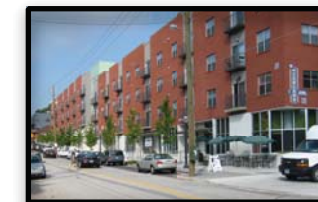
Pedestrians will typically walk around 1/4 mile to reach destinations, but in some cases up to 1/2 mile to reach significant destinations such as rail stations.



Existing Conditions



Redevelopment Possibilities



Specifications for Living Working Categories

| Designation | Sandy Springs LW Neighborhood | Sandy Springs LW Community | Sandy Springs LW Regional |
|---------------------------|-------------------------------|----------------------------|---------------------------|
| Residential | Up to 5 units/acre | Up to 20 units/acre | Over 20 units/acre |
| Commercial/Office Density | 10,000 sf/acre | 25,000 sf/acre | Over 25,000 sf/acre |
| Total Square Feet/Tenant | 30,000 sf limit | 100,000 sf limit | Case-by-case |

Source: Sandy Springs Comprehensive Plan - June, 2007

Redevelopment of Key Nodes:

Sandy Springs offers an example of mixed-use future land use category designations. Nodes 1-5 illustrate the following categories:

Living-Working Neighborhood

This is the lowest intensity option of the three living working designations. These areas are intended to serve a single neighborhood or small group of adjacent neighborhoods, and to be compatible neighbors to lower density residential neighborhoods.

Living-Working Neighborhood Example



Source: Sandy Springs Comprehensive Plan November, 2007

Living-Working Community

This is a medium intensity/density category that is intended to serve a group of adjacent neighborhoods and to be compatible with low and medium density residential neighborhoods.

Living-Working Community Example



Source: Sandy Springs Comprehensive Plan November, 2007

Living-Working Regional

This is a high intensity/density category that applies adjacent to major transportation interchanges and/or rail transit stations (with the exception of the Livework area at Dunwoody Place and Roswell Road). These areas have significant concentrations of employment.

Living-Working Regional Example



Source: Sandy Springs Comprehensive Plan November, 2007



TIER 1 RECOMMENDATIONS

Following the completion of the project prioritization metrics, each project was able to be compared with the others to determine its relative priority in the list. As discussed in the funding section, three tiers of North Fulton specific projects were created:

- ◆ Tier 1: \$500 million, the approximate cost of projects currently in the Envision6 RTP in North Fulton (not including projects along GA 400, I-285, or significant transit projects)
- ◆ Tier 2: Up to \$500 million, approximately the amount that North Fulton could earn with the 1 percent sales tax referendum
- ◆ Tier 3: All remaining projects that currently do not have a targeted source of funding. A number of options could be considered for raising transportation dollars, but none can be counted on at this time.

Projects in Tier 1 are those of highest priority to the jurisdictions within North Fulton and to North Fulton as a whole. These projects will be competing with projects from around the region for a place in the *Plan2040* RTP and will be the initial focus of the jurisdictions following the adoption of the plan.



Tier 1 Bike / Pedestrian Projects

| Proj. # | Project Name | Project Description | Opinion of Probable Cost |
|---------|---|--|--------------------------|
| BP101 | Big Creek Greenway Connection to Forsyth County | Connect Big Creek Greenway at Marconi Drive (currently under construction) to Forsyth County's trail system. | \$10,000,000 |
| BP102 | Big Creek Greenway Connection to Chattahoochee River Walk | Connect Big Creek Greenway to Roswell's Chattahoochee River Walk along Riverside Road via existing bike lanes along Old Alabama Road south of Holcomb Bridge Road. | \$4,000,000 |
| BP103 | Morgan Falls/Power Easement multi-use trail | Construct a multi-use trail within power line easement from existing trail system in Cobb County, crossing Chattahoochee River with new bicycle and pedestrian bridge, through Morgan Falls Park, east to Colquitt Road, north to Pitts Road - Project to link to other on-road bike facilities, including City of Dunwoody. | \$16,000,000 |
| BP104 | East-west bike/ped facility/route | Enhance bike/ped facilities along Riverside Road beginning at Eves Road, along Eves Road to Holcomb Bridge Road, and along Holcomb Bridge Road from Eves Road to Gwinnett County, creating a complete east-west bike/ped route through North Fulton. | \$6,000,000 |
| BP105 | Johns Creek Connection to Big Creek Greenway | Connections made from Big Creek Greenway at Webb Bridge Road along Webb Bridge Road to Webb Bridge Park and from future Big Creek Greenway east of Marconi Drive down powerline easement to existing trail at Park Bridge Parkway. Grade separation only at Webb Bridge Road. At grade crossings elsewhere. | \$6,000,000 |
| BP106 | Milton Connection to Big Creek Greenway | Connection made from SR 9 to 1500 feet east of Union Hill Road (at future Forsyth Co Big Creek Trail) via Webb Road to Morris Road to McGinnis Ferry Road and through Union Hill Park. At grade crossings at all roadways. | \$10,000,000 |

Four of the six bike/pedestrian projects are related directly to the extension of the Big Creek Greenway. The first two extend the greenway north to Forsyth County (tying in to the proposed Forsyth extension) and to the south (to the Chattahoochee River Walk in Roswell). The greenway is a valuable asset to North Fulton, and many of the Cities would like to have improved access to it. Two proposed projects are east/west extensions of the greenway, allowing residents of Johns Creek and Milton to have access to Big Creek. The two remaining bike/pedestrian projects are east/west facilities that connect to jurisdictions outside of the North Fulton region. The Morgan Falls trail will utilize the existing power easement to provide cyclists and pedestrians access throughout Sandy Springs. In its entirety, the project is proposed to cross the Chattahoochee River to Cobb County and to connect to Dunwoody and its future network of bike/pedestrian accommodations. The east-west bike/pedestrian facility travels along a number of the roadways in Sandy Springs and Roswell and along the Chattahoochee River, connecting from the Chattahoochee River on the west to Gwinnett County on the east.

Tier 1 Vehicular Projects

| Proj. # | Project Name | Project Description | Opinion of Probable Cost |
|---------|--|--|--------------------------|
| VH101 | Capacity Improvements to Abbotts Bridge Road (SR 120) | Widen to 4 lanes from Parsons Road to Peachtree Industrial Boulevard. | \$28,000,000 |
| VH102 | Capacity Improvements to SR 9 (Hamby Road to Academy Street) | Widen to 4 lanes from Hamby Road in Forsyth County to Academy Street. | \$119,000,000 |
| VH103 | Capacity Improvements to Arnold Mill Road (SR 140) | Widen to 4 lanes from Cherokee County to Rucker Road. Done in conjunction with Rucker Road and Houze Road improvements. | \$46,000,000 |
| VH104 | Operational Improvements to Rucker Road | Enhance facility to become a divided two-lane cross-section with a grass swale median and turn lanes from Hardscrabble Road to Wills Road. | \$18,000,000 |
| VH105 | Operational Improvements to Atlanta Street (SR 9) | Remove reversible lanes from Marietta Highway to Riverside Road and widen to 4 lanes. (Does not include new bridge at Vickery Creek or grade separation of intersection with Azalea Drive) | \$12,000,000 |
| VH106 | Capacity Improvements to Windward Parkway | Widen to 6 lanes from Deerfield Parkway to Union Hill Road. | \$40,000,000 |
| VH107 | Operational Improvements to Hardscrabble Road | Enhance facility to become a divided two-lane cross-section with a grass swale median and turn lanes from SR 92 to Crabapple Road. | \$16,000,000 |
| VH108 | Capacity Improvements to McGinnis Ferry Road | Widen to 4 lanes from Union Hill Road to Sargent Road. | \$57,000,000 |
| VH109 | Capacity Improvements to Hammond Drive | Widen to 4 lanes from Roswell Road (SR 9) to Glenridge Drive and widen to 6 lanes from GA 400 to the DeKalb County border. Install bicycle lanes and sidewalks on both sides where widening occurs. Infill gaps in existing sidewalk from Mount Vernon Highway to Roswell Road (SR 9) and Glenridge Drive to GA 400 to create a continuous sidewalk network. | \$29,000,000 |
| VH110 | Operational Improvements to Houze Road | Enhance facility to become a divided two-lane cross-section with a grass swale median and turn lanes from Rucker Road to Mansell Road. | \$18,000,000 |
| VH111 | Capacity Improvements to Kimball Bridge Road | Widen to 4 lanes from Old Milton Parkway (SR 120) to Jones Bridge Road. | \$21,000,000 |
| VH112 | Capacity Improvements to Jones Bridge Road | Widen to 4 lanes from Taylor Road to Douglas Road. | \$28,000,000 |

The remaining projects included in Tier 1 are vehicular / capacity improvements. It is important to note that all capacity improvements recommended in this report should also include bike / pedestrian enhancements. In some cases, the roadway being considered may not be suitable for certain types of bike accommodations. If bike access cannot be accommodated on a specific roadway, a sidepath or route along a nearby parallel facility should be considered.

While the projects are listed separately, many of them are intended to work together as a system of projects. For example, the Arnold Mill Road widening should be considered in conjunction with the Rucker Road and Houze Road improvements. The Hardscrabble improvements will also have an effect on the aforementioned roadways. Rucker Road and Houze Road were first recommended as 4-lane divided roadways; however, both Roswell and Alpharetta were hesitant to recommend full widening of these roadways given the surrounding land uses and character as well as in consideration of potential right-of-way impacts. Both projects were then scaled back to operational improvements to be done in conjunction with each other to partially accommodate the additional traffic resulting from growth in the area. Detailed study of the four projects should be done at one time, with actual Right-of-Way acquisition and Construction occurring in phases. It will be important to first construct the Rucker Road and Houze Road improvements before implementing improvements to Arnold Mill Road.

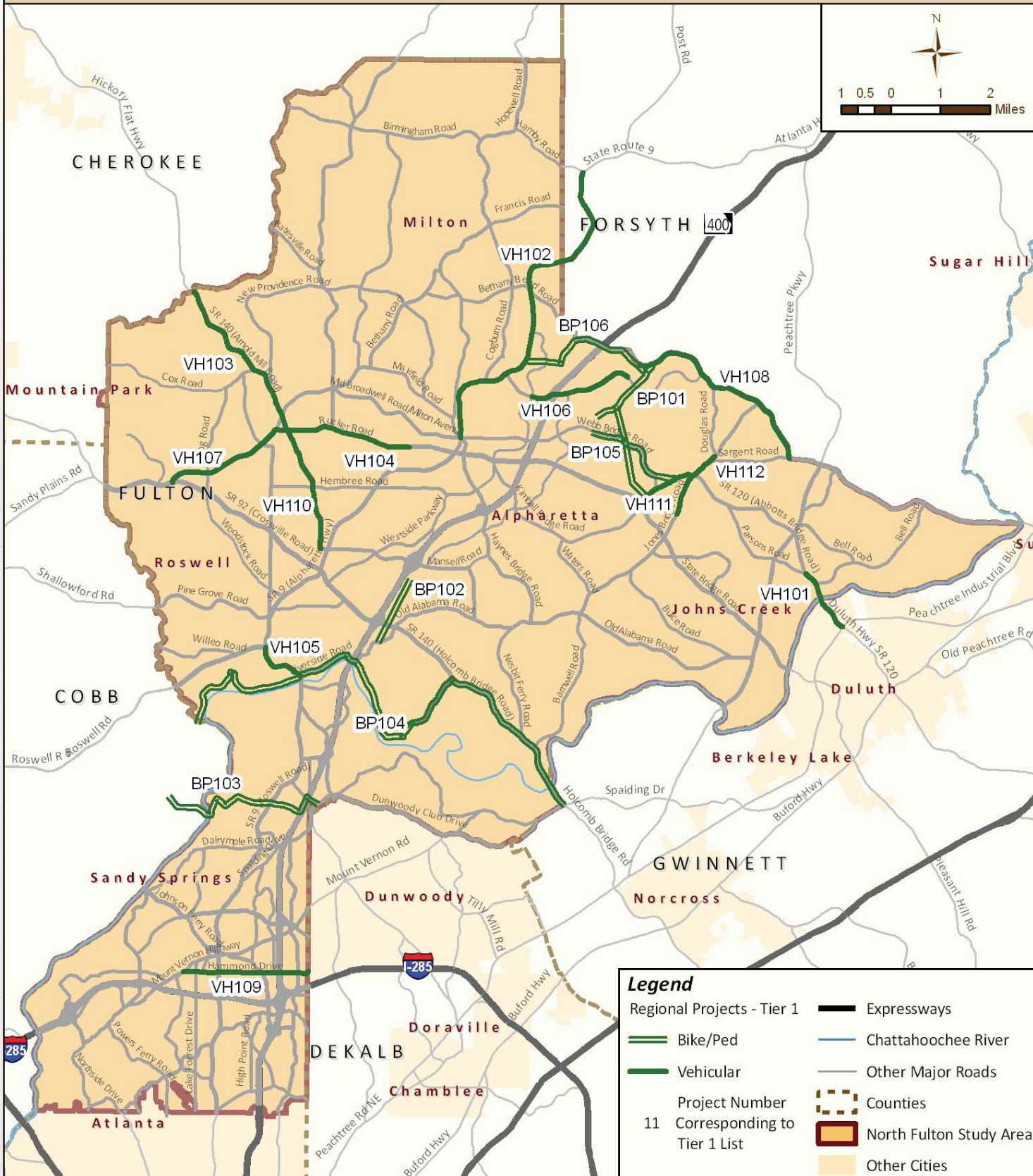
Because the Kimball Bridge Road project and the Abbotts Bridge Road project are a part of the same roadway corridor, those projects should be studied together as well.

Other capacity improvement projects include the widening of SR 9, Windward Parkway, McGinnis Ferry Road, and Jones Bridge Road. The Hammond Drive project includes roadway widening, but some sections include just sidewalk improvements. Finally, the removal of the reversible lane along SR 9 has some capacity improvement, but the significant motivation for moving this project forward is for the safety improvements anticipated with the removal of the reversible lane. Project fact sheets have been created for each of the Tier 1 projects and can be found in the Appendix.



North Fulton CTP Tier 1 Projects

October 2010



TIER 2 RECOMMENDATIONS

Projects listed in Tier 2 are still of high priority to those in North Fulton. Some of the projects in particular require additional study and will be discussed in more detail below.

Tier 2 Bike / Pedestrian Projects

| Proj. # | Project Name | Project Description | Opinion of Probable Cost |
|---------|--|---|--------------------------|
| BP201 | Medlock Bridge Road multi-use trail/sidepath | Create trail from Gwinnett County to State Bridge Road, connecting to the existing trail at State Bridge Road. | \$6,000,000 |
| BP202 | Westside Parkway/SR 9 (or parallel roadway) bicycle route designation from Forsyth County to City of Atlanta | Enhance bike/ped facilities along this corridor (or along a nearby parallel facility where development on SR 9 precludes), creating a continuous north-south route. | \$10,000,000 |

Two bike/pedestrian projects are included in Tier 2. The first is the creation of a formal trail along Medlock Bridge Road from Gwinnett County to State Bridge Road. The bike lanes or trail disappear or become part of the right-turn lane in many cases, which has resulted in a number of bicycle collisions with vehicles. This trail would be an important safety improvement.

The Westside Parkway / SR 9 bike route designation is meant to mirror the north-south accessibility of the Big Creek Greenway on the west side of GA 400. In many places, SR 9 is not suitable for bicycle travel; therefore, further study is required to find if the parallel route that has been identified is appropriate.

A number of key operational recommendations are included in Tier 2. Holcomb Bridge Road, between Old Alabama Road and Gwinnett County should be enhanced to include turn lanes, medians, other access management features, and signal timing improvements in order to improve operations along the corridor. More extensive improvements that would satisfy expected demand were found not to have necessary public support. The interchange of GA 400 at Holcomb Bridge Road should be redesigned to improve access onto and off of GA 400. The City of Roswell will be conducting a corridor study along Holcomb Bridge Road between Warsaw Road and Holcomb Woods Parkway to assess possible solutions to the interchange and corridor deficiencies. This could include the publicly supported Big Creek connection between Old Alabama Road and Warsaw Road and complete redesign of the interchange (potentially including a diverging diamond at the interchange). Another concept that could be considered is a new northbound slip ramp from GA 400 to Old Alabama Road (south of Holcomb Bridge Road). This ramp would provide direct access from GA 400 northbound to Old Alabama Road without the need to access Holcomb Bridge Road. Turning movements from northbound GA 400 to eastbound Holcomb Bridge Road to northbound Old Alabama Road could then be prohibited, improving operations and eliminating weaving in this short section of Holcomb Bridge Road.

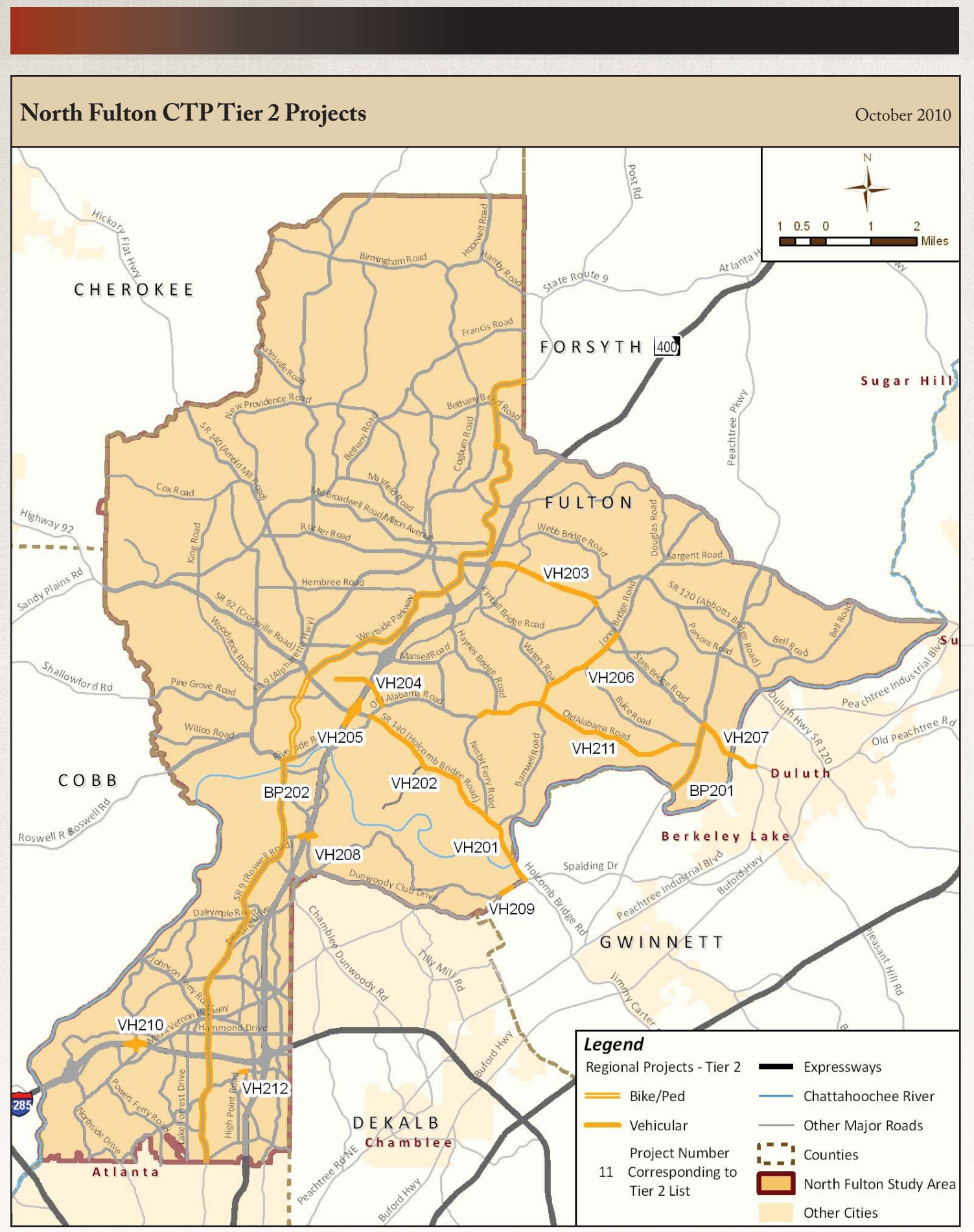
A number of operational and short widening projects are being recommended in the City of Sandy Springs. Improvements to two interchanges, GA 400 at Northridge Road and I-285 at Riverside Drive, are included in the Tier 2 list. Additionally, some short widening sections along Spalding Drive and Glenridge Drive are recommended to relieve current bottlenecks within the City and to surrounding jurisdictions.

Three widening projects have been included in Tier 2: widening of Old Milton Parkway, Jones Bridge Road, and State Bridge Road. A widening project along Old Alabama Road is also included. This project is one section of a larger widening concept between Holcomb Bridge Road and Buice Road. A significant amount of traffic along Old Alabama Road diverts to Nesbit Ferry Road according to select link analysis in the travel demand model. Given this split, a widening is proposed between Nesbit Ferry Road and Jones Bridge Road with additional operational improvements between Jones Bridge Road and Buice Road. The remaining project between Holcomb Bridge Road and Nesbit Ferry Road is discussed in more detail in Tier 3.

Tier 2 Vehicular Projects

| Proj. # | Project Name | Project Description | Opinion of Probable Cost |
|---------|---|---|--------------------------|
| VH201 | Capacity Improvements to Holcomb Bridge Road (SR 140) | Enhance facility with operational improvements including turn lanes, median, and other access management between Nesbit Ferry Road and Gwinnett County. | \$16,000,000 |
| VH202 | Capacity Improvements to Holcomb Bridge Road (SR 140) | Enhance facility with operational improvements including turn lanes, median, and other access management between Old Alabama Road and Nesbit Ferry Road. | \$31,000,000 |
| VH203 | Capacity Improvements to Old Milton Parkway (SR 120) | Widen to 6 lanes and further access management from GA 400 to Kimball Bridge Road, additional auxiliary lanes from GA 400 to North Point Parkway. | \$37,000,000 |
| VH204* | New Connection - Big Creek Connection | Construct a new bridge over GA 400 north of Holcomb Bridge Road connecting Old Alabama Road to Warsaw Road. | \$43,000,000 |
| VH205* | Interchange Redesign - Holcomb Bridge Road at GA 400 | Redesign Holcomb Bridge Road interchange, potentially involving a diverging diamond interchange from Warsaw Road to Holcomb Woods Parkway. | \$50,000,000 |
| VH206 | Capacity Improvements to Jones Bridge Road | Widen to 4 lanes from Old Alabama Road to State Bridge Road. | \$37,000,000 |
| VH207 | Capacity Improvements to State Bridge Road | Widen to 6 lanes from Medlock Bridge Road (SR 141) to Peachtree Industrial Boulevard. | \$30,000,000 |
| VH208† | Operational improvements to interchange at GA 400 and Northridge Road | Provide capacity and operational improvements to Roberts Drive and Dunwoody Place at the interchange and a roundabout at Somerset Court. | \$1,200,000 |
| VH209 | Capacity improvements to Spalding Drive | Add one northbound right-turn lane along Winters Chapel Road and add one westbound travel lane (becoming a left-turn only lane) along Spalding Drive. Includes a wider/rehabilitated bridge over Crooked Creek. | \$3,000,000 |
| VH210† | Operational / ATMS improvements to interchange at I-285 and Riverside Drive | Revise design to include two-lane storage for ramp meter system (including signal upgrades), install new signal at westbound ramps with fiber interconnect, mast arms, and pedestrian facilities. | \$1,400,000 |
| VH211 | Capacity and Operational Improvements to Old Alabama Road | Widen to 4 lanes between Nesbit Ferry Road and Jones Bridge Road and provide operational improvements between Jones Bridge Road and Buice Road. | \$35,000,000 |
| VH212 | Capacity Improvement to Glenridge Drive | Widen along Glenridge Drive from Royervista Drive to High Point Road | \$3,000,000 |

* Project is related to ongoing study of Holcomb Bridge Road interchange
 † Costs provided by Sandy Springs due to detail of intersection improvements



TIER 3 RECOMMENDATIONS

The final projects are those that fall into Tier 3 of the project list. These projects are still recommended even though they are of lower priority than the two previous tiers. If funding can be located for these projects and all projects within Tiers 1 and 2 have been completed, these projects should be pursued by the jurisdictions.

Tier 3 Bike / Pedestrian Projects

| Proj. # | Project Name | Project Description | Opinion of Probable Cost |
|---------|---|--|--------------------------|
| BP301 | Various Big Creek Greenway connections | Provide direct connections to existing activity centers (employment, services, etc.) from existing Big Creek Greenway. | \$8,000,000 |
| BP302 | New Bike/Ped Chattahoochee River Crossing (Spalding Drive to Eves Road) | Construct a new river crossing (bike and pedestrian only) extending Spalding Drive to connect to Eves Road, ending at Holcomb Bridge Road. | \$12,000,000 |

Two bike / pedestrian projects are included in Tier 3. The first builds upon the existing Big Creek Greenway system. The current greenway is an outstanding amenity to those traveling along it, but in some cases, the greenway does not connect to destinations within North Fulton that are less than a mile away from it. This project would improve connectivity from the greenway to some of the local destinations so that those who live and work around the greenway can have better access to it.

The second project was originally recommended as a full vehicular / bike / pedestrian project across the Chattahoochee River. Both Sandy Springs and Roswell were reluctant to move forward with the project as recommended due to the right-of-way impacts that likely would result. The cities did agree on the concept of a bike / pedestrian only connection that would provide much needed access to cyclists and pedestrians but with less overall impact.

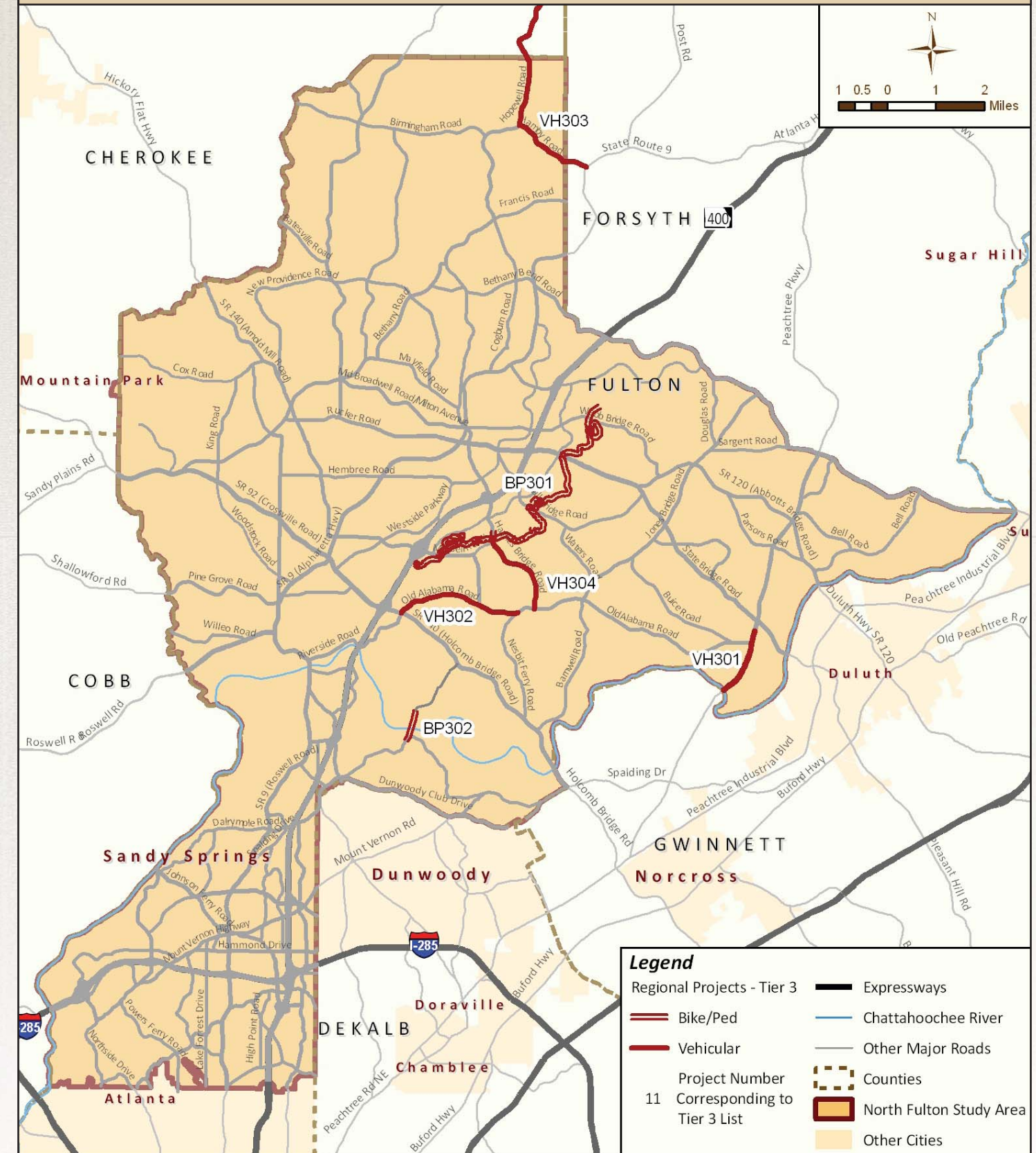
Tier 3 Vehicular Projects

| | | | |
|-------|--|---|--------------|
| VH301 | Capacity Improvements to Medlock Bridge Road | Widen to 6 lanes from Gwinnett County to Medlock Crossing Parkway. | \$26,000,000 |
| VH302 | Capacity and Operational Improvements to Old Alabama Road | Add median and operational improvements at intersections between Holcomb Bridge Road and Nesbit Ferry Road. | \$24,000,000 |
| VH303 | Capacity Improvements to Holbrook Campground Road/Hamby Road | Widen sections of Holbrook Campground Road, Hopewell Road, and Hamby Road to State Route 9. | \$59,000,000 |
| VH304 | Capacity Improvements to Haynes Bridge Road | Widen to 4 lanes from Old Alabama Road to Mansell Road. | \$27,000,000 |

The final vehicular projects are listed in this section. Widening recommendations are made along Medlock Bridge Road, Holbrook Campground/Hamby Road, and Haynes Bridge Road. In view of a traditional widening project here, a grade separation at the intersection of Medlock Bridge Road and State Bridge Road could be considered. The remaining portion of the Old Alabama Road improvements is also included in this tier. The section includes operational improvements such as medians and turn lanes instead of a traditional widening project.

North Fulton CTP Tier 3 Projects

October 2010



TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management or Travel Demand Management (TDM) involves the use of policies and strategies to reduce travel demand, specifically travel demand by automobiles. TDM is promoted in many urbanized areas as a cost-effective way to reduce traffic congestion, reduce air pollution, and increase the person-carrying capacity of the transportation system. This section summarizes existing TDM initiatives in the North Fulton area, suggests additional TDM strategies which could further improve travel conditions in the area, and identifies an action plan to implement those strategies.

Existing Programs

Existing TDM programs include both regional and local initiatives. Regional initiatives include ARC's RideSmart program and the outreach activities of the Clean Air Campaign. These regional initiatives work cooperatively to provide and promote travel options in the Atlanta region. Local initiatives include activities by the Perimeter Transportation Coalition and North Fulton CID, both of whom interact with employers and employees on a regular basis.



ARC's RideSmart service provides helpful information on using carpools, vanpools, transit, and bicycles as alternatives to driving alone. It offers ride-matching service to persons interested in finding a suitable carpool, vanpool or schoolpool (carpooling to school). They also sponsor the Guaranteed Ride Home program, which provides a free ride home to carpoolers or vanpoolers in the event that a mid-day emergency requires traveling home outside the normal commute hour. This service takes away many apprehensions people have about leaving their car at home.

The Clean Air Campaign is a non-profit organization who provides free employer assistance, education and information regarding TDM opportunities in the metro area. In essence, they are the "feet on the ground" to reach out to commuters through the employers and promote the many services and opportunities provided throughout the region. They even offer cash and prizes as incentives to get people to carpool, vanpool, ride transit, walk to work, bike to work, or telework.

Similarly, Transportation Management Associations (TMA's) provide that outreach and education in local areas. Perimeter Transportation Coalition (PTC) is the TMA providing education, outreach and advocacy in the Perimeter area. PTC coordinates directly with large employers and their employees in the Perimeter area, providing education about TDM opportunities, helping people take advantage of the resources and opportunities made available through RideSmart and the Clean Air Campaign. They also provide traveler information about shuttles, transit, walking and biking in the Perimeter area. PTC is currently the only TMA serving a portion of the North Fulton area. Areas of North Fulton outside the PTC's area are served by the Clean Air Campaign.

It should also be noted that, while not specifically classified as a TDM strategy, the existing transit service in the North Fulton area also reduces auto travel and congestion.

Additionally, Fulton County school policies have a huge impact on travel to/from public schools. Fulton County schools provide bus transportation to all students outside a designated "walk" zone. Discussion has recently occurred about the size of that walk zone. On the face of the issue, it might seem that a larger walk zone would encourage more walking to school; however, based on the amount of discussion about traffic problems associated with parent drop-off at numerous schools, decreased busing may actually increase parent drop-offs and increase traffic congestion.

TDM Strategies

Considering the density of development, heavy traffic flows and levels of congestion in the North Fulton area, there seems to be significant opportunity to further reduce single-occupant auto travel through additional TDM efforts in North Fulton. While TDM implementation is inexpensive compared to capital improvement programs, many will still require the commitment of staff resources to engage in outreach, education and promotion of alternative transportation options. Many communities have added or designated a bike coordinator, rideshare coordinator, TDM coordinator or similar position to facilitate these initiatives. In fact, many initiatives can be undertaken with little additional cost beyond the staff time necessary to take the initiative. Following is a description of a variety of TDM strategies, followed by a short list of those that align well with the conditions and opportunities for TDM in North Fulton.

A broad range of TDM strategies is being used across the nation, falling generally into the following categories:

- ◆ Informational – TMA's and other organizations seek to inform the traveling public of all the options that exist to reduce single-occupant trip making. These programs often focus on educational programs for transit, biking, carpooling, vanpooling, or teleworking.
- ◆ Parking – strategies that seek to manage parking locations and/or use through fees, enforcement or incentives.
- ◆ Alternative mode infrastructure and services – these strategies follow the "if you build it, they will come" philosophy, improving infrastructure for walking, biking, and transit.
- ◆ Road pricing – including varying tolls by time of day, creating "car free" zones

Within these categories, there is much variety and creativity of specific strategies and programs being used. Based on the conditions and opportunities in North Fulton, the following strategies are recommended for consideration, followed by necessary steps for implementation.

Flex Time and Teleworking – Teleworking (i.e. working from home) and Flex Time (working alternate hours) both reduce trip making during the peak hours, which can have a significant effect on reducing congestion and air pollution.

Transit and shuttle services – There is significant opportunity to increase the use of both transit and shuttle services in North Fulton. Shuttle (or circulator) service in particular has been, or is being, considered in Sandy Springs, Alpharetta, and Roswell (by the NFCID).

Biking and walking infrastructure – Bicycling infrastructure, in particular, is sparse in North Fulton, yet bicycle use is on the rise nationally and locally. Investment and education in bicycle transportation seems a very promising means of accommodating local travel without autos, especially with the construction of bicycle infrastructure projects recommended as part of the North Fulton TRIP.

Education and cultural awareness – Education and cultural awareness can have a big impact on the choices people make. Many communities routinely sponsor events to raise awareness and educate people about using transit or bicycle travel, and have seen commensurate increases in use. The PTC and the Clean Air Campaign undertake these initiatives, but the Cities have much to contribute here as well.

Variable Road Pricing and Managed Lanes – With the planned addition of managed lanes to the GA 400 corridor, variable pricing will likely be used on that corridor to discourage travel during the traditional peak periods. Also, these managed lanes will encourage carpooling and transit ridership.



Development Codes – several specific requirements or limits within each city's development codes have a direct impact on travel. For example, some communities require facilities for bicycle parking and showers/changing facilities at all commercial and large office uses. Preferential parking for carpools and vanpools can also be required. Additionally, the parking requirement itself can be a TDM strategy if parking maximums are put in place. Parking minimums can be reevaluated to ensure excess parking is not being required.

School-related TDM strategies – School-related TDM strategies are an important consideration to any community. National data indicate that travel to schools represents between 10-15 percent of morning peak period trips and that walking or biking

to school has declined from 42 percent in 1969 to 13 percent in 2005. Meanwhile, school bus costs typically represent between 7-12 percent of a school system's total budget. According to information from Fulton County Schools, the current budget allocates approximately 5% to student transportation; however, some equipment purchases have been removed from the current budget to save costs. Finally, the health benefits of walking and biking have been widely documented by the Centers for Disease Control (CDC).

Some options for TDM strategies that related to schools include:

- ◆ Reducing barriers to non-motorized transportation by improving sidewalks, crosswalks, bicycle lanes, and bicycle parking
- ◆ Implementing parking management at high schools by re-considering free parking – parking proceeds could then be used to improve facilities for walking and biking to school
- ◆ Organizing schoolpool programs
- ◆ Planning over the long term for new school locations to allow a greater percent of students to walk and bike to school. In 1969, 45% of elementary school students lived less than one mile from their school while today, fewer than 24% live within this same distance.

TDM Action Plan

Following is a list of steps recommended for growing TDM strategies in North Fulton:

Recommendation: Determine level of investment desired for TDM strategies

Successful implementation of TDM strategies will require on-going dedicated staffing and resources. The Coordination Committee, as described in the Implementation Monitoring section of this report, should determine what level of investment the Cities will jointly make in TDM implementation.

Recommendation: Select which TDM strategies are most appropriate for implementation in North Fulton given the amount of resources available to manage those programs

Once a level of investment and resources has been established, the Coordinating Committee should implement strategies provided in this report such those in the following table.



TDM Strategy Implementation

| TDM Strategy | Entities Already Engaged | New or Additional Efforts |
|-------------------------------------|----------------------------|---------------------------|
| Promoting flex time and teleworking | PTC, Clean Air Campaign | Cities and CIDs |
| Transit and shuttle services | MARTA, employer shuttles | Cities and/or CID's |
| Biking and walking infrastructure | CIDs, Cities | CIDs, Cities |
| Education and Awareness | PTC, Clean Air Campaign | Cities |
| Variable Road Pricing | | Georgia DOT/SRTA (SR 400) |
| School TDM strategies | Certain individual schools | Cities and Fulton Schools |

Recommendation: Develop a TDM 5 year action plan based on programs selected

A detailed five year action plan should then be developed which will be tied to the level of investment by the Cities. This program should define next steps, assign responsibilities, and set measurable goals.

Recommendation: Perform baseline TDM Survey to allow measurement of program performance

Existing conditions should be documented using employer and school surveys. This will provide necessary information to evaluate program performance and determine which investments have been successful and which programs should be adjusted or eliminated.



PEDESTRIAN LEVEL-OF-SERVICE GOALS

Walkability as a Regional Mode of Transportation

Pedestrian access is typically thought of and designed at a very local scale such as in a small downtown, a neighborhood, a streetscape, or even within an individual development. In a larger more regional planning focus, walkability is a critical consideration, but in a different context. Regional mobility for pedestrians is defined by having a regional collection of localized walkable places and how those places relate to each other and the surrounding area.

The existence of localized walkable places can have a major impact on how regional trips occur. For instance, if enough complimentary trip destinations can be consolidated into a walkable area such as a downtown, a user can then make one trip to that downtown by any mode and complete the remainder of trips on foot. If all of those individual trip destinations, which would otherwise be located together in a downtown, are spread out over a much larger area, then they become primarily accessible by automobile. In this way, walkable places are complementary to alternative modes of travel such as transit and cycling, which are likewise not typically effective in regions with sprawling development patterns. Every transit trip begins and ends as a pedestrian trip. If enough walkable places such as corridors, neighborhoods, shopping districts, and employment centers are assembled in a region, then these places can be linked together by a transit and cycling network that could then lessen the need for single occupancy vehicle trips.

An initial regional collection of walkable places has already been identified within North Fulton through the completion of LCI studies and the development of the Unified Growth Policy Map (UGPM). These areas, indicated on the next page, may still be developing their local pedestrian networks, yet because they have already been identified, they can serve as a framework for creating a more regional network of pedestrian facilities.

Potential Pedestrian Improvements on the Study Network

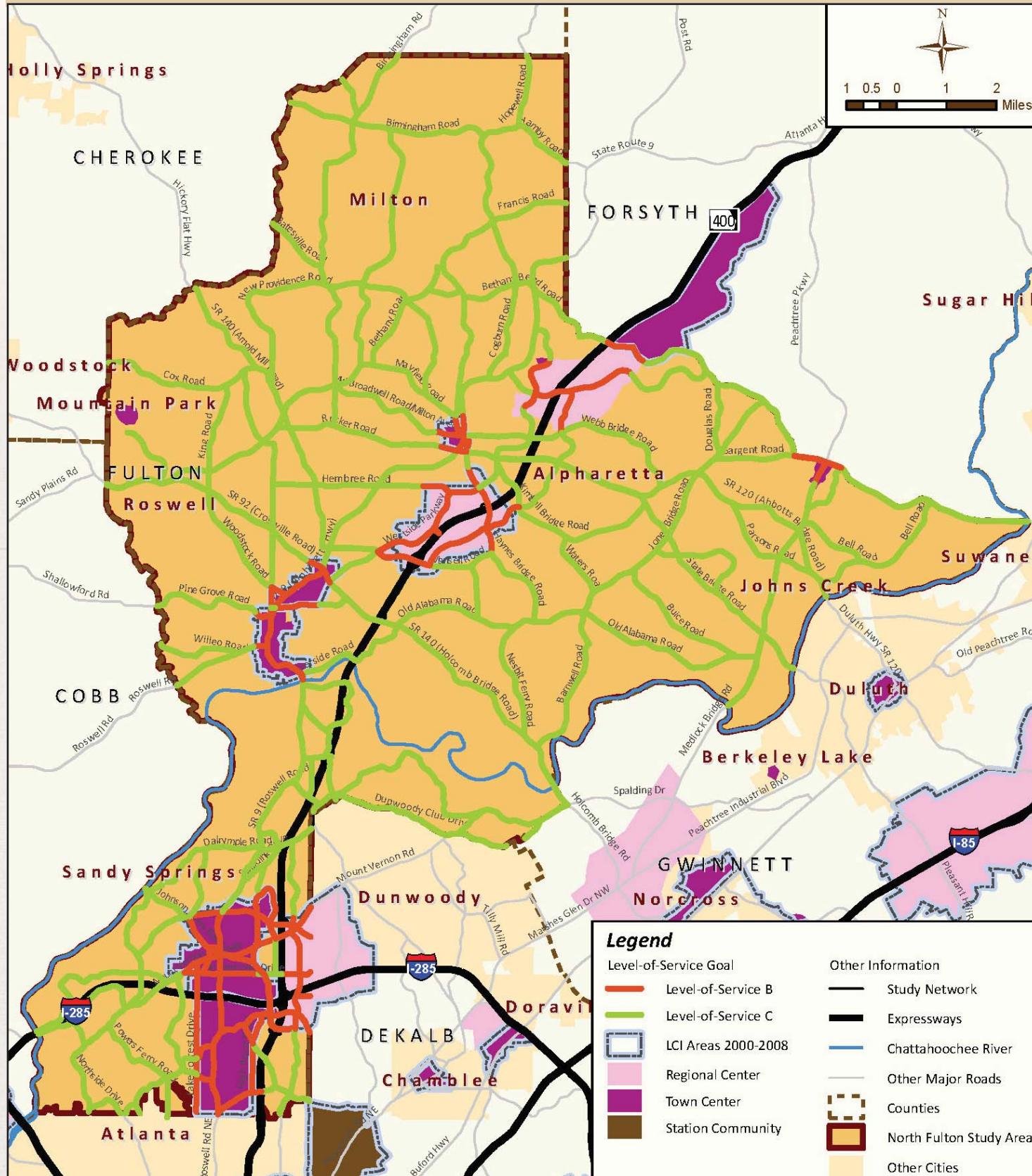
This section of the report focuses on potential improvements to pedestrian accommodations specifically along the North Fulton CTP study network. These routes not only connect major walkable destinations to one other, but also serve as thoroughfares facilitating regional trips for all modes of travel. For these reasons, it was determined that a minimum standard of pedestrian facilities should be provided on all roadways included in the study network while a higher standard should be provided where the study network passes through regionally designated walkable places.

Pedestrian Level-of-Service (LOS) is the metric used in this study for evaluating pedestrian accommodation. A Pedestrian LOS score, ranging from "A" (best) to "F" (worst) can be calculated based on such factors as presence of sidewalks, width of sidewalks, width of any buffer between the sidewalk and the roadway, presence of on-street parking, volume of vehicular traffic, and average speed of vehicular traffic. After the network was analyzed for existing Pedestrian LOS scores, the Project Management Team selected a minimum threshold goal of Pedestrian LOS "C" for the overall study network and a minimum threshold goal of Pedestrian LOS "B" within those areas of particular emphasis to be the target level of accommodation for pedestrians. These minimum target thresholds, shown in the figure on the following page, form Pedestrian Level-of-Service Goals that can be used by municipalities when considering future roadway improvements.

The roadways were analyzed for potential improvements that would bring those roadways that have a Pedestrian LOS below the target threshold up to the desired level of accommodation. When the data was collected for the Pedestrian LOS calculation, additional data on the roadside profile was also collected which is helpful in deciding on potential pedestrian improvements such as constructing a sidewalk. This additional data include characteristics of the shoulder and adjacent grading such as whether the shoulder is flat, sloping, or contains a ditch. These characteristics were used to develop the recommendations described in this section.

Pedestrian & Bicycle Level-of-Service Goals

October 2010



A sidewalk is the most common element needed to achieve a desired Pedestrian LOS, however, there are many cases where a relatively high level of accommodation can be achieved even in the absence of a sidewalk. This situation frequently occurs on low-volume local and minor collector streets with typical or greater than typical lane widths. Likewise, there are some situations where a sidewalk alone is not enough to achieve a desired Pedestrian LOS. This occurs along very high-volume high-speed roadways where a buffer may be needed between pedestrian walkways and the flow of vehicular traffic.

The resulting recommended improvements for individual roadway segments in the study network include seven possible categories for each evaluated segment:

- ◆ Currently meets Pedestrian LOS threshold
- ◆ Sidewalks exist on both sides of street (but segment does not meet Pedestrian LOS threshold)
- ◆ Sidewalk exists on one side, construct sidewalk on opposite side with minimal grading
- ◆ Sidewalk exists on one side, construct sidewalk on opposite side with significant grading
- ◆ Minimal sidewalk coverage exists, construct sidewalks on both sides with minimal grading



- ◆ Minimal sidewalk coverage exists, construct sidewalks on both sides with significant grading
- ◆ Detailed corridor study needed (DCSN)

Many study segments present minimal opportunity for providing sidewalks, often due to steep ditches or other changes in grade in proximity to the edge of the roadway. Specific recommendations for the potential provision of pedestrian facilities on these segments (127 miles, or approximately 40 percent of the study network) would require extensive and detailed operational-level investigations of the constraints and opportunities along these corridors.

The segments, with their respective recommendation designations, can be seen graphically in the following figure.

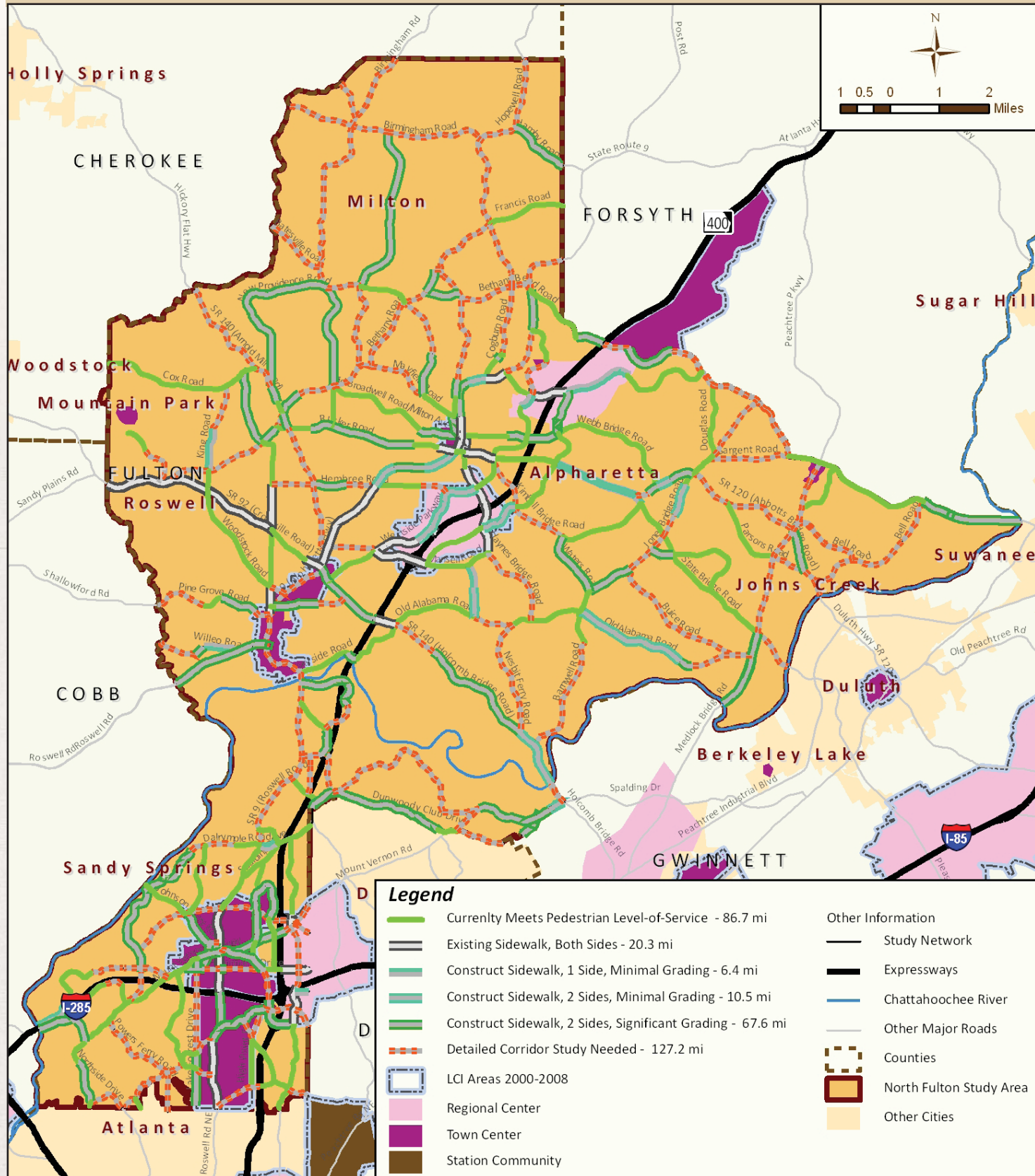
Recommendation: Adopt Bicycle and Pedestrian Level-of-Service Goals (as shown below) as an area-wide policy.

- ◆ Establish an annual pedestrian infrastructure improvement allocation within the budget of each municipality
- ◆ Set pedestrian projects within or nearby Regional Centers, Town Centers, and Station Communities (as defined by ARC's Unified Growth Policy Map) as being the highest priority
- ◆ To the fullest extent possible, provide accommodation for pedestrians as part of all roadway projects.



Pedestrian Level-of-Service Recommendations

October 2010



BICYCLE LEVEL-OF-SERVICE GOALS

Introduction

Bicycles have potential as an alternative mode of travel on a regional scale. Although there are inherent limitations compared to the freedom offered by an automobile, if adequate facilities are in place, a cyclist can comfortably and safely travel for many miles to reach destinations. Cycling can also be combined with adequate transit coverage to provide access to a nearly unlimited range of destinations. Bicycles can be stored on MARTA buses which are each equipped with bicycle racks, and bicycles are also allowed on MARTA trains. When roadway facilities are designed appropriately, cycling can also provide safe and efficient transportation in more urbanized pedestrian-friendly environments. Cycling, transit, and walking work well in conjunction with one another, and the combination of these modes can provide an adequate alternative to many single occupancy vehicle trips.

Potential Bicycle Improvements

Similar to the previous section of this report, Pedestrian Level-of-Service Goals, this section focuses on potential improvements to bicycle accommodations specifically along the North Fulton CTP study network. The study network is composed of routes which not only connect major multimodal destinations to one other, but also serve as regional thoroughfares facilitating long regional trips. It was determined that a minimum level of accommodation for bicycles should be provided on all roadways included in the study network while a higher level of accommodation should be provided where the study network passes through regionally designated multimodal places.

Bicycle Level-of-Service (LOS) is the metric used in this study for evaluating bicycle accommodation. Factors as such widths of lanes, roadways, gutters, buffers and sidewalks, as well as observed roadway characteristics including lane counts, configuration (undivided, divided, or use of a two-way left turn lane), posted speed limit, roadside profile, pavement condition, and cross-section type (curbed or open shoulder) can be used to calculate a Bicycle LOS score, ranging from "A" (best) to "F" (worst). During the Existing Conditions Phase, the study network was analyzed for the existing Bicycle LOS scores. The Project Management

Team selected a minimum threshold of Bicycle LOS "C" for the overall study network and a minimum threshold of Bicycle LOS "B" within those areas of particular emphasis to be the target level of accommodation for cyclists. These minimum target thresholds, shown in the Pedestrian and Bicycle Level-of-Service Guide, form Bicycle Level-of-Service Goals that can be used by municipalities when considering future roadway improvements.

Recommendation: Adopt Bicycle and Pedestrian Level-of-Service Goals (as shown below) as an area-wide policy.

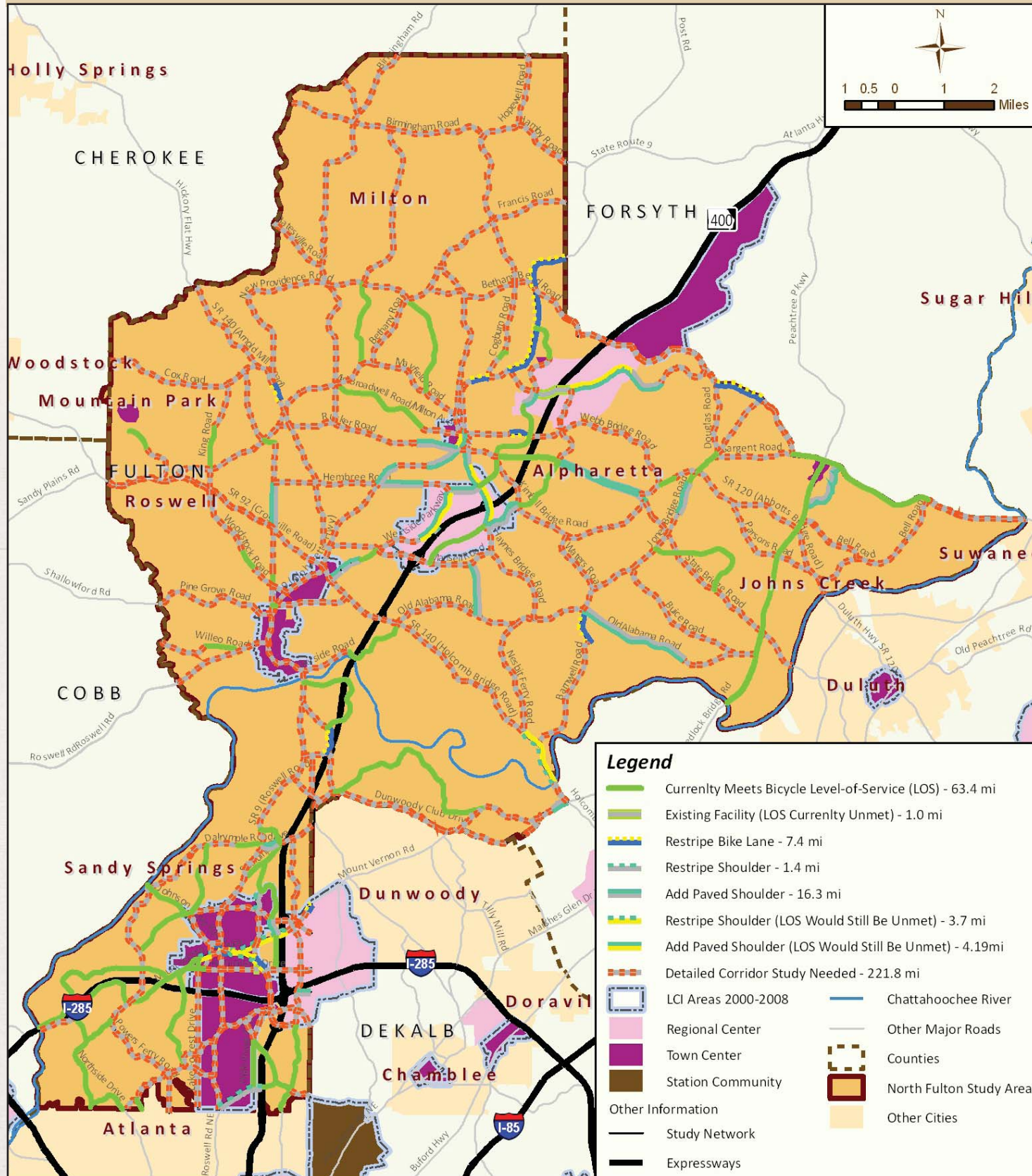
- ◆ Establish an annual bicycle infrastructure improvement allocation within the budget of each municipality
- ◆ Set bicycle projects within or nearby Regional Centers, Town Centers, and Station Communities (as defined by ARC's Unified Growth Policy Map) as being the highest priority
- ◆ To the fullest extent possible, provide accommodation for bicyclists as part of all roadway projects.

The roadways were analyzed for potential improvements that would bring those roadways with a Bicycle LOS below the goal threshold up to the desired level of accommodation. When the data were collected for the Bicycle LOS calculation, additional data were collected to facilitate the evaluation of potential improvements. This data included total width of asphalt, presence of a raised median, presence of curb and gutter, and roadside profile (flat, sloping, or ditch). These characteristics were used to develop the recommendations described in this section. Because of the site-specific nature of designing improvements for bicycles along a given corridor, much of the regional study network requires further study at a more detailed level than is provided for in this study. In light of these corridor specific challenges, three priority corridors were selected for more detailed analysis of their potential for improvement.

Typically, a striped bicycle lane is the most desirable facility for cyclists along roadways. However, there are many cases where a relatively high level of accommodation can be achieved even in the absence of a striped shoulder or bike lane. This situation frequently occurs on low volume local and minor collector streets with typical or greater than typical lane widths. Likewise,

Bicycle Level-of-Service Recommendations

October 2010



there are some situations where bike lanes alone are not enough to achieve a desired Bicycle LOS. This occurs along very high-volume high-speed roadways where a more substantial separation may be needed between bike lanes and the flow of vehicular traffic.

The recommended improvement strategies for individual roadway segments include seven possible recommendation categories for each evaluated segment:

- ◆ Currently meets Bicycle LOS Goal
- ◆ Existing facility (but segment does not meet Bicycle LOS Goal)
- ◆ Roadway restripe candidate for bike lanes
- ◆ Roadway restripe candidate for wider shoulders
- ◆ Construct paved shoulders
- ◆ Detailed corridor study needed (DCSN), yet potential for path adjacent to the road
- ◆ DCSN

The segments with their respective recommendation designations can be seen in the left figure.

Additional Bicycle Evaluations for Priority Corridors

In addition to the system-wide recommendations described above, the consultant team reviewed three priority corridors in greater detail to identify more specific bicycle facility recommendations, as appropriate. The first two corridors—portions of Holcomb Bridge Road and SR 9 were designated for the DCSN category, meaning they warranted closer study as neither were appropriate for re-stripping or shoulder widening, due to the roadway cross-section and right-of-way character. The third corridor, a portion of Medlock Bridge Road actually meets the targeted Bicycle LOS and currently has very wide bike lanes but is the site of an unusual concentration of bicycle crashes.

Holcomb Bridge Road

Holcomb Bridge Road between Eves Road and the Gwinnett County line at the Chattahoochee River was reviewed. The most feasible improvement for bicycling along this section of Holcomb Bridge Road may be a sidepath adjacent to the eastbound lanes. This section is approximately 3.1 miles long and was found to currently operate at Bicycle LOS “E”. The roadway is four lanes wide, either undivided or with a two-way left turn lane, and carries in excess of 35,000 vehicles per day at a posted speed of

45 miles per hour. There is a narrow shoulder (approximately 18 inches wide) on the segment between Nesbit Ferry Road and the river, but this does not constitute a bicycle facility. Here bicyclists are sharing a 12-foot wide outside lane with motor vehicles throughout the corridor which is insufficient width to allow safe passing of cars on such a high volume roadway. There is not enough pavement width to allow for re-stripping to accommodate bike lanes or paved shoulders. The roadway is mostly lined with curb and gutter, with the exception of sections east of Barnwell Road, making widened shoulders an option for only that portion, and even within that section there are intermittent parcels with curbs in place. Given the traffic conditions, five foot wide bike lanes or shoulders (adjacent to 11-foot travel lanes) would be necessary to approach the designated performance threshold of Bicycle LOS “C” if either re-stripping or widened shoulders were a practical option in this corridor.

Given the challenges facing this corridor with respect to the less expensive options of re-stripping or shoulder widening, this corridor was identified as being in need of further study to find an appropriate bicycle facility improvement. Alternate routes on nearby parallel roadways are not reasonable options for cyclists because neighborhood streets in the areas near the Holcomb Bridge Road corridor are mostly curvilinear and frequently terminate in culs-de-sac, leaving very limited interconnectivity. One roadway that is loosely parallel, connecting to Holcomb Bridge Road in two places, is Steeplechase Drive. However, because this alternate route is indirect and twice as long as the primary facility, this route will not be suitable alternative



Holcomb Bridge Road Priority Corridor
Source: Sprinkle Consulting, Inc., Kimley-Horn and Associates, Inc., Aerials Express 2008, ARC GIS Data

for regional bicycle travel. No apparent utility corridors, parks, schools, or other large public parcels exist near this corridor which would be suitable for a trail facility which could also serve as a practical alternative to travelling directly along Holcomb Bridge Road.

Given the overall circumstances of this corridor, the most feasible improvement for bicycling along this section of Holcomb Bridge Road may be a sidepath adjacent to the eastbound lanes. This facility would need to be carefully designed to counteract the operational concerns associated with sidepath facilities, especially at intersections with other roadways and commercial driveways. Due to the tightly constrained right-of-way west of Barnwell Road and the steep roadside terrain east of Barnwell Road, a sidepath adjacent to eastbound Holcomb Bridge Road will likely require extensive stretches of railing on one or both sides to separate the trail from both motor vehicle traffic and steep grades. Extensive railings or boardwalk construction and areas of extensive earthwork will likely have a significant impact on the cost of constructing such a facility. Also given the variable and constrained character of the right-of-way along this section of Holcomb Bridge Road, it is highly likely that construction of a sidepath facility will necessitate the acquisition of additional right-of-way along much of the subject corridor, pending detailed survey of parcel boundaries and topography. Such right-of-way acquisition could significantly increase the cost of this project. It's possible that much of this right-of-way acquisition could occur gradually over time as the corridor redevelops.

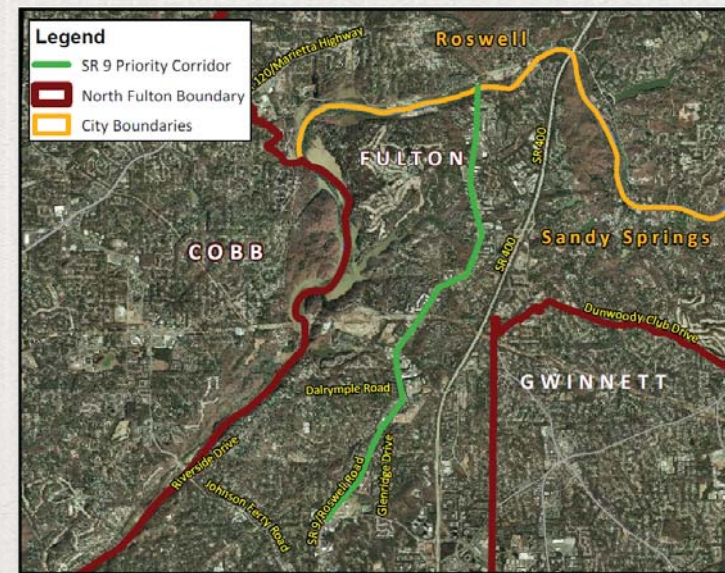
SR 9 (Roswell Road) from Abernathy Road to the Chattahoochee River

State Route 9 (Roswell Road) between Abernathy Road and the Chattahoochee River was evaluated. This section is approximately 5.3 miles long the segment between Abernathy Road and Northridge Road was found to currently operate at Bicycle LOS "E", while the segment between Northridge Road and the Chattahoochee River was found to be operating at Bicycle LOS "D" (the performance expectation for all three segments is Bicycle LOS "C"). A separate sidepath on the east side of SR 9 may be the best option to accommodate bicyclists at the goal Bicycle Level-of-Service. The roadway has a consistent cross section throughout the entire study corridor, with four travel lanes and a two-way left-turn lane. The roadway is generally between 50 and 53 feet wide, with approximately 10 feet per lane. The outside lanes in the northernmost segment were measured to be 10.5 feet wide. The corridor carries in excess of 30,000 vehicles a day at posted speeds between 35 and 45 miles per hour. The already narrow lane widths make re-stripping for bike lanes an infeasible

option, and existing curb and gutter throughout the corridor makes widened shoulders similarly infeasible.

The area around the corridor has limited potential parallel route options. A parallel route along other arterial and collector roads could be traced by a sequence of Abernathy Road, Glenridge Drive, Spalding Drive, and Trowbridge Drive. This sequence would offer better accommodation in some sections, but would lengthen a through-trip between Abernathy Road and Trowbridge Drive from 1.9 miles to almost 2.9 miles. This would also leave few opportunities to cross back to any destinations along SR 9. A connection to the southern end of Colquitt Road (south of Pitts Road) could be made by exploring potential easements connecting the driveways of multi-family housing developments that are adjacent to Trowbridge Drive and Colquitt Road. Such a connection would benefit the mobility of local residents and provide a lengthened through-route for recreational trips, but would not improve access to destinations along the primary corridor. Additionally, the section of Colquitt Road north of Pitts Road and Northridge Road, while a lower volume road than Roswell Road, still operates at a Bicycle LOS "D", due to its relatively narrow lanes and lack of shoulders. All of the alternative routing scenarios would result in a virtual bypass of the primary corridor, with limited return access, and would add considerable extra distance to through-trips, while only providing very intermittent stretches of substantially improved bicycling conditions.

Similar to the Holcomb Bridge Road Section, the most feasible improvement for accommodating bicycles in this corridor may be



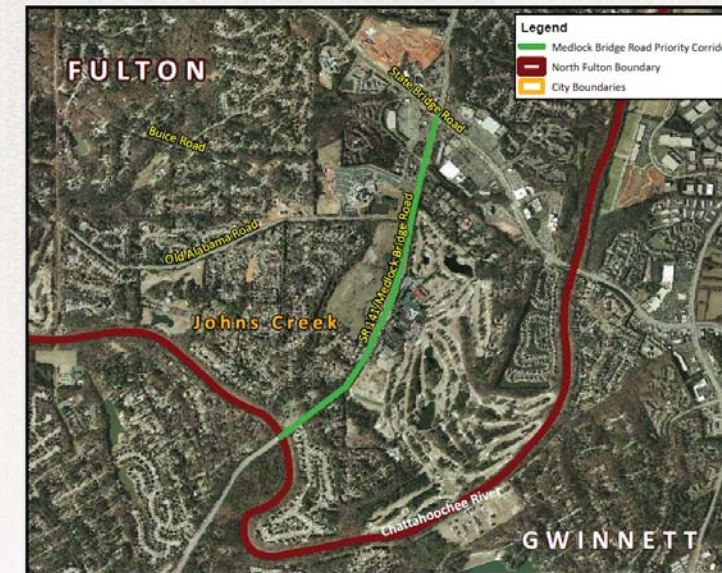
State Route 9 priority corridor
Source: Sprinkle Consulting, Inc., Kimley-Horn and Associates, Inc., Aerials Express 2008, ARC GIS Data

to develop a sidepath. Such facilities must be designed carefully to avoid creating additional safety concerns, such as conflicts at driveways and intersections. If designed appropriately, such facilities can improve overall bicycling mobility while preserving access to destinations along primary corridors. The generally narrow right-of-way throughout the SR 9 corridor may require significant lengths of railing to separate the trail facility from the roadway in constrained sections, and may also require acquisition of right-of-way at numerous points and some significant grading and retaining walls, pending a detailed survey of parcel boundaries and topography.

Medlock Bridge Road

The 1.6 mile section of Medlock Bridge Road between the Gwinnett County line at the Chattahoochee River and State Bridge Road was evaluated. Changes in pavement markings may be the best way to improve bicycle safety along this corridor. This is a four-lane, divided roadway, with a posted speed limit of 55 miles per hour south of Old Alabama Road, and 45 miles per hour north of Old Alabama. Traffic volumes in this corridor are high, exceeding 30,000 vehicles per day. Despite the high volume and high speed character of the corridor, both segments currently rate well for bicyclists with Bicycle LOS grades of "B", largely due to unusually wide shoulders (averaging 8 feet wide or more) that offer distinctly separate space for bicycle operation within the cross section. Although this section of roadway already meets the targeted Bicycle LOS (LOS "C"), this corridor was selected for further study because of an unusually high concentration of

bicycle crashes. The corridor was reviewed to determine if the crashes were related to any infrastructure issues, or if any changes could be recommended that would correct any identified safety issues.



Medlock Bridge Road Priority Corridor
Source: Sprinkle Consulting, Inc., Kimley-Horn and Associates, Inc., Aerials Express 2008, ARC GIS Data



Medlock Bridge Road Road Buffered Bike Lane Concept
Source: Sprinkle Consulting, Inc., Fulton County GIS (background aerial)

There are no parallel routes that could replace this stretch of Medlock Bridge Road. Bicyclists who are connecting to westbound Old Alabama Road could take a circuitous shortcut over neighborhood streets via Chelsen Wood Drive and Waits Ferry Crossing, shortening what would have been a trip in excess of 1.7 miles along major thoroughfares into a trip of approximately 1.2 miles along local streets. This option only benefits travel along one of many routes that are served by the Medlock Bridge corridor.

Bicycle crash data from incidents along this section of Medlock Bridge Road was reviewed. Some observations about the documented bicycle crashes that occurred along this section of Medlock Bridge Road include:

- ◆ All of the crashes are reported as having occurred during daylight conditions, which is inconsistent with typical bicycle crash patterns.
- ◆ Three of the crashes were reported as angle crashes.
- ◆ At least two of the crashes appear to have involved bicyclists riding against traffic.
- ◆ At least three happened at midblock locations.

A possible treatment for Medlock Bridge Road could be to restripe the existing bike lanes into buffered bike lanes. This would be accomplished by creating a buffer of two solid lines separated by approximately 3 or 4 feet with chevron markings along the side of the main travel lanes. Adjacent to the curb would be a five foot bike lane. This configuration provides an inexpensive way to increase the level of accommodation for bicyclists along this busy corridor.

While increasing separation between bicyclists and motor vehicles can result in increased safety and comfort, it is important to keep bicyclists and motorists within one another's field of vision at intersections where bicycles may come into conflict with turning vehicles. For this reason the proposed buffered bike lane treatment shown in the figure should be striped so that bicyclists travel close to the curb along typical sections and are brought out from the curb in advance of intersections.

This section of Medlock Bridge Road includes a number of right-turn lanes that periodically interrupt the existing bike lane space, and it appears that it would be difficult to continue a full-size bike lane through the right-turn lanes. It may be possible to mark a bike slot on the left side of the right-turn lane, indicating the preferred position for through-moving bicyclists within a lane shared with right-turning motorists. It may be advisable to post R4-4 signs (Begin Right Turn Lane Yield to Bikes) at these locations, to increase motorists' awareness of their obligation to yield.



Sign R4-4
Source: Manual on Uniform Traffic Devices (MUTCD)

Because crash data for this corridor does indicate that some crashes may have been associated with bicyclists riding against traffic, if wrong-way riding is observed to be a continuing issue in this corridor, then it is also recommended that BICYCLE WRONG WAY (R5-1b) and RIDE WITH TRAFFIC (R9-3C) signs be installed at points along the corridor.



Signs R5-1b and R9-3c
Source: Manual on Uniform Traffic Devices (MUTCD)



ACCESS MANAGEMENT

Introduction

The Transportation Research Board's *Access Management Manual* states that access management is "the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway." Good access management implementation may require a property owner to lose perceived convenient access to their properties. While this idea may be received with opposition, the continued negative factors of poor access management can result in customers avoiding the unsafe and/or congested roadway.

Poor access management can have negative results:

- ◆ Higher accident rates
- ◆ Less efficient roads
- ◆ Increased cut-through traffic in residential areas
- ◆ Longer commute times
- ◆ Higher fuel consumption and emissions

As part of the North Fulton Transportation Resource Implementation Program, three regionally significant corridors have been identified as the primary non-freeway roadways that facilitate regional trips through North Fulton, particularly east-west movements. Because of their regional significance, the implementation of a consistent access management strategy along these roadways would benefit the Cities in North Fulton as well as the metro Atlanta region. Additionally, strong access management policies may result in capacity improvements along the corridors without the need for traditional widening. These corridors are:

- ◆ SR 9 (Roswell Road/Atlanta Street/Alpharetta Highway/Main Street)
- ◆ SR 92 (Woodstock Road/Crossville Road) and SR 140 (Holcomb Bridge Road)

- ◆ SR 140 (Arnold Mill Road/Houze Road), Rucker Road, SR 120 (Old Milton Parkway), State Bridge Road

It is important to note that each of these three corridors traverse multiple Cities in North Fulton. Therefore, cross-jurisdictional access management will be important.

General Policies

Access management reduces traffic conflicts by:

- ◆ Minimizing the number of conflict points
- ◆ Maximizing the distance between conflict points
- ◆ Providing inter-parcel connectivity, especially for slow turning vehicles.

Access management solutions can generally be broken into two groups; those directly affecting the roadway facility (transportation infrastructure) and those affecting the adjacent parcels (land use and zoning).

Some of these contributors to beneficial access management include the following:

Infrastructure Improvements

Driveway Alignment

Driveway alignment is a means of controlling access and reducing vehicular conflict points along a roadway. Implementation of good driveway alignment concentrates turning movements to fewer points along the corridor, allowing drivers to better predict the movements of other vehicles.

Medians

Medians have been proven by studies to improve traffic flow, reduce congestion, and lower crash rates for certain conditions. These benefits are mostly a result of managing the left-turn and u-turn movements along a corridor. Creating a series of appropriately spaced median breaks creates a hierarchy of decision



points that are predictable and allow for smoother traffic flow for the through movement along a corridor.

- ◆ Full-movement median openings should be located where higher left-turn movements are expected along both the major street and minor street.
- ◆ Directional crossovers can be placed between these full-movement median openings, allowing left-turn and u-turn movements along the major street (but prohibiting minor street left-turns). This concept removes the left-turns and u-turns from the full-movement intersection.
- ◆ An alternative is the median u-turn treatment, which only allows u-turn movements along the major street.

Traffic Signal Coordination

Traffic signal coordination refers to both the physical spacing and the optimized timing of traffic signals along a corridor. Longer distances between traffic signals can enhance the ability to improve travel times and safety via the synchronization of traffic signals along a corridor. The coordination of traffic signals along congested roadways can improve travel time, delay, safety, and emissions. As part of the Governor’s Fast Forward Program, GDOT optimizes signal timings along selected corridors throughout the metro Atlanta area. Corridors that have been optimized as part of this program in North Fulton include SR 9, SR 92, SR 140, and SR 141.

Interchanges

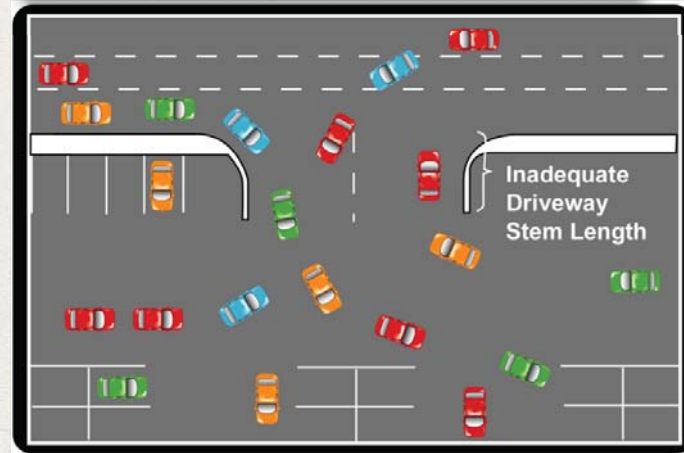
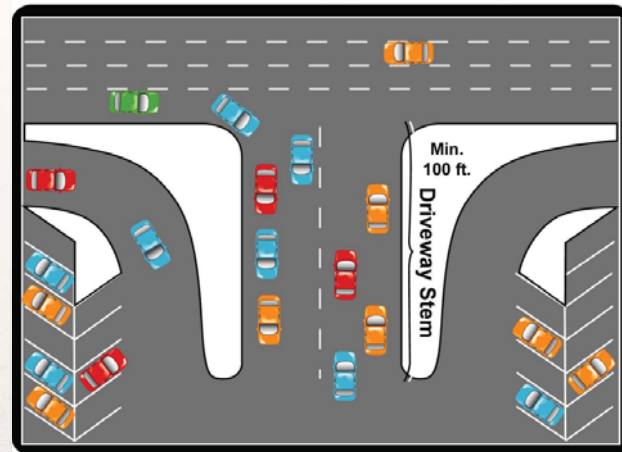
Converting an overcapacity intersection to a grade-separated interchange can dramatically improve the operations at that location. Unfortunately, this is also a very expensive alternative when attempting to develop a solution at an intersection.

Land Use and Zoning

On-Site Traffic Circulation

On-site traffic circulation can be improved to help avoid traffic spillback from within a development onto the public roadway. The “throat” of a driveway is the section between the roadway and the first internal site intersection. Lengthening the throat of driveways can have two positive results:

Vehicles exiting the site are less likely to obstruct another vehicle’s movement within the site. Vehicles entering the site also have a longer distance and more time to decide what their next movement within the site will be. Both of these positive results decrease the possibility of traffic spillback onto the arterial.



Driveway Throat (or Stem) Length

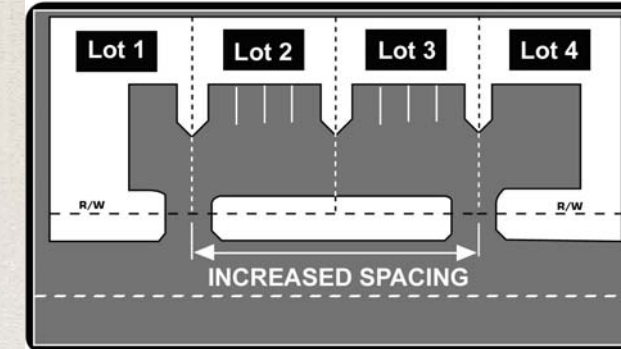
Source: NCDOT Policy on Street and Driveway Access to North Carolina Highways, July 2003

Inter-Parcel Access and Shared Driveways

Many properties are designed as isolated developments with no interconnectivity with adjacent properties. This increases congestion by forcing all trips between the developments onto the corridor. Additionally, this typically results in multiple driveways that increase the number of turning movement conflict points along a corridor. Interconnectivity between properties can alleviate the amount of traffic along the roadway. Efficient connectivity should focus on pedestrians, bicyclists, transit, and automobiles. These connections can be provided via frontage roads (between the roadway and the buildings) or backage roads (on the opposite of the buildings from the roadway).

It should be noted that frontage roads can sometimes be detrimental to alternative modes of transportation. The presence of frontage roads typically increases the distance and sometimes adds obstacles between the major roadway and the buildings. This results in a less attractive trip for pedestrians, bicyclists, and users of transit. An alternative is a backage road, in lieu of a frontage

road, which can still provide inter-parcel access while concurrently allowing for a shorter and easier route for walking, cycling, and local transit.



Sharing Access among Parcels
Source: NCDOT Policy on Street and Driveway Access to North Carolina Highways, July 2003

Street Connectivity

Providing additional access along secondary roadways also provides an alternative for traffic to access sites. Land development regulations should require connections to the local street network instead of the major street. This will decrease the traffic volumes on the thoroughfare corridor, as local trips will have an alternative to using the major road. Some locations may have an inadequate local street network. Following this access management strategy may require the local government to construct and/or maintain additional roads. Culs-de-sac and permanent dead ends should be discouraged. If backage roads are constructed, regulations should require these to be built so they can be integrated into the local street system, especially when small frontage lots are unavoidable.

Existing Ordinances

There are existing ordinances and policies adopted by the North Fulton municipalities, Fulton County, and GDOT which regulate many of the access management control features discussed above. These policies were studied to determine what access management guidelines are currently in place and how they vary among the different agencies.

The most recent publication by GDOT of its *Regulations for Driveway and Encroachment Control* is dated October 10, 2009. This sets minimum access management guidelines and requirements and applies to all state routes within Georgia. Typically, local municipalities may adopt more stringent requirements for state routes and other roadways within their jurisdiction if they deem it necessary.

There are no longer any areas of unincorporated Fulton County remaining in North Fulton; however, the three newer cities

(Johns Creek, Milton, and Sandy Springs) have adopted access management policies which are very similar to the previously applicable *Fulton County Driveway Manual* (May 2005). These three Cities have ordinances with quantifiable criteria for the minimum spacing of driveways, median openings, signalized intersections, and uninterrupted ingress/egress lengths. Overall, the Fulton County guidelines are slightly less strict than the GDOT guidelines.

The Cities of Roswell and Sandy Springs have additional guidelines for inter-parcel connectivity, but not with quantifiable criteria.

Recommendations

North Fulton can improve regionally significant corridors by sharing a unified approach on access management. As described above, many of the North Fulton Cities have existing city ordinances for access management, yet these vary widely across jurisdictions. It is important for the five Cities with arterial roads to have a shared and consistent set of regulations and guidelines for corridors that are the main arteries for North Fulton.

Recommendation: Identify priority corridors on which to focus and uniformly protect.

The five Cities should determine which roadway corridors are in most need of this regionally unified set of regulations and guidelines. The three preliminary corridors which have been identified are:

- ◆ SR 9 (Roswell Road/Atlanta Street/Alpharetta Highway/Main Street)
- ◆ SR 92 (Woodstock Road/Crossville Road) and SR 140 (Holcomb Bridge Road)
- ◆ SR 140 (Arnold Mill Road/Houze Road), Rucker Road, SR 120 (Old Milton Parkway), State Bridge Road

Recommendation: Complete detailed corridor studies for each identified corridor.

Separate corridor studies should be prepared for each of the “priority corridors” that are identified as needing better access management policies. Implementation of access management on mature corridors requires very specific and detailed plans for each roadway. A corridor-specific study will “zoom in”, focus on one specific roadway, and develop steps to achieve good access management, sometimes at a parcel-by-parcel level. If a uniform overlay ordinance with access management policies is adopted, the corridor studies will serve to determine specific steps that can be taken for each corridor to achieve those.

Recommendation: Adopt a uniform policy across all jurisdictions.

A key to providing regional mobility is applying consistent standards to those corridors which serve as regional arterials. Although GDOT has a driveway policy that is uniformly enforced across the state, it is necessary for North Fulton to also enforce access management more locally. This is true for several reasons:

- ◆ GDOT only considers access along the State Highway system; some sections of roadway in North Fulton function as regional arterials yet are not part of the State Highway system
- ◆ GDOT looks at one property at a time based on when driveway permit applications are submitted
- ◆ Local municipalities are more involved in zoning processes and have a better opportunity to organize/enforce cross-parcel easements and enhance interconnectivity

A model access management overlay ordinance has been developed for North Fulton and is being provided to city staff. This ordinance will be further edited by representatives from the Cities, most likely members of the Coordination Committee as described in the Implementation Monitoring section of this report. Once the ordinance reaches a state where all cities agree on the policies, the ordinance will be adopted and enforced by each of the municipalities.



ATMS STUDIES

Introduction

Traffic congestion is one of the most pressing concerns of the residents of North Fulton. The active management of traffic and dissemination of traffic information is essential to the motoring public. Advanced Traffic Management Systems (ATMS) allow government agencies to better manage the traffic along the roadway and to disseminate traffic information to drivers for their use. ATMS components include:

- ◆ Traffic signal controllers
- ◆ Closed circuit television (CCTV) cameras
- ◆ Dynamic message signs
- ◆ Communication equipment
- ◆ Control center monitoring equipment and software

Several municipalities in North Fulton, including Alpharetta, Roswell, and Sandy Springs already have mature ATMS programs in place, while others have projects under way, such as the City of Johns Creek, and still others have systems that are monitored and managed by GDOT. While the municipalities do currently work together, there isn't a formal overarching system in place that ties the individual systems together and optimizes the management of traffic across all of North Fulton. With numerous major routes that cross multiple municipalities, such as SR 9, 120, and 140 to name a few, there is a significant need and potential benefit of having a cohesive ATMS network.

Discussion Items / Background

Traffic Signals: For signals to operate together in an efficient manner, it is essential that the signals all be operating on the same hardware and software platform. To use the analogy of an office computer network, the system will operate more efficiently if all of the computers were of the same type (PC or Apple) and running the same software (Microsoft or Linux). The majority of the traffic signal controllers within North Fulton recently have been upgraded to the most recent GDOT standards for hardware and software. Taking the next step and ensuring that all of the signals are running the same hardware and software will allow municipalities to better coordinate the traffic signals among them.



Closed Circuit Television Cameras (CCTV): CCTV cameras allow municipalities to observe traffic on the roadways. Images from the CCTV cameras are brought back to a traffic control center where operators look for congestion and incidents and can manage the traffic system to address any issue that is observed. These images can also be made available to the public through the



municipalities' websites or local television affiliates. The cities of Alpharetta, Roswell and Sandy Springs all have existing CCTV cameras along several major routes that they use to assist in managing traffic. The City of Johns Creek currently has a project to connect to some existing CCTV cameras

that are currently not operational. Coverage of these CCTV cameras is limited to major routes. Expansion of the system will allow these municipalities and others to be able to better manage and provide travel information to their public.

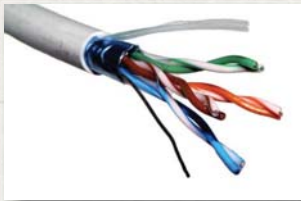
Dynamic Message Signs (DMSs): DMSs allow operators to provide information directly to drivers while they travel the route. Information can be given as to upcoming congestion, incidents, expected travel times, etc. Typically DMSs are deployed on interstate systems, yet in recent years DMSs are being used for

RECOMMENDATIONS: ADDITIONAL PROJECTS AND POLICIES

arterial management with great success. No cities within North Fulton currently have arterial DMSs in the field. Deploying several DMSs along key routes will allow system operators to provide travel information, detour opportunities, etc. to allow for better management of the traffic network.



Communications: Essential to managing traffic is having a communication backbone that allows operators to manage the traffic management devices that are in the field. Communication to traffic management devices can be either hard wired or wireless. The majority of ATMS communication is hard wired with wireless used to reach outlying or difficult to reach areas. Hard wired communication is typically either twisted-pair copper wiring, fiber optic cable, or a combination thereof. Older systems typically used twisted-pair copper; however, as technology has improved and there is a need to provide greater bandwidth for devices such as CCTV cameras,



fiber optic communication has become the most prevalent communication media. Alpharetta, Roswell, Sandy Springs, and Johns Creek all use some form of communication to talk to their traffic management devices along most of their major routes. In many locations, however, communication is either not present or needs to be connected to achieve greater coverage and allow for cross jurisdictional communication.

Control Center Monitoring Equipment and Software:

Traffic control centers (TCCs) are the heart of an ATMS system. All data and video from field devices are brought back through the communication network to the TCC for operators to better manage traffic. Information from the TCC is sent out to the traffic management devices, web, and media services to provide active traffic management and better travel information. Alpharetta, Roswell and Sandy



Springs all have operational TCCs, and the City of Johns Creek has a current project to create a TCC. As traffic doesn't stay within a municipality, but travels across municipalities, it is important to manage traffic between the various municipalities' TCCs. Therefore, center-to-center communication is essential to managing regional traffic patterns. Currently center-to-center communication does not exist between the municipalities in North Fulton. To accomplish this, an evaluation of hardware, software and communication equipment would need to be performed to determine how center-to-center communication could be achieved. The municipalities would also have to determine what information they would share among centers.

Strategy

For the first step of upgrading the existing ATMS network, a comprehensive and coordinated inventory should be compiled of all of the existing traffic management devices within North Fulton. This inventory would then set the stage to determine future needs of the system. Based on the level of investment sought by each of the cities, preliminary goals for future expansion could include :

- ◆ Expand the reach (communication) of the existing signal systems
- ◆ Coordinate signals and sync clocks across jurisdictional boundaries
- ◆ Expand CCTV coverage
- ◆ Evaluate the need and potential locations for DMS deployments
- ◆ Provide center-to-center communication
- ◆ Establish protocols for sharing information and managing traffic across municipalities
- ◆ Identify other potential ATMS strategies (such as transit priority, reversible lanes, etc.) that may be applicable within North Fulton
- ◆ Develop a strategy that is flexible and expandable that allows for future growth as development continues to occur
- ◆ Develop a system that minimizes recurring costs

Recommendation: Perform a concentrated ATMS study guided by a Coordinating Committee made up of representation from the various municipalities.

OTHER REGIONAL PROJECTS CONSIDERED



OTHER REGIONAL PROJECTS CONSIDERED

In response to the wide range of public involvement and input from the Project Management Team, the Stakeholder Committee, policy makers, and transportation professionals involved in the development of this plan, many more projects were considered during evaluation and prioritization than made it into the final list of recommendations. Most of the projects that did not make the final list were deemed to be beneficial projects worthy of implementation, but given the finite amount of resources available, were removed from the recommendations. Projects that were left out of the recommendations in this CTP are not necessarily unable to be implemented or not recommended. This simply means that they have not been prioritized in this regional CTP. They could be reevaluated when this plan is updated or advanced back onto the list in response to shifts in political support and other factors.

Many of the projects removed from the recommendations were determined to be too localized to justify inclusion in a regional CTP. While these projects might actually provide great benefits to the municipality, and therefore, the region, given the lack of funding available, these would be more appropriately pursued by individual governments. A list of these projects is shown in table below:

| Local Projects not Included in the North Fulton CTP | |
|--|---|
| Name | Description |
| Chattahoochee River multi-use trails | Extend the River Walk trail along the Chattahoochee River from Eves Road to McGinnis Ferry Road - where development does not preclude. |
| New Connection - Northeast/Sun Valley Connector | Construct a new roadway connecting Sun Valley Road west to Houze Raod and east to Old Ellis Road to Sanctuary Parkway at Rock Mill Road. Project also connects Warsaw Road and Mansell Place. |
| New Connections - Commerce Parkway and Mansell Road Extensions | Construct new roadways extending Commerce Parkway from Old Roswell Road to Holcomb Bridge Road (SR 140) and extending Mansell Road from E. Crossville Road (SR 92) to SR 9. |
| New Connection - Sandy Springs Circle Extension | Construct a new roadway connecting Sandy Springs Circle under I-285 to connect to SR 9 at Glenridge Drive, including associated street grid enhancements. |
| New Connection - Northwinds Parkway | Construct a new roadway extending Northwinds Parkway from Kimball Bridge Road to Old Milton Parkway. |
| Capacity Improvements to Mansell Road | Widen to 6 lanes from Old Roswell Road to Old Alabama Road Connector. |
| Capacity Improvements to Old Alabama Road | Widen to 4 lanes from Buice Road to Medlock Bridge Road. |
| Capacity Improvements to Glenridge Drive | Widen to 4 lanes from Roswell Road to Glenridge Connector. |

OTHER REGIONAL PROJECTS CONSIDERED

These projects were initially considered because they were identified as needs during the Needs Assessment Phase (by the travel demand model, the public, city staff, or other sources), but were later removed due to the perceived adverse trade-offs associated with them. These projects and their associated reason for removal are shown in the table below:

| Other Projects Not Included in the North Fulton CTP | | |
|--|---|--|
| Name | Description | Reason for Removal |
| Rogers Bridge bike/ped trail connection | Rehabilitate existing steel truss bridge over Chattahoochee River at Rogers Bridge Road to accommodate bike/ped travel. | City Council removal |
| Bus Rapid Transit along SR 9 | Create a BRT route beginning at the Lindbergh MARTA station, continuing along Piedmont Road to Roswell Road, and along SR 9 through Sandy Springs, Roswell, and Alpharetta, along Windward Parkway to the Windward park-n-ride lot. | Potentially long term |
| Bus Rapid Transit along Crossville Road (SR 92)/Holcomb Bridge Road (SR 140) | Create a BRT route beginning at the Doraville MARTA station, continuing along Buford Highway, Holcomb Bridge Road, Crossville/Woodstock Road, to the park-n-ride lot in Woodstock. | Queuing considerations |
| Perimeter Center circulator | Create a circulator along SR 9, Mount Vernon Highway, Peachtree Dunwoody Road, and Hammond Drive, connecting to the Dunwoody and Sandy Springs MARTA stations. | Consultant Team removal |
| Capacity Improvements to Rucker Road | Enhance facility to become a divided four-lane cross-section with a median and turn lanes from Hardscrabble Road to Wills Road. | Staff removal / Consultant Team |
| Capacity Improvements to Holcomb Bridge Road (SR 140) | Widen to 6 lanes from Gwinnett County to Nesbit Ferry Road (include 6 lane bridge). | City Council removal |
| Capacity Improvements to Holcomb Bridge Road (SR 140) | Widen to 6 lanes from Nesbit Ferry Road to Old Alabama Road. | City Council removal |
| New Interchange - McGinnis Ferry Road at GA 400 | Construct a new interchange including a new full-movement interchange and widening of McGinnis Ferry Road/Morris Road to 4 lanes from Webb Road to Union Hill Road. | Primarily economic development, and currently has own momentum |
| Capacity Improvements to Riverside Drive | Widen to 4 lanes from Johnson Ferry to I-285. | Staff removal |
| Capacity Improvements to Barfield Road | Widen to 4 lanes from Hammond Drive to Mount Vernon Highway. | Staff removal |
| Capacity Improvements to Hardscrabble Road | Widen to 4 lanes from SR 92 to Crabapple Road. | Staff removal |
| Capacity Improvements to GA 400 | Widen to 12 lanes from I-285 to Holcomb Bridge Road, widen to 10 lanes from Holcomb Bridge Road to Windward Parkway, widen to 6 lanes from McFarland to SR 141. | Consultant Team removal |
| Capacity Improvements to Abernathy Road | Widen to 6 lanes from Roswell Road to GA 400. | City Council removal |
| New 4 Lane Chattahoochee River Crossing (Northridge Rd to Riverside Dr) | Construct a new river crossing extending Northridge Road to connect to Riverside Road and then Eves Road, ending at Holcomb Bridge Road. Includes widening Northridge Road, Riverside Road, and Eves Road to 4 lanes. | City Council removal |
| Capacity Improvements to Houze Road | Enhance facility to become a divided four-lane cross-section with a median and turn lanes from Rucker Road to Mansell Road | Staff removal / Consultant Team |
| New Connection at Grimes Bridge Road | Extend Grimes Bridge Road to create a new connection across GA 400 to Old Alabama Road. | City Council removal |

FIVE YEAR ACTION PLAN



FIVE YEAR ACTION PLAN

The Action Plan outlines the appropriate steps for local and State leaders to implement the recommendations of this plan and identifies key agencies that should be involved with the task. It is not expected that every item listed would be completed over the next several years; however, the process should be initiated to best take advantage of the momentum gained with the development of this plan and the collective work of the local champions that were involved in the process.

Funding is, of course, a critical component of the implementation of the plan. Without money to implement the recommendations (whether local, state, or federal), the plan is merely a wish list. Given funding considerations at the federal level and probable redirection of money to asset management at the regional level, non-local funding dollars for new capital may be even scarcer than in the past. It is, therefore, all the more critical that cities be prepared to implement projects when funding does become available. According to the *Breaking Ground 2009*, a status report published by ARC of TIP projects, approximately 65 percent of the phases (over \$1 billion) were delayed to 2010 for various reasons. Some of this delay can be attributed to cities that do not have local matches set aside, do not have public support established for the projects, etc. These types of obstacles result in projects being delayed or not implemented at all.

In order for the Cities of North Fulton to be prepared for project implementation, the following principles are recommended:

- ◆ Show commitment to projects
 - May include upfront concept design / feasibility / Preliminary Engineering using local dollars (if federal funding is going to be pursued for Right-of-Way and Construction phases, the Cities should coordinate with GDOT to ensure compliance with federal protocol).
 - Complete a public process when feasible to establish support for the project. Public opposition has the ability to delay or derail a project completely.
- ◆ Complete current projects in the TIP
 - Focus on completion of the current projects in the TIP
 - If priorities change, request that projects be removed from the TIP instead of letting them remain for many years
- ◆ Ensure that the local match has been set aside for upcoming projects.
- ◆ Focus on a few priorities instead of spreading support across a large number of projects.

Keeping these principles in mind, the Action Plan was developed to focus on key priorities, many of which (or similar projects) are currently in the TIP or RTP. Sponsors and jurisdictional champions were outlined for each of the Action Plan recommendations. Coordination among jurisdictions within North Fulton as well as to adjacent counties and cities should also be incorporated as projects move forward.

It is important to note that while these improvements are shown separated by mode, that all modes must be considered together to truly implement a multimodal plan. Projects are listed separately here for convenience, since many travel modes draw upon their own unique funding sources.

North Fulton TRIP - Five Year Action Plan

| Proj # | Tier | Project Name | Action Item (5-year) | Currently in TIP or RTP | Sponsor | Jurisdiction Champion | Coordinate with |
|--|------|---|--|-------------------------|-------------|-------------------------|-------------------------------------|
| General Recommendations | | | | | | | |
| - | - | Approval of North Fulton TRIP | All North Fulton Cities to Adopt the North Fulton TRIP | - | - | All North Fulton Cities | - |
| - | - | Continuation of the Memorandum of Agreement (MOA)/ Creation of Coordinating Committee | Cities should develop a new MOA to continue the organizational structure developed to complete the North Fulton TRIP outlining participation, regular meetings, approval processes, etc. | - | - | All North Fulton Cities | - |
| - | - | Project inclusion in the TIP and RTP | Work with ARC to include the maximum number of North Fulton projects in the RTP and TIP. | - | - | All North Fulton Cities | ARC |
| Bike / Pedestrian Recommendations | | | | | | | |
| - | - | Adopt Pedestrian and Bicycle LOS Guides (accomplished with the approval of the North Fulton TRIP) | Adopt the Pedestrian and Bicycle LOS Guides provided in this study for use in prioritizing bike/pedestrian improvements. Bike/pedestrian improvements inside activity centers should be considered highest priorities. | - | - | All North Fulton Cities | - |
| BP101 | 1 | Big Creek Greenway Connection to Forsyth County | Begin conceptual design for extension of the Big Creek Greenway to Forsyth and to the Chattahoochee River Walk, while determining feasible connections to Johns Creek and Milton. | No | Alpharetta | Alpharetta | Forsyth County, Johns Creek, Milton |
| BP102 | 1 | Big Creek Greenway Connection to Chattahoochee River Walk | | No | Roswell | Roswell | Alpharetta |
| BP105 | 1 | Johns Creek Connection to Big Creek Greenway | | No | Johns Creek | Johns Creek | Alpharetta |
| BP106 | 1 | Milton Connection to Big Creek Greenway | | No | Milton | Milton | Alpharetta |
| BP101 | 1 | Big Creek Greenway Connection to Forsyth County | Begin implementation of the critical Big Creek Greenway extensions to both Forsyth County and to the Chattahoochee River Walk. | No | Alpharetta | Alpharetta | Forsyth County, Johns Creek, Milton |
| BP102 | 1 | Big Creek Greenway Connection to Chattahoochee River Walk | | No | Roswell | Roswell | Alpharetta |

North Fulton TRIP - Five Year Action Plan

| Proj # | Tier | Project Name | Action Item (5-year) | Currently in TIP or RTP | Sponsor | Jurisdiction Champion | Coordinate with |
|----------------------------------|------|---|--|-------------------------|---------------|-------------------------|-----------------------|
| BP103 | 1 | Morgan Falls/Power Easement multi-use trail | Begin coordination with Cobb County and the City of Dunwoody, developing conceptual designs for potential alignments. | No | Sandy Springs | Sandy Springs | Cobb County, Dunwoody |
| - | - | Establish annual bike / pedestrian budget within the city's capital planning expenditures | Establish annual bike/pedestrian allocation in the transportation budget for any municipality where this does not currently exist. | - | - | All North Fulton Cities | - |
| - | - | Restripe roadways to create bike lanes or wide shoulders | Restripe approximately 12 miles of roadway that have excess width for bike lanes or wide shoulders (as noted in this report). | - | - | All North Fulton Cities | - |
| - | - | Implement easy-opportunity bike/pedestrian improvements | As funding allows, construct bike/ped improvements where minimal grading is required (as noted in this report). | - | - | All North Fulton Cities | - |
| - | - | Include bike/pedestrian amenities on all roadway projects | Ensure bicycle and pedestrian amenities are included on all major roadway improvements, to the degree that they are feasible. | - | - | All North Fulton Cities | - |
| Transit Recommendations | | | | | | | |
| - | MC* | Revision of local MARTA routes between activity centers | Work with MARTA to discuss changes to the existing local bus routes in North Fulton to better service key activity centers (fiscally constrained). | - | - | All North Fulton Cities | - |
| - | MC | Focus on land use mix and densities around proposed transit stations. | Begin discussions among North Fulton Cities and transit providers (MARTA, GRTA) regarding future transit locations and potential transit-oriented development, particularly along GA 400 and the regionally significant corridors. | - | - | All North Fulton Cities | MARTA, GRTA |
| Vehicular Recommendations | | | | | | | |
| VH101 | 1 | Capacity Improvements to Abbotts Bridge Road (SR 120) | Conduct formal traffic study and conceptual design to establish operational improvements, right-of-way implications, and to assess public opinion. | RTP (first phase) | GDOT | Johns Creek | Gwinnett County |
| VH111 | 1 | Capacity Improvements to Kimball Bridge Road | | RTP (first phase) | GDOT | Johns Creek | Alpharetta |

* Multi-County

North Fulton TRIP - Five Year Action Plan

| Proj # | Tier | Project Name | Action Item (5-year) | Currently in TIP or RTP | Sponsor | Jurisdiction Champion | Coordinate with |
|---------------|------|---|--|-------------------------|---------------|-------------------------|--------------------------------------|
| VH103 | 1 | Capacity Improvements to Arnold Mill Road (SR 140) | Conduct formal traffic study and conceptual design to establish operational improvements, right-of-way implications, and to assess public opinion. Projects can be phased for Right-of-Way acquisition and Construction, but the four projects should be studied in unison because of their interaction with each other. | RTP (first phase) | GDOT | Milton | Roswell, Alpharetta, Cherokee County |
| VH104 | 1 | Capacity Improvements to Rucker Road | | No | Alpharetta | Alpharetta | Milton, Roswell, Cherokee County |
| VH107 | 1 | Capacity Improvements to Hardscrabble Road | | No | Roswell | Roswell | Milton, Alpharetta, Cherokee County |
| VH110 | 1 | Capacity Improvements to Houze Road | | RTP (first phase) | GDOT | Roswell | Milton, Alpharetta, Cherokee County |
| VH105 | 1 | Capacity Improvements to Atlanta Street (SR 9) | Complete design, pursue Right-of-Way and Construction phases. | TIP (partial) | Roswell | Roswell | - |
| VH108 | 1 | Capacity Improvements to McGinnis Ferry Road | Work with GDOT and Forsyth County to advance Preliminary Engineering and Right-of-Way phases. | TIP / RTP (first phase) | GDOT | Alpharetta, Johns Creek | Forsyth County |
| VH109 | 1 | Capacity Improvements to Hammond Drive | Advance Preliminary Engineering and potentially Right-of-Way acquisition. | No | Sandy Springs | Sandy Springs | - |
| VH204 / VH205 | 2 | Improvements to the Holcomb Bridge Road Corridor, including but not limited to interchange redesign, construction of the Big Creek connection, etc. | Conduct Holcomb Bridge Road Corridor / GA 400 interchange study to assess recommended improvements to the system along Holcomb Bridge Road between Warsaw Road and Holcomb Woods Parkway. | TIP | Roswell | Roswell | - |

North Fulton TRIP - Five Year Action Plan

| Proj # | Tier | Project Name | Action Item (5-year) | Currently in TIP or RTP | Sponsor | Jurisdiction Champion | Coordinate with |
|--|------|--|---|--|--|--|---|
| Access Management Recommendations | | | | | | | |
| - | - | Corridor Studies of 3 regionally significant corridors: | Conduct corridor studies of the three regionally significant corridors to determine specific recommendations such as medians, frontage or backage roads, interparcel connectivity, driveway consolidation, etc. | - | - | - | - |
| | | - Arnold Mill (SR 140) / Rucker Road / Old Milton Parkway (SR 120) / State Bridge Road | | No | GDOT | Milton, Roswell, Alpharetta, Johns Creek | Cherokee County, Gwinnett County |
| | | - Holcomb Bridge Road (SR 140) / Crossville Road (SR 92) | | No | GDOT | Roswell | Johns Creek, Gwinnett County, Cobb County |
| | | - SR 9 | | No | GDOT | Sandy Springs, Roswell, Alpharetta, Milton | City of Atlanta, Forsyth County |
| - | - | Develop Overlay Ordinances for 3 regionally significant corridors: | In conjunction with studying the three primary corridors, the Cities should jointly develop overlay ordinance language to be used consistently along the corridors. | - | - | - | - |
| | | - Arnold Mill (SR 140) / Rucker Road / Old Milton Parkway (SR 120) / State Bridge Road | | No | Milton, Roswell, Alpharetta, Johns Creek | Milton, Roswell, Alpharetta, Johns Creek | Cherokee County, Gwinnett County |
| | | - Holcomb Bridge Road (SR 140) / Crossville Road (SR 92) | | No | Roswell | Roswell | Johns Creek, Gwinnett County, Cobb County |
| | | - SR 9 | No | Sandy Springs, Roswell, Alpharetta, Milton | Sandy Springs, Roswell, Alpharetta, Milton | City of Atlanta, Forsyth County | |

North Fulton TRIP - Five Year Action Plan

| Proj # | Tier | Project Name | Action Item (5-year) | Currently in TIP or RTP | Sponsor | Jurisdiction Champion | Coordinate with |
|---|------|--|--|----------------------------|-------------------------|-------------------------|---|
| ATMS Recommendations | | | | | | | |
| - | - | ATMS study for all North Fulton | Perform a concentrated ATMS study to understand existing conditions of the current systems and to develop a plan to develop and to guide future coordination. | No (only corridor studies) | All North Fulton Cities | All North Fulton Cities | Adjacent Counties |
| Transportation Demand Management Recommendations | | | | | | | |
| - | - | Determine level of investment desired for TDM Strategies | Successful implementation of TDM strategies will require on-going dedicated staffing and resources. The Coordination Committee should determine what level of investment the Cities would like to jointly make for TDM implementation. | No | All North Fulton Cities | All North Fulton Cities | All North Fulton Cities |
| - | - | Select which TDM strategies are appropriate for implementation | Once a level of investment and resources has been established, the Coordinating Committee should implement strategies provided in this report such as: <ul style="list-style-type: none"> ◆ Working with employers to implement teleworking and flex working programs, increase transit ridership, carpooling, walking, and cycling incentives and availability ◆ Working with schools to improve school bus ridership, develop schoolpool programs, and improve efficiency of pick-up and drop-off operations | No | All North Fulton Cities | All North Fulton Cities | North Fulton CID, Perimeter CID, Fulton County Schools, Local Private Schools, Local Employers, Clean Air Campaign, RideSmart |
| - | - | Develop TDM Specific 5 year action plan | A detailed five year action plan should be developed based on availability of resources and programs selected for implementation. This program should assign responsibilities and set measurable goals. | No | All North Fulton Cities | All North Fulton Cities | North Fulton CID, Perimeter CID, Fulton County Schools, Local Private Schools, Local Employers, Clean Air Campaign, RideSmart |

North Fulton TRIP - Five Year Action Plan

| Proj # | Tier | Project Name | Action Item (5-year) | Currently in TIP or RTP | Sponsor | Jurisdiction Champion | Coordinate with |
|--------|------|--|--|-------------------------|-------------------------|-------------------------|---|
| - | - | Perform baseline TDM Survey to Measure Program Performance | Based on programs selected for implementation, existing conditions should be documented using employer and school surveys. This will provide necessary information to evaluate program performance and determine which investments have been successful and which programs should be adjusted or eliminated. | No | All North Fulton Cities | All North Fulton Cities | North Fulton CID, Perimeter CID, Fulton County Schools, Local Private Schools, Local Employers, Clean Air Campaign, RideSmart |



PROJECT IMPLEMENTATION MONITORING

In 2008, five cities within North Fulton signed a Memorandum of Agreement (MOA) to formalize their interest in developing a regionally significant, cross-jurisdictional transportation plan. The MOA served as a legally binding agreement, documenting the roles and responsibilities of each of the five Cities, ARC, Mountain Park, and the Community Improvement Districts (CIDs). Because no other formal umbrella organization exists to coordinate these Cities, the MOA was an effective tool for organized communication and cooperation.

Following the adoption of the North Fulton TRIP by each of the six Cities within North Fulton, it is recommended that a new MOA be developed for the implementation of the plan. ARC is amenable to staying involved and helping to foster communication between the Cities moving forward. The recommended MOA, to be developed by the Cities in conjunction with ARC, should address the following provisions and protocols:

Committee Structure

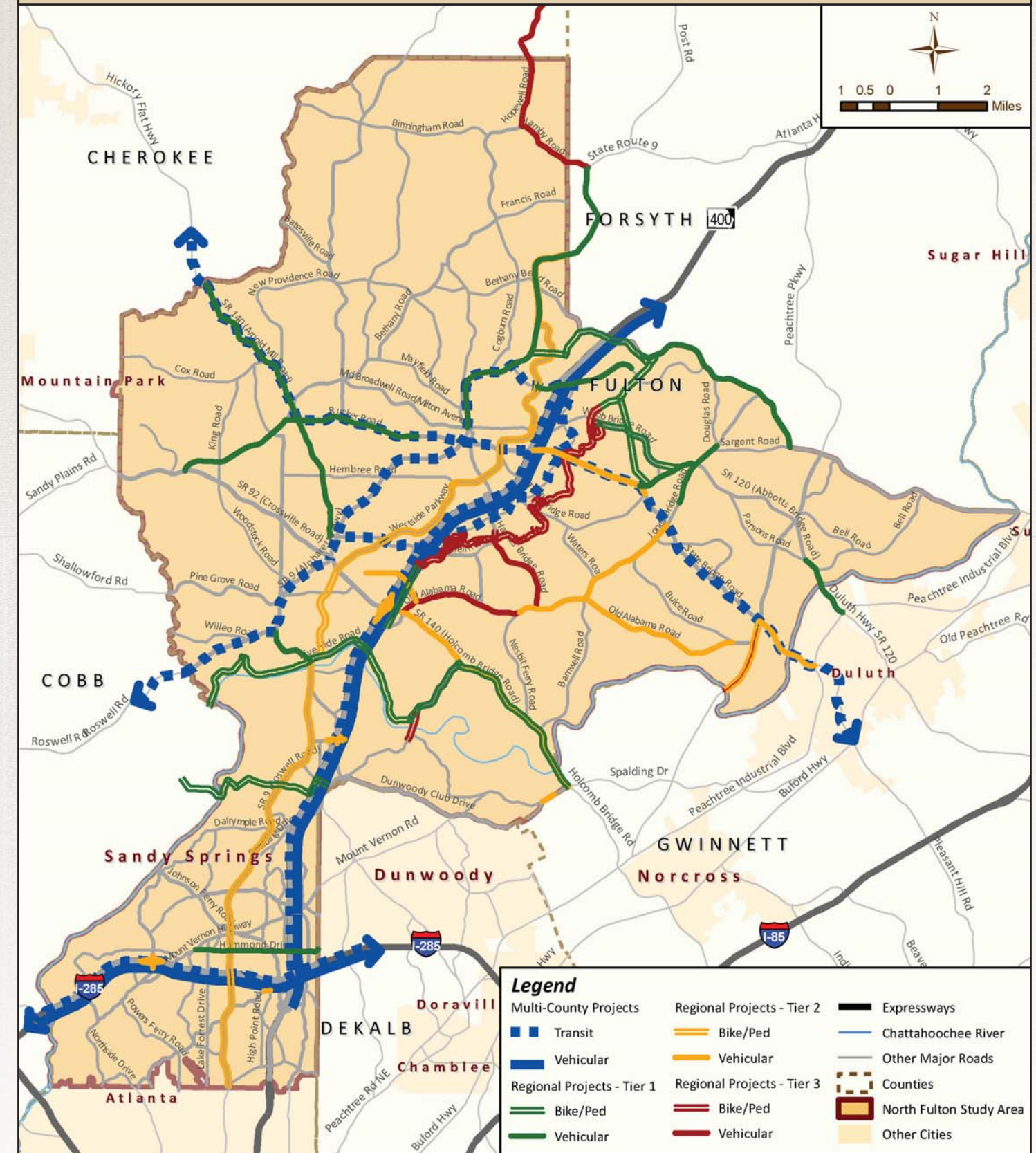
- ◆ Assign staff from each of the Cities and ARC to serve on a Coordination Committee (most likely the current members of the Project Management Team)
- ◆ Determine meeting frequencies and types (for example, conference calls once a month with in-person meetings occurring quarterly)
- ◆ Determine whether or not an administrative city needs to be selected as was established in the original MOA and what purpose they would potentially serve

Goals of the Coordination Committee

- ◆ Determine protocol for allowing modifications to the adopted CTP by one or more of the Cities
- ◆ Determine how formal decisions will be made by the Mayors and City Councils relative to cross-jurisdictional transportation projects and policies
- ◆ Determine key priorities for advancing projects (using the Action Plan as a guide)
- ◆ Determine teaming between Cities and coordination with other Cities, Counties, CIDs, etc.
- ◆ Set implementation milestones for recommended projects from the CTP that are included in the TIP and RTP
- ◆ Determine funding priorities and new funding opportunities that the Cities can consider jointly
- ◆ Coordinate land use decisions along corridors / boundaries and work together to develop access management overlay districts
- ◆ Coordinate implementation of TDM strategies
- ◆ Coordinate key studies: access management, ATMS, project corridor studies, etc.
- ◆ Initiate transit conversations with MARTA, GRITA, or other relevant operators
- ◆ Coordinate discussions on combined transportation demand management strategies
- ◆ Conduct before / after studies of key corridors to assess the results of implemented projects

North Fulton All Projects Recommended

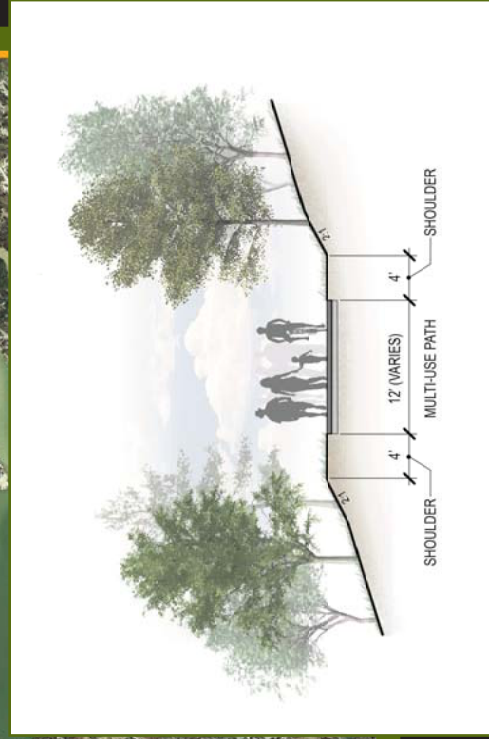
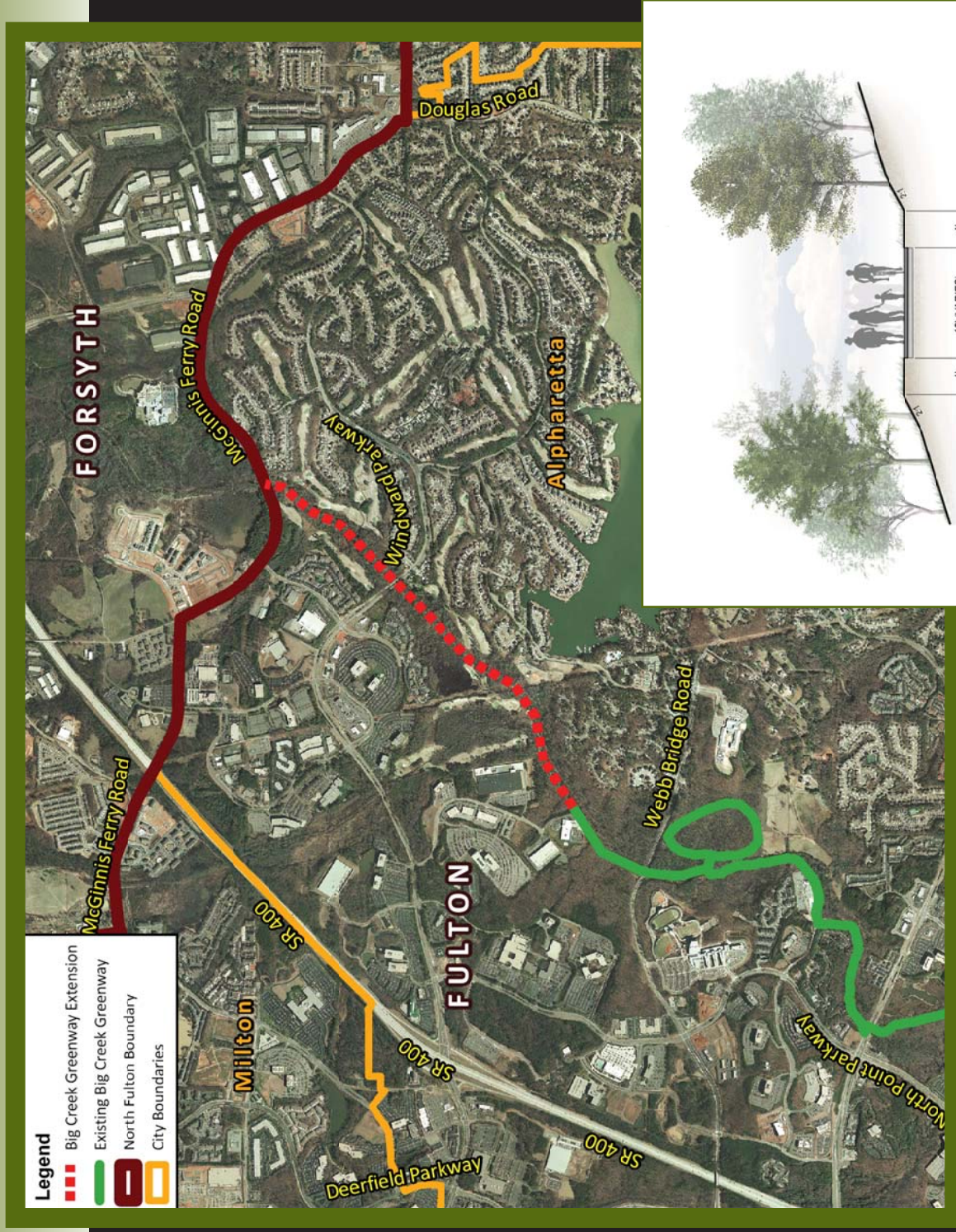
October 2010





APPENDIX

Big Creek Greenway Connection to Forsyth County



North Fulton

TRANSPORTATION RESOURCE IMPLEMENTATION PROGRAM

- Alpharetta
- Johns Creek
- Milton
- Atlanta Regional Commission
- Mountain Park
- Roswell
- Sandy Springs
- Kimley-Horn and Associates, Inc.



Project Type:

Off-Road Multi-Use Trail

Project Description:

Connect Big Creek Greenway at Marconi Drive (currently under construction) to Forsyth County's trail system with off-road multi-use trail

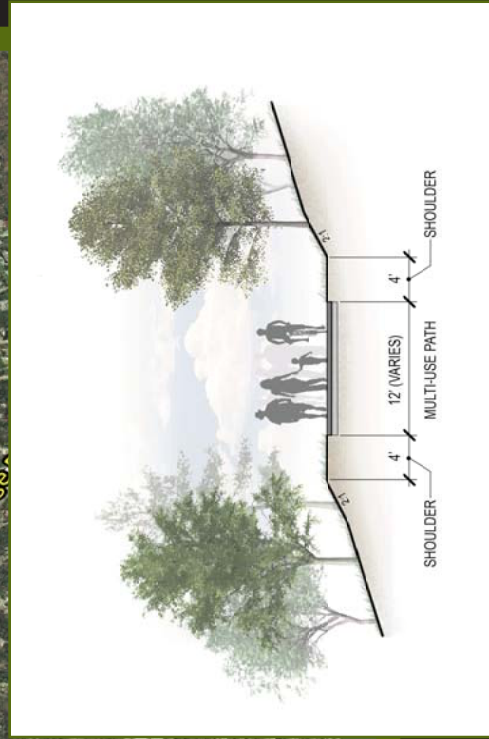
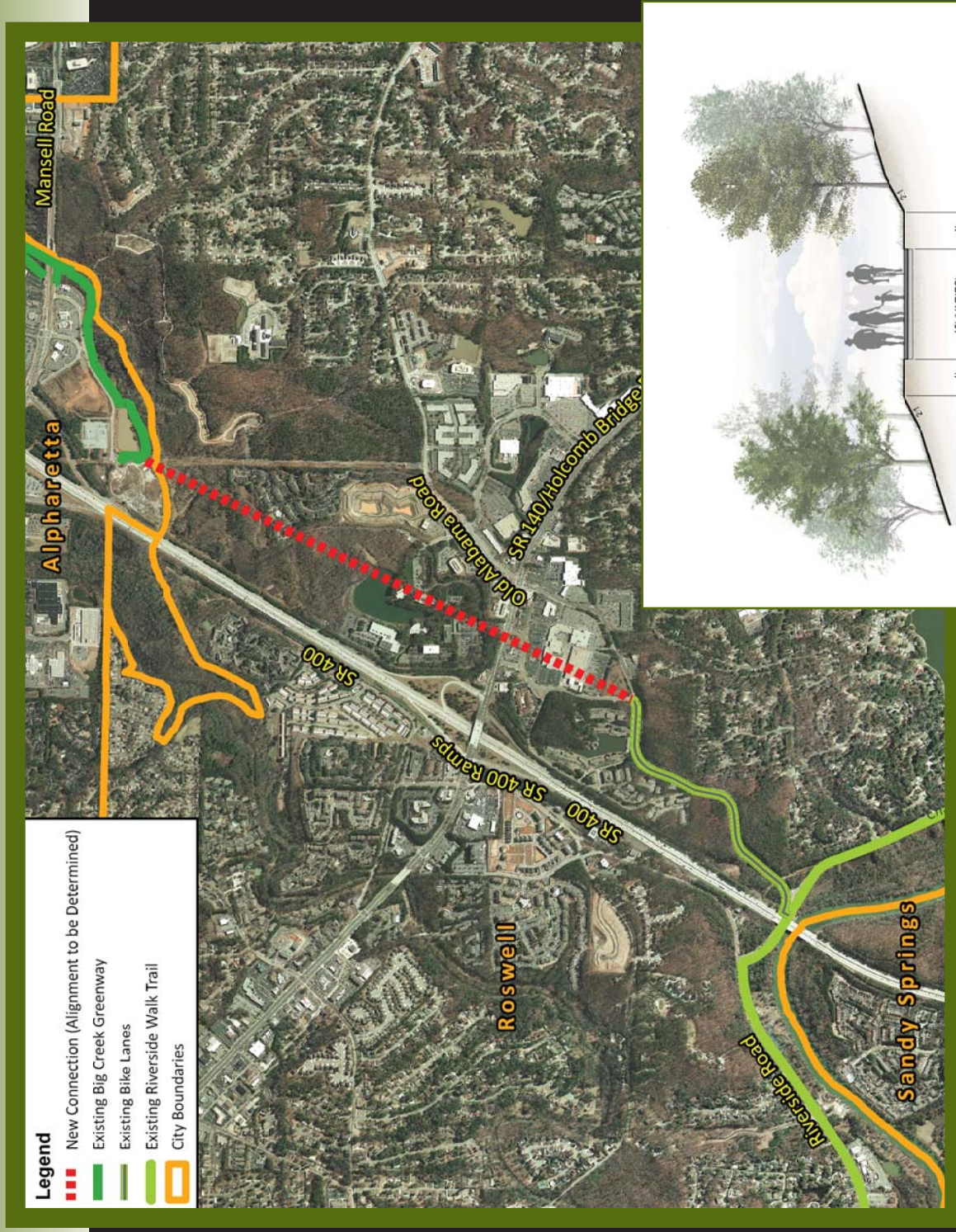
Calculated Cost:

\$10,000,000

Notes:

- Route alignment may change depending on constraining factors
- Trail width may vary between 10 and 14 feet

Big Creek Greenway Connection to Chattahoochee River Walk



North Fulton

TRANSPORTATION RESOURCE IMPLEMENTATION PROGRAM

- Alpharetta
- Johns Creek
- Milton
- Atlanta Regional Commission
- Mountain Park
- Roswell
- Sandy Springs
- Kimley-Horn and Associates, Inc.



Project Type:

On or Off-Road Multi-Use Trail

Project Description:

Connect Big Creek Greenway to Roswell's Chattahoochee River Walk along Riverside Drive via existing bike lanes along Old Alabama Road south of Holcomb Bridge Road. Grade separation at Holcomb Bridge Road preferred. Alignment not yet determined. May consist of on or off-road facilities.

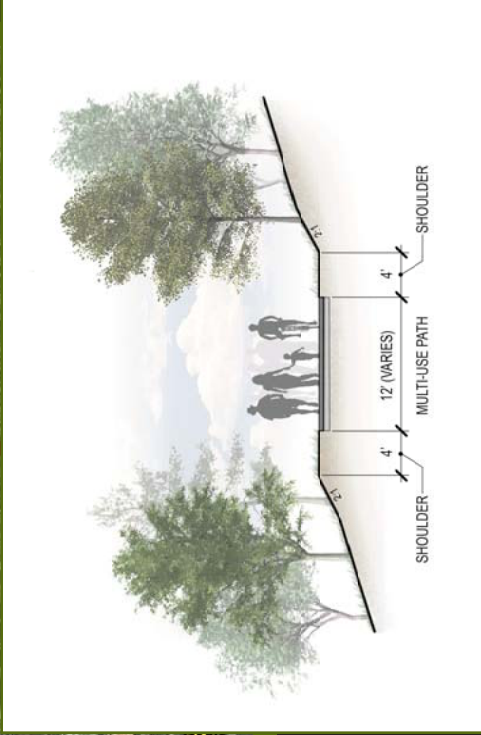
Calculated Cost:

\$4,000,000

Notes:

- Route alignment may change depending on constraining factors
- Off-road trail width may vary between 10 and 14 feet

Morgan Falls/Power Easement Multi-Use Trail



Project Type

On or Off-Road Multi-Use Trail

Project Description:

Construct a multi-use trail within power line easement from Lower Roswell Road in Cobb County, crossing the Chattahoochee River with a new bridge, through Morgan Falls Park, east to Colquitt Road, north to Pitts Road - Project to link to other on-road bike facilities, including to trails within the City of Dunwoody

Calculated Cost:

\$16,000,000

Notes:

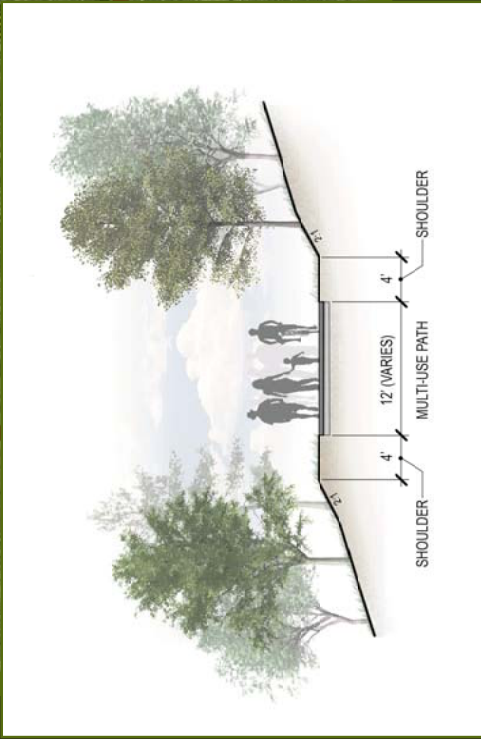
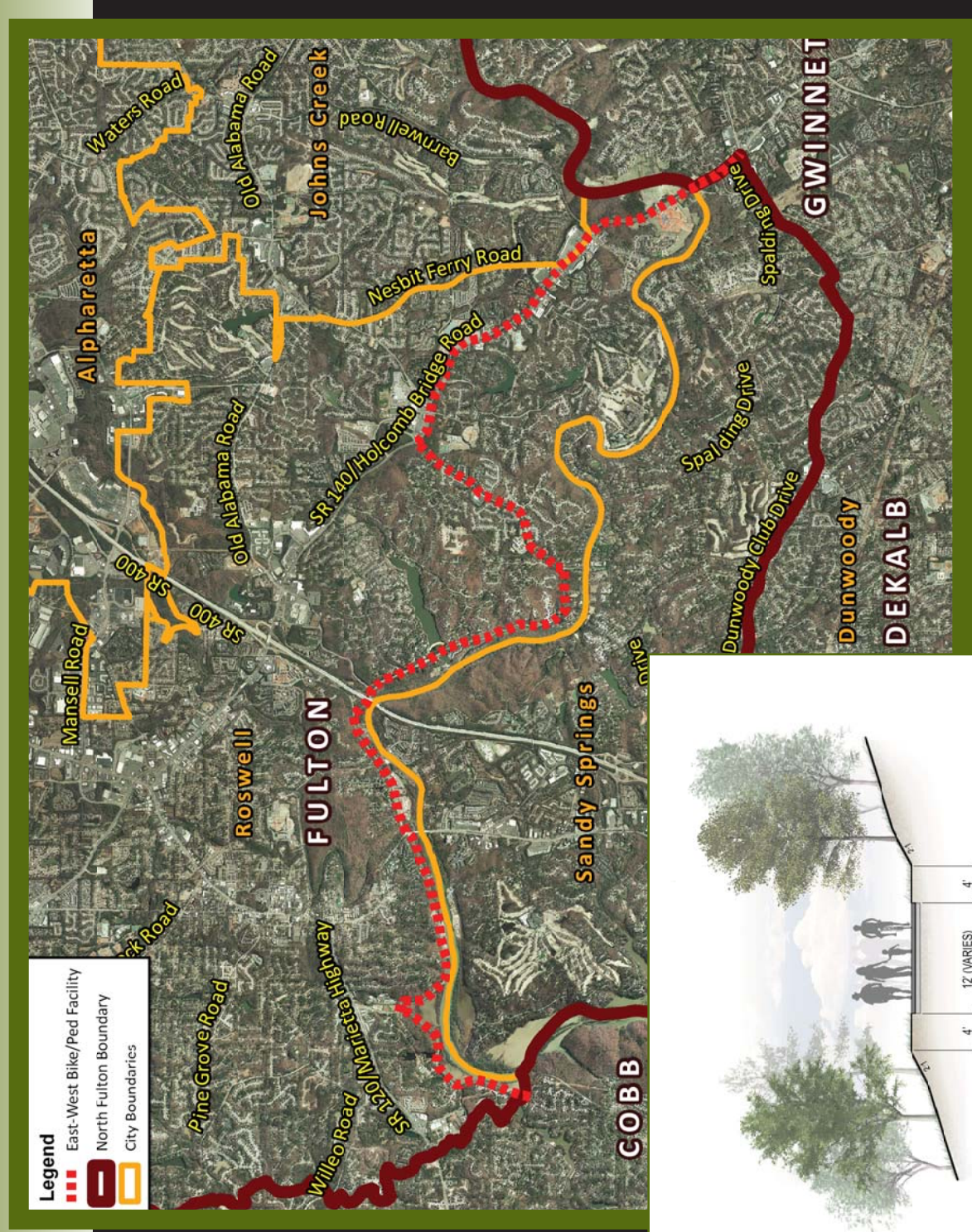
- Route alignment may change depending on constraining factors
- Off-road trail width may vary between 10 and 14 feet



North Fulton TRANSPORTATION RESOURCE IMPLEMENTATION PROGRAM

- Alpharetta
- Johns Creek
- Milton
- Atlanta Regional Commission
- Kimley-Horn and Associates, Inc.
- Mountain Park
- Roswell
- Sandy Springs

East-West Bicycle and Pedestrian Facility



Project Type

On or Off-Road Multi-Use Trail

Project Description:

Enhance bike and pedestrian facilities along Riverside Road. Add an on-road multi-use trail (side path) along Eves Road and Holcomb Bridge Road creating a complete east-west bike/pedestrian route through North Fulton

Calculated Cost:

\$6,000,000

Notes:

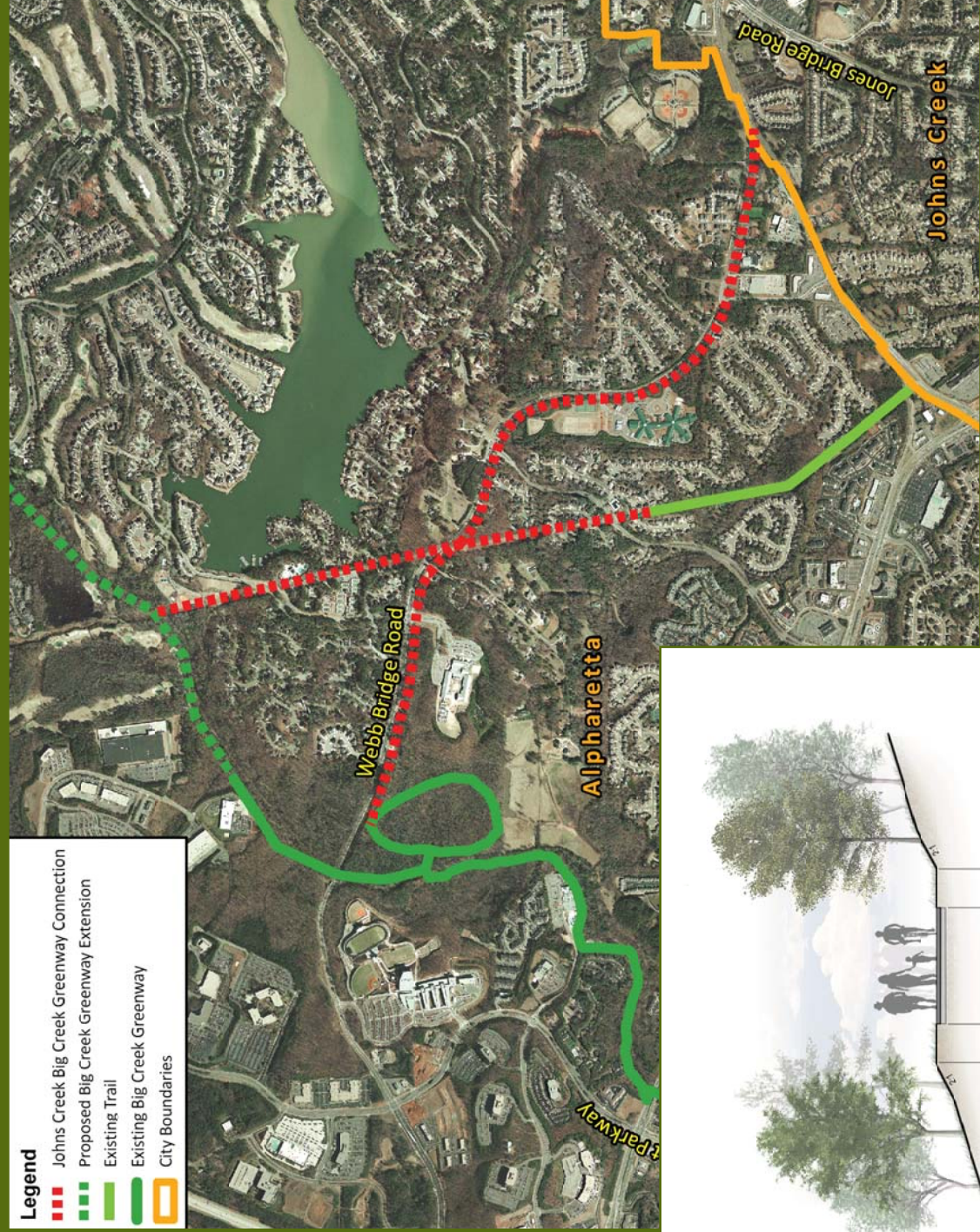
- Route alignment may change depending on constraining factors
- Off-road trail width may vary between 10 and 14 feet



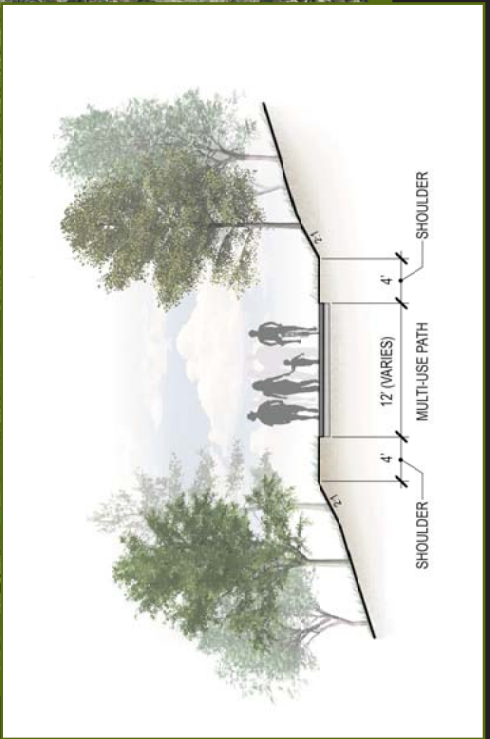
North Fulton TRANSPORTATION RESOURCE IMPLEMENTATION PROGRAM

- Alpharetta
- Johns Creek
- Milton
- Atlanta Regional Commission
- Kimley-Horn and Associates, Inc.
- Mountain Park
- Roswell
- Sandy Springs

Johns Creek Connection to Big Creek Greenway



- Legend**
- Johns Creek Big Creek Greenway Connection
 - Proposed Big Creek Greenway Extension
 - Existing Trail
 - Existing Big Creek Greenway
 - City Boundaries



Project Type

On and Off-Road Multi-Use Trail

Project Description:

Connect Johns Creek to the Big Creek Greenway with an on-road side path along Webb Bridge Road and with an off-road multi-use trail along an existing power line easement

Calculated Cost:

\$6,000,000

Notes:

- Route alignment may change depending on constraining factors
- Off-road trail width may vary between 10 and 14 feet



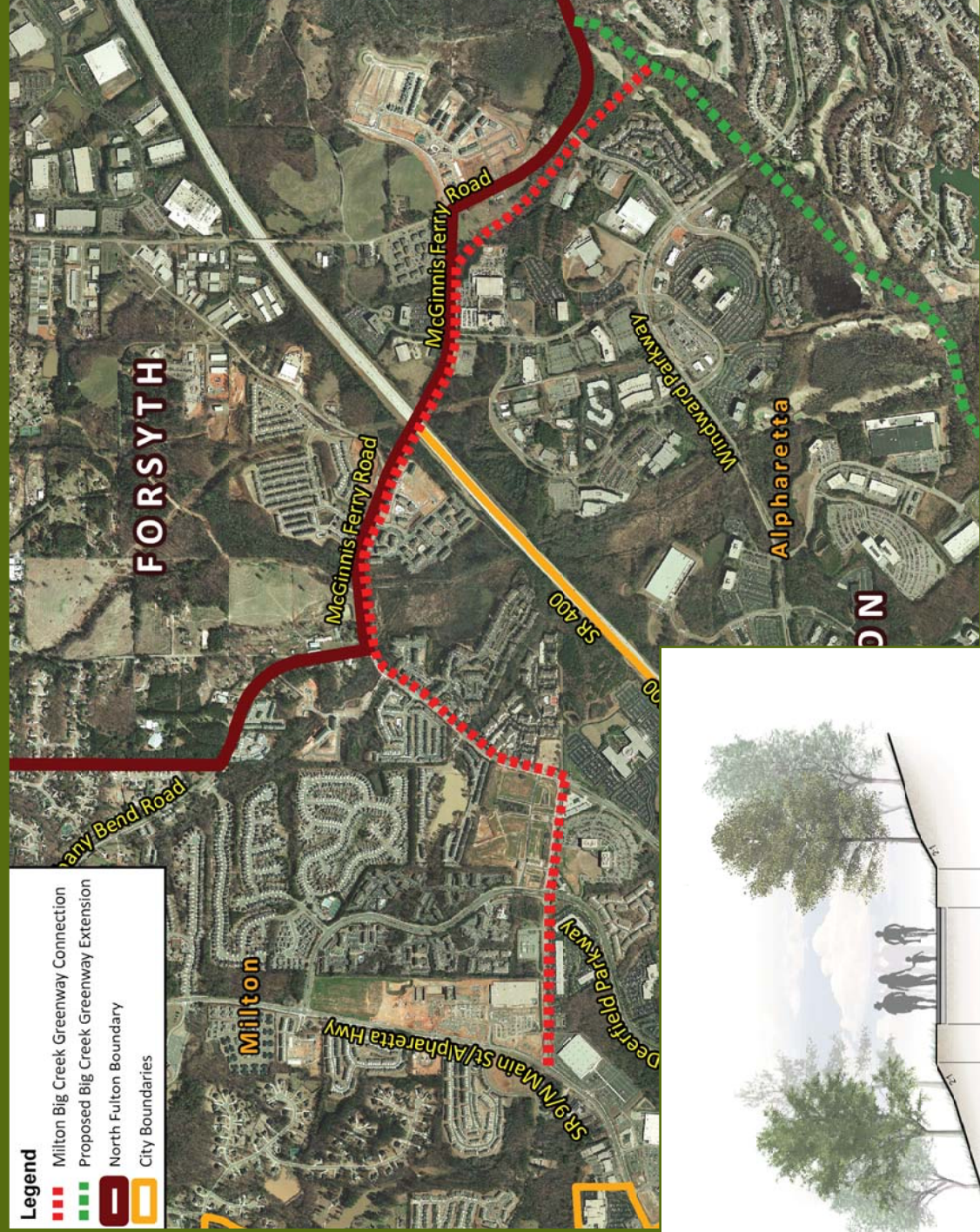
North Fulton

TRANSPORTATION RESOURCE

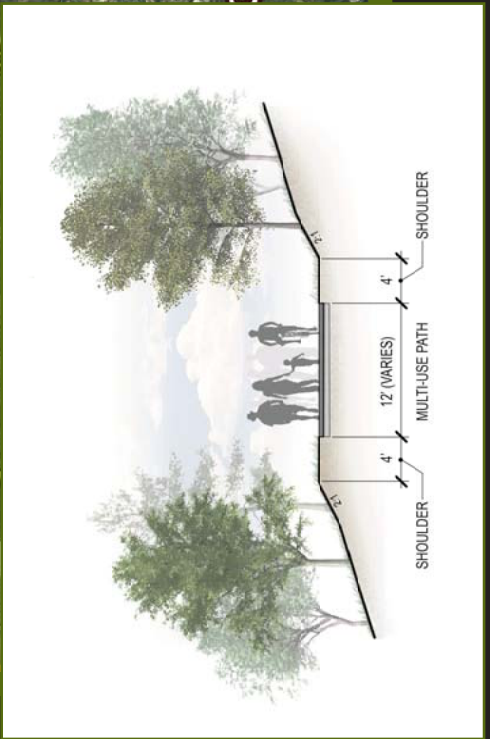
IMPLEMENTATION PROGRAM

- Alpharetta
- Johns Creek
- Milton
- Atlanta Regional Commission
- Mountain Park
- Roswell
- Sandy Springs
- Kimly-Horn and Associates, Inc.

Milton Connection to Big Creek Greenway



- Legend**
- Milton Big Creek Greenway Connection
 - Proposed Big Creek Greenway Extension
 - North Fulton Boundary
 - City Boundaries



Johns Creek Connection to Big Creek Greenway

On or Off-Road Multi-Use Trail

Project Description:

Connect Milton to the Big Creek Greenway along Webb Road, Morris Road, McGinnis Ferry Road and through Union Hill Park. Construct as off-road multi-use trail where possible

Calculated Cost:

\$10,000,000

Notes:

- Route alignment may change depending on constraining factors
- Off-road trail width may vary between 10 and 14 feet



North Fulton

TRANSPORTATION RESOURCE

IMPLEMENTATION PROGRAM

- Alpharetta
- Johns Creek
- Milton
- Atlanta Regional Commission
- Mountain Park
- Roswell
- Sandy Springs
- Kimly-Horn and Associates, Inc.

Abbotts Bridge Road (SR 120)



Project Type:
Roadway Widening

Project Description:
Widen to 4 lanes and add median from Parsons Road (east of Medlock Bridge Road) to Peachtree Industrial Boulevard (including bicycle and pedestrian improvements)

Calculated Cost:
\$28,000,000

Notes:

- 5' sidewalk and buffer may vary
- 5' bike lanes may be replaced with multi-use sidepath
- Median width may vary

North Fulton

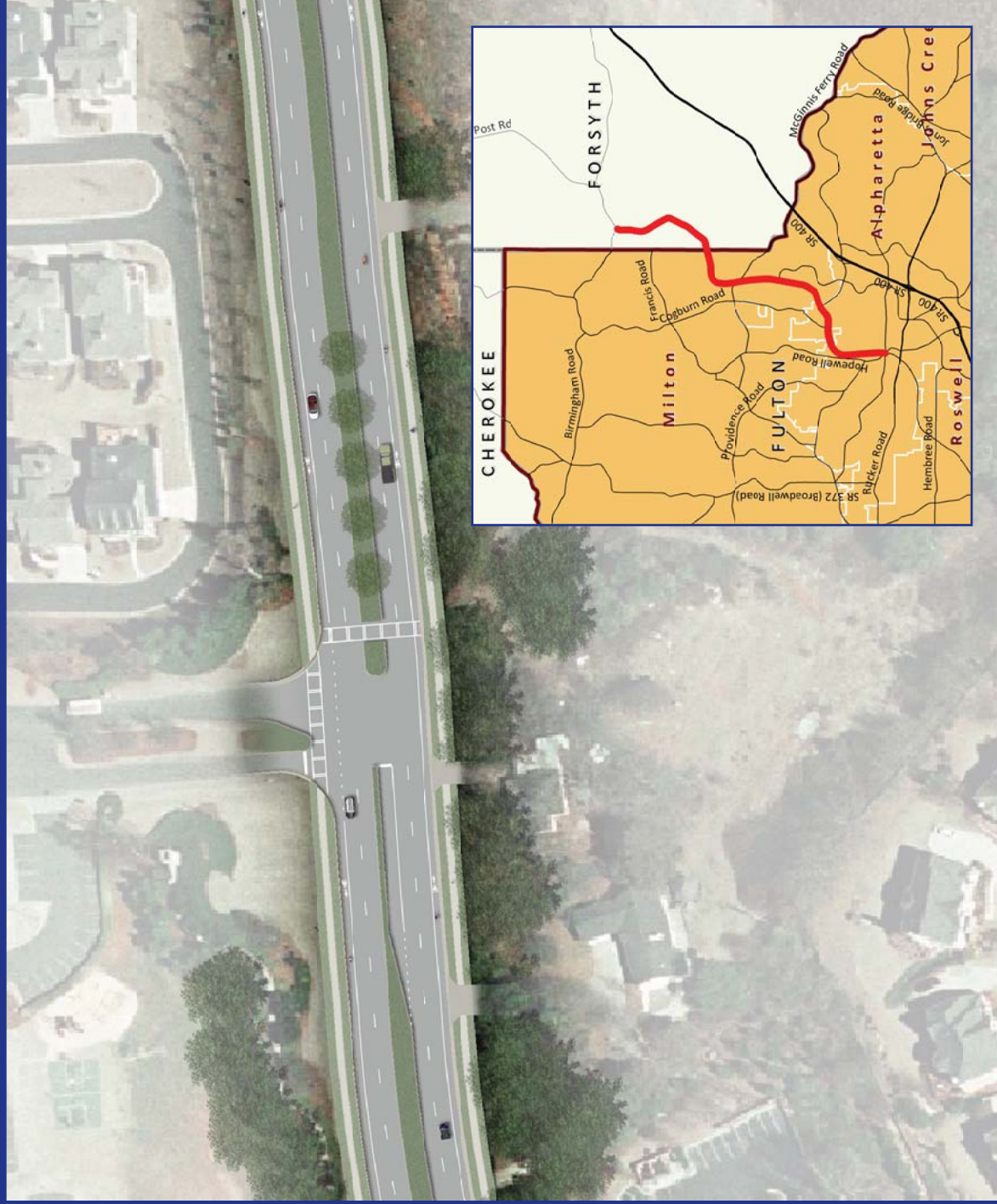
TRANSPORTATION RESOURCE

IMPLEMENTATION PROGRAM

- Alpharetta
- Johns Creek
- Milton
- Atlanta Regional Commission
- Mountain Park
- Roswell
- Sandy Springs
- Kimley-Horn and Associates, Inc.



Main Street/Cumming Highway (SR 9)



Project Type:

Roadway Widening

Project Description:

Widen to 4 lanes and add median from Hamby Road in Forsyth County to Academy Street (includes bicycle and pedestrian improvements)

Calculated Cost:
\$119,000,000

Notes:

- 5' sidewalk and buffer may vary
- 5' bike lanes may be replaced with multi-use sidepath
- Median width may vary

North Fulton

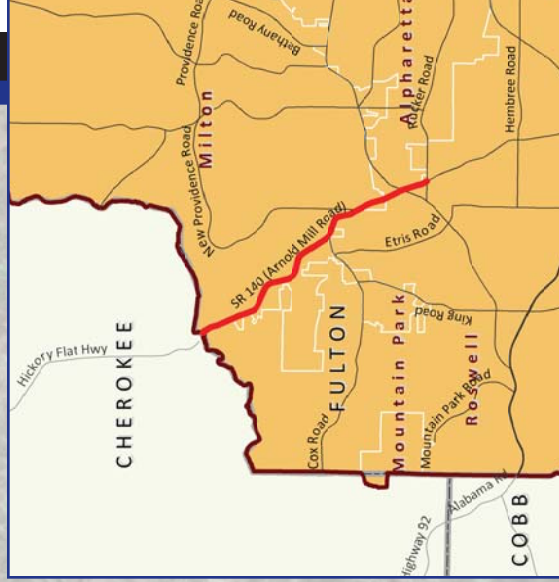
TRANSPORTATION RESOURCE

IMPLEMENTATION PROGRAM

- Alpharetta
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Arnold Mill Road (SR 140)



Project Type:
Roadway Widening

Project Description:
Widen to 4 lanes and add median from Cherokee County to Rucker Road (includes bicycle and pedestrian improvements)

Calculated Cost:
\$46,000,000

Notes:

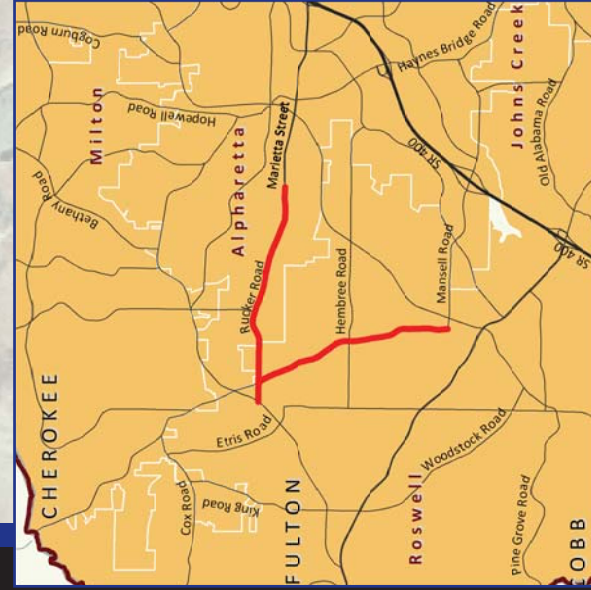
- 5' sidewalk and buffer may vary
- 5' bike lanes may be replaced with multi-use sidewalk
- Median width may vary



**North Fulton
TRANSPORTATION RESOURCE
IMPLEMENTATION PROGRAM**

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Houze Road (SR 140) and Rucker Road



Project Type:
Operational/Access Improvements

Project Description:
Enhance Rucker Road to become a divided two-lane cross-section with a grass swale median and turn lanes from Hardscrabble Road to Wills Road. Enhance Houze Road (SR 140) to become a divided two-lane cross-section with a grass swale median and turn lanes from Rucker Road to Mansell Road. These improvements should be implemented prior to the widening of Arnold Mill (SR 140). Includes bicycle and pedestrian improvements.

Calculated Cost:
\$36,000,000

Notes:

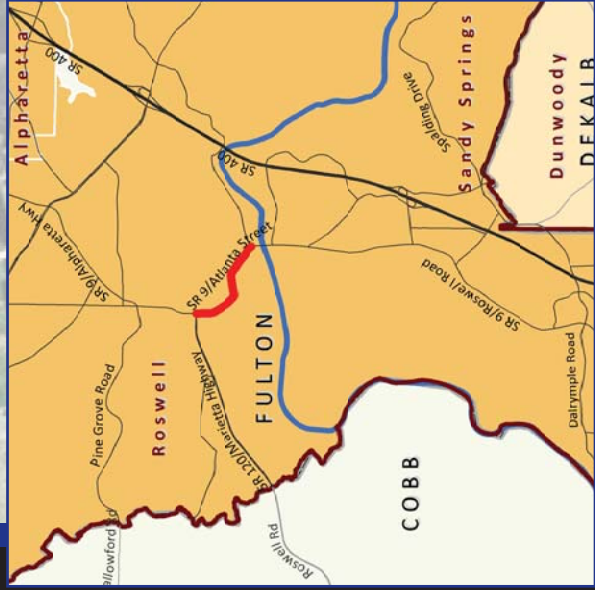
- 5' sidewalk and buffer may vary
- 5' bike lanes may be replaced with multi-use sidewalk
- Median width may vary



**North Fulton
TRANSPORTATION RESOURCE
IMPLEMENTATION PROGRAM**

- Alpharetta
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Atlanta Street (SR 9)



Project Type:

Roadway Widening

Project Description:

Remove reversible lanes from Marietta Highway to Riverside Road/Azalca Drive and widen to 4 lanes; Includes 2 roundabouts (at Jones Drive and King Street/Chattahoochee Street)

Calculated Cost:

\$12,000,000

Notes:

- 5' sidewalk and buffer may vary
- Bike facilities provided will vary based on right-of-way constraints
- Median width may vary
- Does not include new bridge at Vickery Creek or grade separation of intersection with Riverside Road/Azalca Drive)

North Fulton

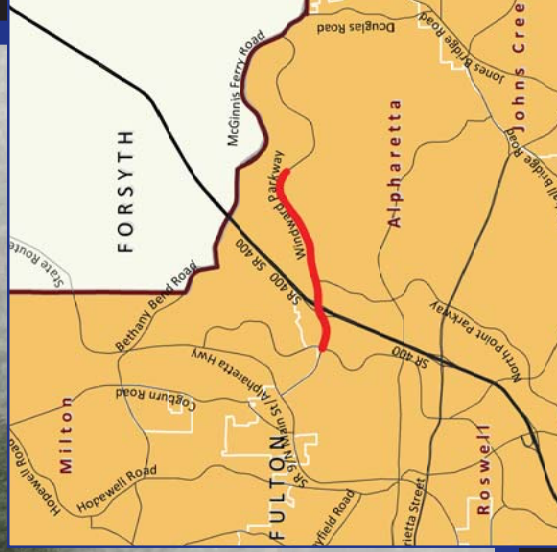
TRANSPORTATION RESOURCE

IMPLEMENTATION PROGRAM

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Windward Parkway



Project Type:

Roadway Widening

Project Description:

Widen to 6 lanes from Deerfield Parkway to Union Hill Road (includes bicycle and pedestrian improvements)

Calculated Cost:

\$40,000,000

Notes:

- 5' sidewalk and buffer may vary
- 5' bike lanes may be replaced with multi-use sidepath
- Median width may vary

North Fulton

TRANSPORTATION RESOURCE

IMPLEMENTATION PROGRAM

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Hardscrabble Road



Project Type:

Operational/Access Improvements

Project Description:

Enhance facility to become a divided two-lane cross-section with a grass swale median and turn lanes from SR 92 to Crabapple Road (includes bicycle and pedestrian improvements)

Calculated Cost:

\$16,000,000

Notes:

- 5' sidewalk and 5' buffer may vary
- Potential 10' sidepath on one side
- 5' bike lanes may be excluded in lieu of sidepath



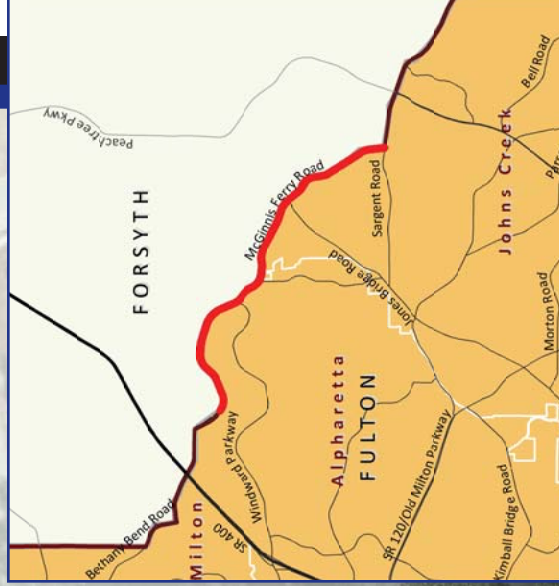
North Fulton

TRANSPORTATION RESOURCE

IMPLEMENTATION PROGRAM

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McGinnis Ferry Road



Project Type:

Roadway Widening

Project Description:

Widen to 4 lanes and add median from Union Hill Road to Sargent Road (includes bicycle and pedestrian improvements)

Calculated Cost:

\$57,000,000

Notes:

- 5' sidewalk and buffer may vary
- 5' bike lanes may be replaced with multi-use sidepath
- Median width may vary



North Fulton

TRANSPORTATION RESOURCE

IMPLEMENTATION PROGRAM

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Hammond Drive



Project Type:
Roadway Widening

Project Description:

Widen to 4 lanes from Roswell Road (SR 9) to Glenridge Drive and widen to 6 lanes from GA 400 to the DeKalb County border. Install bicycle lanes and sidewalks on both sides where widening occurs. Infill gaps in existing sidewalk from Mount Vernon Highway to Roswell Road (SR 9) and Glenridge Drive to GA 400 to create a continuous sidewalk network.

Calculated Cost:
\$29,000,000

Notes:

- 5' sidewalk and buffer may vary
- 5' bike lanes may be replaced with multi-use sidepath
- Median width may vary



North Fulton TRANSPORTATION RESOURCE IMPLEMENTATION PROGRAM

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Kimball Bridge Road (SR 120)



Project Type:
Roadway Widening

Project Description:

Widen to 4 lanes and add median from Old Milton Parkway (SR 120) to Jones Bridge Road (includes bicycle and pedestrian improvements)

Calculated Cost:
\$21,000,000

Notes:

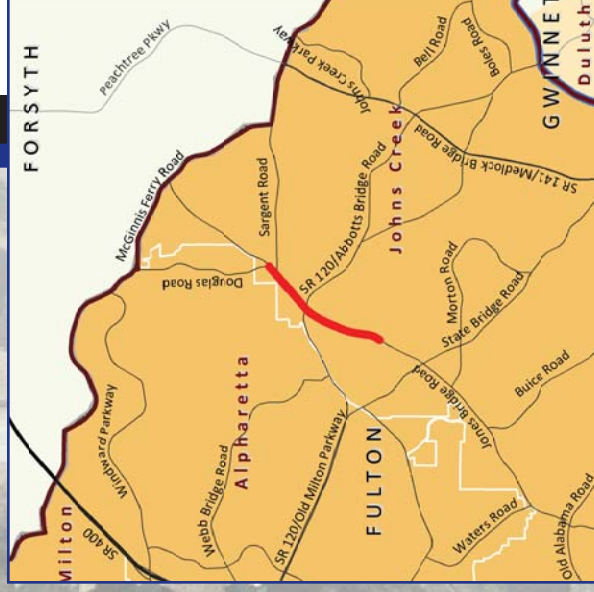
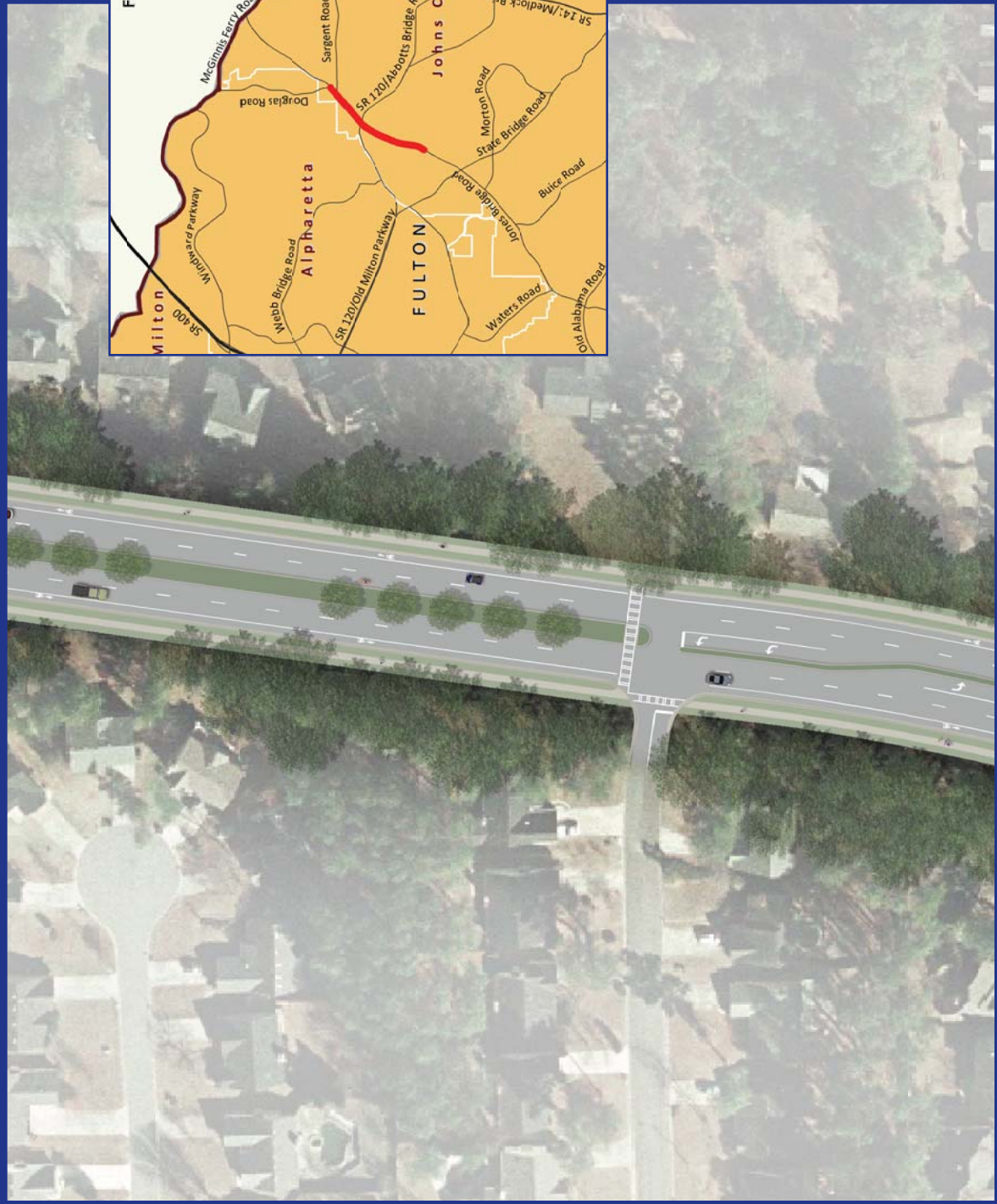
- 5' sidewalk and buffer may vary
- 5' bike lanes may be replaced with multi-use sidepath
- Median width may vary



North Fulton TRANSPORTATION RESOURCE IMPLEMENTATION PROGRAM

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Jones Bridge Road



Project Type:

Roadway Widening

Project Description:

Widen to 4 lanes from Taylor Road to Douglas Road (includes bicycle and pedestrian improvements)

Calculated Cost:

\$28,000,000

Notes:

- 5' sidewalk and buffer may vary
- 5' bike lanes may be replaced with multi-use sidepath
- Median width may vary



North Fulton

TRANSPORTATION RESOURCE

IMPLEMENTATION PROGRAM

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- Mountain Park
- Roswell
- Sandy Springs
- Atlanta Regional Commission

▪ Kimley-Horn and Associates, Inc.

