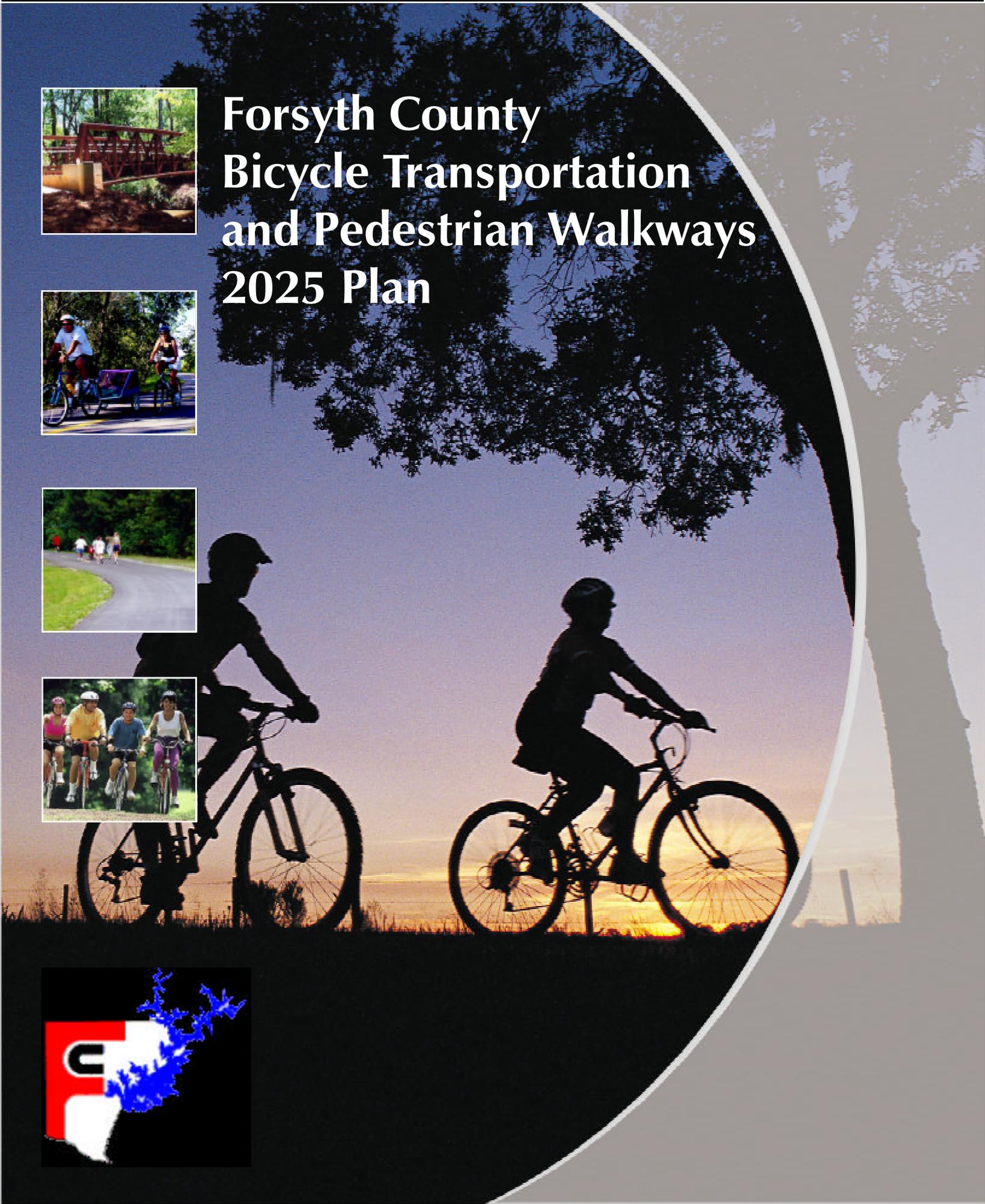


Forsyth County Bicycle Transportation and Pedestrian Walkways 2025 Plan



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Table of Contents

| | |
|------------------------|--|
| Executive Summary..... | 4 |
| Section 1 | Introduction..... 8 |
| 1.1 | Forsyth County Bicycle and Pedestrian Plan Task Force..... 8 |
| 1.2 | Public Involvement..... 9 |
| 1.2.1 | Coordination..... 10 |
| 1.2.2 | Outreach..... 11 |
| 1.2.3 | Involvement..... 12 |
| 1.2.4 | Measures of Effectiveness..... 13 |
| Section 2 | Existing Conditions.....15 |
| 2.1 | Federal Strategy Implementation Analysis.....15 |
| 2.1.1 | Mainstreaming Non-motorized Transportation..... 16 |
| 2.1.2 | General Funding Requirements.....16 |
| 2.1.3 | Safety.....17 |
| 2.1.4 | Streamlining Implementation Procedures.....17 |
| 2.1.5 | Recommendations..... 18 |
| 2.2 | Current Trends..... 18 |
| 2.2.1 | Benefits of a Bicycle and Pedestrian Transportation Plan..... 19 |
| 2.2.2 | Regional, State and National Trends..... 19 |
| 2.2.3 | Local Trends..... 22 |
| 2.2.4 | Within Forsyth County..... 24 |
| Section 3 | Strategic Planning Process..... 27 |
| 3.1 | Bicycle and Pedestrian Planning in Relation to the Larger Land Use, Transportation and Environmental Planning Framework..... 27 |
| 3.1.1 | Local Land Use Planning..... 27 |
| 3.1.2 | Regional Planning..... 28 |
| 3.1.3 | Statewide Planning..... 29 |
| 3.2 | Bicycle and Pedestrian issues within the Political and Technical Environments..... 30 |
| 3.2.1 | Technical Environment..... 30 |
| 3.2.2 | Political Environment..... 32 |
| Section 4 | Goals, Objectives and Strategies..... 35 |
| Section 5 | Alternatives Analysis..... 41 |
| 5.1 | Best Practices for Bicycle and Pedestrian Facility Design..... 41 |
| 5.1.1 | Cyclists and Pedestrians..... 41 |
| 5.1.2 | Facility Descriptions..... 43 |
| 5.1.3 | Motorist/Pedestrian Conflicts..... 48 |

| | | |
|-----------|--|----|
| | 5.1.4 Congestion Analysis..... | 48 |
| Section 6 | Plan Recommendations..... | 56 |
| | <i>By Facility Type.....</i> | 56 |
| | <i>Short, Mid, Long Term Priorities.....</i> | 64 |

List of Tables

| | | |
|---------|---|----|
| Table 1 | Generalized Level of Service ¹ | 51 |
| Table 2 | Planned Transportation Projects for Congested Roadways..... | 52 |

List of Figures

| | |
|----------|--------------------------------------|
| Figure 1 | Proposed Bicycle and Pedestrian Plan |
| Figure 2 | Roadway Facility Types |
| Figure 3 | 2000 Average Daily Traffic Counts |
| Figure 4 | Level of Service |

Appendices

Appendix A

- Facility Type A – Signed Shared Roadway
- Facility Type B – Bicycle Friendly Shoulder
- Facility Type C – Bike Lane
- Facility Type D – Local Sidewalk
- Facility Type E – Multi-Use Path/Arterial Sidewalk
- Facility Type F - Greenway

¹ 1998 Level of Service Handbook, Florida Department of Transportation



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Executive Summary

Currently, Forsyth County is in the final stages of updating their Comprehensive Transportation Plan (CTP) to guide their current and future efforts regarding roadway enhancements throughout the County. In a similar effort, the County desired to develop a Bicycle Transportation and Pedestrian Walkways Plan (Bicycle and Pedestrian Plan) to guide their efforts regarding the proliferation of these facilities in the County. The Plan development effort was coordinated with information contained in the CTP. The Plan development process specifically consisted of the following:

- Establishment of a Bicycle and Pedestrian Task Force;
- Development of a Countywide vision statement regarding the Plan;
- Reviewing the Federal guidance with respect to developing Bicycle and Pedestrian plans;
- Incorporating task force comments and federal guidance into the development of goals, objectives and strategies;
- Development of a public involvement plan;
- Summarizing existing conditions and current trends as the baseline for future planning;
- Developing performance measures to analyze future progress towards goal attainment;
- Identifying issues and opportunities for plan implementation and developing key strategies;
- Identifying potential projects consistent with the County CTP and a congestion analysis; and
- Selecting alternative projects
- Prioritizing and costing potential projects.

The process was completed in eight months due to the consistent work effort of County staff and the Bicycle and Pedestrian Task Force members.

Task Force Compilation

The Task Force personnel were appointed by the County and represented an array of different perspectives. Inclusion of personnel from the Departments of Engineering, Parks and Planning assured project coordination with other County efforts. Moreover, both private and homeowner interests were also represented. Below are the Task Force member representatives who met on a monthly basis to review all work products and whose input was invaluable to the final product:

National Parks: Wallace Britian

Corps of Engineers: Russ Lundstrom, Ranger

Keep Forsyth County Clean and Beautiful: Diana Dean

Forsyth County Department of Engineering: Tim Allen

Forsyth County Dept. of Planning and Development: Jeff Watkins

Forsyth County Parks and Recreation Board: Catherine Ferrugia

Georgia Department of Transportation: Brent Cook

Forsyth County Board of Commissioners: Marcie Kreager

Chamber of Commerce: Kenneth Flanagan

Hedgewood Properties: Pam Sessions

Forsyth County Department of Parks and Recreation: Jim Brennan

Forsyth County Federation of Homeowners: Richard Spreen

Existing Conditions

The Task Force was presented with extensive information regarding existing conditions in an effort to establish a baseline for future planning. A current trends report was produced, which highlighted the history of bicycle and pedestrian planning in the region. The majority of these planning efforts have been concentrated in the Atlanta Regional Commission (ARC) jurisdiction. Performance measurement criteria used in past ARC efforts was documented for use and consideration by the Task Force. The

current trends report also detailed State, local and Georgia Mountains Regional Development Center efforts in bicycle and pedestrian planning. Lastly, federal guidance available to local jurisdictions for bicycle and pedestrian planning efforts were documented and presented to the Task Force as a guide for the Forsyth County planning effort.

Based on the Task Force's understanding of these issues, a public involvement plan tailored to Forsyth County was developed. The public involvement plan included the development of a project web page linked directly to the County's home page. The web page provided a public input survey to assist the Task Force in identifying important issues to address during the planning process. The web page was also key to receiving public input regarding the process and alternative projects recommended.

Strategic Planning

Once a baseline condition of available resources was established to the County, the Task Force finalized goals, objectives and strategies to meet the County's vision. The vision statement reads as follows:

"To foster the development of an interconnected network of bicycle and pedestrian facilities that meets Forsyth County's future transportation mobility, serves recreation needs, promotes alternative means of transportation, and enhances the County's overall quality of life"

The goals, objectives and strategies identified were based on an analysis of various issues. One was the relation of bicycle and pedestrian planning in the larger land use, transportation and environmental framework existing in the region, as well as locally. The other was the relation of bicycle and pedestrian planning to the existing political and technical environments

both in the region and locally. It was recognized that, although Forsyth County is not in the ARC jurisdiction, some of the same land use, technical and political issues affecting ARC will impact the County in the future. Therefore, the Task Force agreed to proactively address these issues in their plan development. Specific challenges and opportunities were identified within Forsyth County's environmental, land use and political context with respect to bicycle and pedestrian planning. The strategies developed for the Forsyth Plan were intended to take advantage of existing opportunities and to overcome the obstacles and challenges identified.

Alternatives Analysis

As indicated in the information compiled for the Plan development, there are few existing and proposed bicycle and pedestrian facilities in Forsyth County. Similarly, very few local jurisdictions adjacent to Forsyth County have existing and proposed bicycle and pedestrian facilities. Therefore, the process for selecting alternatives was a true beginning for Forsyth County and the surrounding area. Information regarding employment density, population density, destinations, and the location of public facilities was used as a base for selecting alternatives. Moreover, prior to selecting alternatives, the Task Force was presented with various available typical sections that represented best practices for bicycle and pedestrian facility design. In reviewing these typical sections, the Task Force agreed that only certain facilities would be applicable to Forsyth County. A specific type of facility was recommended as the alternatives were selected. Considerations included in the process of selecting the alternatives are listed below.

- Adjacent local plans, including the GDOT Statewide Plan, were secured to assure connectivity was maximized to areas outside of Forsyth County;

- Park's Department future plans were identified;
- Greenspace program plans were identified;
- Known utility and water/sewer easements were considered;
- Mapping was produced depicting employment density by Census Tract;
- Mapping was produced depicting population density by Census Tract;
- Mapping was produced depicting the location of all schools, parks, public facilities and points of interest;
- Proposed developments were reviewed and considered;
- Proposed roadway improvement plans were considered for potential bicycle and pedestrian opportunities;
- Potential connections to enhance the development of a network were considered; and
- Input was received from local bike groups regarding preferred travel routes and/or bicycle touring routes.

In addition, a Congestion Analysis report was produced to assist in selecting alternatives. The report included an analysis of congested roadway facilities in the County, a determination of whether the CTP addressed improvements on these roadways, and a recommendation that bicycle and pedestrian facilities be implemented, as a congestion mitigation solution, in conjunction with these road improvements. In this manner, the improvement would not only address vehicle congestion but would also address bicycle and pedestrian needs. Alternative routes to the congested facilities

were also considered for potential parallel bicycle and pedestrian facility construction.

Ultimately a Draft 2025 Bicycle Transportation and Pedestrian Walkways Plan was produced from the alternatives analysis. Input was received from the public regarding the draft. Opportunities for input included the web site and a public meeting. Several changes and additions were made to the draft plan in response to public input and the result is the 2025 Bicycle Transportation and Pedestrian Walkways Plan depicted on Figure 1.

Plan Recommendations

Based on public input and additional analysis, a list of recommended projects was finalized. The Task Force prioritized the list in terms of implementation schedules. Short-term improvements were identified as those that could be completed in 1-5 years, Mid-term improvements in 5-10 years and Long-term improvements in 11 years or more. The prioritization of projects included considerations regarding the type of project, the coordination of the project with roadway improvement schedules, constructability and funding issues. For instance a low cost signing and marking project could be implemented in the short term, whereas, a new multi-use facility requiring right-of-way acquisition and funding identification in order to build would be long term. Cost estimates for the plan recommendations were developed and used in the prioritization process.

The Plan recommendations are generalized as follows:

| | <u>Approximate Miles</u> | <u>Approximate Cost</u> |
|---------------------------|--------------------------|-------------------------|
| Greenway | 29 miles | \$ 30,800,000 |
| Multi-Use Path | 34 miles | \$ 35,300,000 |
| Sidewalk | 60 miles | \$ 20,432,750 |
| Bicycle Friendly Shoulder | 16 miles | \$ 3,308,000 |
| Signed Shared Roadway | 58 miles | \$ 303,100 |
| Pedestrian Crossing | 8 Total Crossings | \$ 344,000 |
| Total | 197 Miles | \$ 90,487,850 |

Section 1. Introduction

Forsyth County is located in the north central part of Georgia and contains approximately 247 square miles. The County is bordered by Gwinnett and Fulton counties on the south, Cherokee County on the west, Dawson County on the north and Hall County to the east. Forsyth County is the home of Lake Lanier, constructed in 1957 by the Corps of Engineers, which is the most visited Corps recreational lake in the country. The City of Cumming is the county seat and the only incorporated area. The City is responsible for government services and activities within their limits.

Since 1980, Forsyth County has ranked as one of Georgia's fastest growing counties, with an overall growth rate of over 200 percent. The 1999 Census Bureau estimates Forsyth County's population at 96,686. This estimate is a 119 Percent increase since 1990, making the county the 24th largest in the State. The rapid growth rate will continue as the adjacent Atlanta metropolitan area expands to the north. The Counties growth is not only measured by their population increase, but also by their employment base increase, land development, transportation infrastructure needs, community facility needs (schools, parks etc.) and general overall quality of life needs. Because Forsyth County is in close proximity to the Atlanta metropolitan area, air quality has also become a quality of life issue pertinent to the County's growth and development. The County is officially included in the 13 county non-attainment area for clean air as designated by the Environmental Protection Agency. Therefore, transportation infrastructure needs for the County are modeled by the Atlanta Regional Commission, which is the designated local planning agency for the Atlanta 10 County region. However, the County continues to be the responsible agency for meeting their own growth and

development needs and has undertaken several efforts in this regard.

For example, a new Comprehensive Transportation Plan has been developed to guide future transportation investment decisions. The County's Land Development Code has recently been updated with progressive regulations to meet the challenging land development growth needs. Additionally, an aggressive Parks Master Plan has been developed which includes plans for acquiring greenspace as part of the Governor's greenspace initiative. Lastly, the County has been instrumental in the development of the Bicycle Transportation and Pedestrian Walkways Plan to guide development of these facilities now and until the year 2025. This document outlines, in detail, the process undertaken to develop the plan.

1.1 Forsyth County Bicycle and Pedestrian Plan Task Force

The first step in the development of the plan was the creation of a Task Force with representatives from different County departments and from the community. The Task Force's contributions were essential throughout the project process. The Task Force met on a monthly basis, reviewed all work products, made substantial changes to the work products based on their specific knowledge, coordinated departmental efforts, participated in the alternatives analysis and strategic planning process for project selection, and disseminated critical information in their respective areas. The Task Force members appointed by the County were identified in the Executive Summary.

The Task Force's initial step was to establish a vision statement for the development of the Bicycle and Pedestrian Plan. This vision statement was then supported by a series of goals, objectives

and strategies that are compiled in Section 4 of the plan. The agreed upon vision statement for the plan is as follows:

Foster the development of an interconnected network of bicycle and pedestrian facilities that meets Forsyth County's future transportation mobility, serves recreation needs, promotes alternative means of transportation, and enhances the County's overall quality of life.

The Task Force's next step was to develop a public involvement plan that could be implemented at the onset of the project through its completion. The Task Force was considered a key link for the dissemination of information to the public and the respective interests they represented.

1.2 Public Involvement Plan

The Forsyth County Bicycle Transportation and Pedestrian Walkways Plan was developed to address and plan for increased bicycle and pedestrian facilities in and around Forsyth County. In order to ensure that it is supported throughout the County, an intensive public involvement process was implemented. Public involvement ensures that the public is a partner in the process of determining strategies to be undertaken by a government entity where there are multiple and competing needs. The purpose of the Public Involvement Plan was to create a Forsyth County Bicycle Transportation and Pedestrian Walkways Plan that meets countywide needs and is feasible to implement. The Public Involvement Plan was a framework for all activities taken toward involving the public in the Bicycle Transportation and Pedestrian Walkways Plan, from development of goals and objectives to the selection of projects.

Though Forsyth County is not bound by federal legislation to include a certain level

of public involvement in the development of long-range transportation plans, they followed the spirit of this overall goal and developed the following Plan. Federal regulations that provided guidance to this plan included the National Environmental Policy Act, Americans with Disabilities Act, and the Transportation Equity Act for the 21st Century. The following goals, as demonstrated in the Forsyth County Transportation Public Involvement Plan, were used as guidelines throughout the process:

- Raise the level of understanding of the transportation planning process in the county and identify how interested citizens can become involved;
- Provide the public with opportunities for involvement in the transportation planning process;
- Maintain timely contact with key stakeholders throughout the process; and
- Identify and involve traditionally underserved communities (those communities with a high concentration of minority, low-income or elderly populations) in the transportation planning process.

Building understanding of and consensus on the goals and policies of the plan was the ultimate goal of the Public Involvement Plan. The initial step in building consensus is creating trust among all stakeholders and the agency responsible for making the final decisions. This trust was built through coordination with stakeholders, as well as outreach and involvement. This plan is tailored to the scope of the project at hand and the effective and widespread public involvement necessary for its success.

The following outlines specific activities undertaken during plan development, including coordination, outreach, involvement and evaluation. Forsyth County staff or Bicycle and Pedestrian Task Force members conducted some of these

activities. PBS&J completed the remaining tasks.

1.2.1 Coordination

The Forsyth County Bicycle and Pedestrian Plan was coordinated with local bicycle and pedestrian group programs, County transportation and recreational master plans, other adjacent county plans and efforts of the Atlanta Regional Commission (ARC), the Georgia Regional Transportation Authority (GRTA), and the Georgia Mountains Regional Development Center (GMRDC).



1. Bicycle and Pedestrian Task Force

The Bicycle and Pedestrian Task Force consists of countywide representatives, nonprofit representatives such as Keep Forsyth County Beautiful and the Forsyth County Federation of Homeowners, and private sector organizations such as Hedgewood Properties. It was created to assist in the development of a Bicycle Facilities and Pedestrian Walkways Plan. This group will continue to meet in an effort to coordinate bicycle and pedestrian planning on a countywide basis. The Bike and Pedestrian Task Force was the primary coordination vehicle because of its nature and its enviable position as a planning team for the development and implementation of the Forsyth County Bicycle and Pedestrian Plan. All aspects of the plan were coordinated and approved by the Task Force.

2. Regional Coordination

In addition to the Bicycle and Pedestrian Task Force, the consultant team coordinated efforts concerning the Bicycle and Pedestrian Plan with other planning efforts at the Georgia Mountains Regional Development Center (GMRDC), Atlanta Regional Commission (ARC) and the Georgia Regional Transportation Authority

(GRTA). Both the GMRDC and ARC are currently updating their Regional Transportation Plans. GRTA is currently working with Citizens Advisory Groups to develop standard designs for bicycle and pedestrian facilities in the region. Coordination took place throughout the process, starting with a review of the bicycle and pedestrian goals and objectives. The consultant team provided an overview of existing and possible methods to coordinate the selection of priority projects with Forsyth County's Comprehensive Transportation Plan.

3. Local Jurisdictions and TMA Initiatives

Several jurisdictions and TMAs within the North Metro Atlanta region have already initiated projects that could impact the Forsyth County Bicycle and Pedestrian Plan. As part of this Public Involvement Plan, these projects were reviewed to ensure regional coordination and inclusion in the Bicycle and Pedestrian Plan. The consultant team provided a summary of these projects, including local comprehensive transportation plans, for the Bicycle and Pedestrian Task Force to review for regional coordination.

4. Local Bicycle and Pedestrian Group Programs

The consultant team and the Task Force provided information about the project, scope, timelines and events for distribution to local groups and other stakeholders. Groups contacted included Bicycle User Groups (BUG) in close proximity to Forsyth County and local bike shops. Coordinating and receiving information from the following groups may help Forsyth County establish their own groups to further the bicycle and pedestrian plan goals:

- BIKECOBB
- North Fulton County BUG
- Bicycle Users in Gwinnett
- Silver Comet Trail BUG

1.2.2 Outreach

Outreach included ongoing notification (newsletters and web sites) of all events related to the study, community forum displays and media outreach. Every effort was made to coordinate outreach activities with existing Forsyth County community meetings and events. The desired end result of all outreach activities was to provide the community segment that was interested in bicycle and pedestrian facilities within the Forsyth County area with the knowledge and education necessary for meaningful involvement.

1. Web Pages/Community Newsletters

Forsyth County developed a Project Specific Web Site (PSWS) for the Bicycle and Pedestrian Plan. The web site is directly linked to the County's home page. Included in the website was a survey of bicycle and pedestrian needs that individuals could e-mail to the County webmaster. This information became very important in the selection and prioritization of projects. In addition to posting the work products during the plan development process, the website included a map of the alternative projects being considered for inclusion in the plan. Individuals were encouraged to submit comments regarding the alternative projects.

Community and organizational newsletters, and their respective web pages, were also used to provide information regarding milestones of the Bicycle and Pedestrian Plan. All announcements of the plan provided information regarding opportunities for public involvement. Following is a list of web pages and newsletters contacted for distribution of information relating to the Forsyth County Bicycle and Pedestrian Plan. This list includes governments and organizations that stated an interest in having links to the Forsyth County Bicycle and Pedestrian Plan on their web site.

Forsyth County - www.forsythcounty.com

Georgia Mountains Regional Development

Center - www.gmrdc.org

Path Foundation - www.pathfoundation.org

PEDS - www.peds.org

Southern Bicycle League, Inc.-

www.bikesbl.org

Georgia Regional

Transportation

Authority -

www.grta.org

Forsyth County News -

www.forsythnews.com

Lake Lanier

Association -

www.lakelanier.org

Cumming-Forsyth Chamber of Commerce -

www.forsythchamber.org

Accessnorthga.com -

www.accessnorthga.com

Federation of Forsyth County Homeowners

- www.forsythco.com



2. Media Outreach

In order to reach the largest segment of the general public as possible, Forsyth County provided direction in terms of media contacts available to reach the community. Media contacts included the *Forsyth County News*, *Gainesville Times*, the *Atlanta Journal and Constitution* and media outlets serving low-income and minority groups and interest groups. The following list of potential media contacts was developed for the distribution of information regarding the Forsyth County Bicycle and Pedestrian Plan. The media was also used to publicize the public meeting held for the project:

Atlanta Journal-Constitution

Gainesville Times
Creative Loafing
Atlanta Daily World
Forsyth County News
Forsyth Herald / Lake Lanier Herald
WWEV Radio
WDUN News/Talk 55
Accessnorthga.com

Additional activities Forsyth County staff pursued with assistance from the consultant team and the Bicycle and Pedestrian Task Force included the following:

- Forsyth County Web Page
 - ? Plan updates
 - ? Survey
- Community/Organization Newsletters
 - ? Cumming-Forsyth Chamber of Commerce
 - ? Leadership Forsyth
 - ? Sawnee Center
- Television Stations
- Athletic Centers
 - ? Lanier Athletic Center
 - ? Gold's Gym
 - ? Lanier 400
 - ? County Park Offices (Sharon Springs Park & Central Park)
- Radio stations
 - ? [WDUN News/Talk 55 \(WGGA AM 1240 & MAJIC 102.9 FM\)](#)
 - ? WCON 99.3 FM/1450 AM
 - ? WKHC
 - ? WNGC
 - ? LAKE 102.3 FM
 - ? WPPL 103.9 FM
 - ? [WMLB AM 1170](#)
- Fliers/Posters
- Bicycle and Pedestrian System Maps for Community
- Organization Newsletters
 - ? Path
 - ? Pedestrians Educating Drivers for Safety (PEDS)
 - ? Southern Bicycle League, Inc
- Bike Shops

- Jurisdictional Bike/Ped Plan Updates
 - ? GMRDC
 - ? ARC
- Pedestrian and Bicycle Related Events
 - ? Relay For Life (annual)
- Local Festivals
 - ? Cumming Country Fair & Festival (annual)
- Holiday Related Promotions and Events
 - ? Fourth of July
 - ? Memorial Day

1.2.3 Involvement

Involvement of the community was achieved through the Bike and Pedestrian Task Force, surveys, a planned public meeting and other avenues identified by the Task Force.

1. Surveys

The consultant developed a web site survey that included questions relevant to planning initiatives. The survey is available to the public on the Forsyth County web site. Questions related to bike and pedestrian use were included in these surveys. The information provided an understanding of local opportunities and challenges facing the community and was presented to the Bike and Pedestrian Task Force for its consideration in the development of the Plan.

2. Public Meetings

A public meeting to receive additional input was held on March 13, 2002. Every effort was made to include information regarding the goals, progress and results of the Bicycle and Pedestrian Plan at this meeting. The consultant provided all display materials for the public meeting, including displays that help portray the project efforts and accurately frame input and involvement opportunities.

1.2.4 Measures of Effectiveness

As with any process, effectiveness of public involvement activities is difficult to measure. However, the consultant team recommended using both *quantitative* and *qualitative* measures as a means to evaluate public involvement activities. *Quantitative* measures are useful in providing information concerning type and level of involvement, as well as the reach across the community. *Qualitative* measures are useful in determining the level of change that has occurred regarding education and awareness of the Bicycle and Pedestrian Plan and the quality of response to this involvement, as well as providing a mechanism to track these changes. In turn, this information was used to correct the type of public involvement forums being used, if they were deemed not effective. Each of these measures relate to the techniques used for public involvement, as well as the goals for public involvement.

1. Quantitative Measures

- Number of opportunities for public involvement;
- Number of community newsletters containing articles on the Bicycle and Pedestrian Plan ;
- Number of bicycle- and pedestrian-related press releases;
- Number of responses to surveys;
- Attendance at public meetings;
- Number of bike/pedestrian projects submitted per year; and
- Requests to add to the bike/pedestrian mailing list.

2. Qualitative Measures

- Quality of public involvement opportunities;
- Public awareness of the Bicycle and Pedestrian Plan;
- Plan changes from public comments;
- Quality of response to public comments;
- Availability of information regarding the Bicycle and Pedestrian Plan; and
- Quality of bicycle and pedestrian projects submitted.

Public Involvement Matrix

Below is a matrix assessing the public involvement efforts of the plan.

| |
|---|
| Number of opportunities for public involvement |
| Facilitated and advertised public meeting that was held March 13, 2002 |
| Distributed over 300 paper fliers advertising participation opportunities to the public |
| |
| Number of community newsletters containing articles on the Bicycle and Pedestrian Plan |
| North Fulton County Bicycle Users Groups (BUG) posted information in the online group newsletter |
| |
| Number of bicycle- and pedestrian-related press releases |
| An article was written in the Forsyth County News about the development of the Bike/Ped Plan |
| A full page article was written in the Forsyth County News about the progress of the Forsyth County Bike/Ped Plan |
| An article was published in the Forsyth County News to advertise the public meeting held March 13, 2002 |
| |
| Number of responses to surveys |
| Twenty surveys were filled out and returned to Forsyth County staff members |
| Approximately forty surveys were filled out on the Forsyth County Bike/Ped Plan web page |
| |

| |
|---|
| Attendance at public meetings |
| Seventeen community members attended the March 13, 2002 public meeting |
| |
| Requests to add to bike/pedestrian mailing list |
| Approximately thirteen requests were made to be added to the Forsyth Bike/Ped Plan mailing list |
| |
| Number of web sites posting link to Forsyth Bike/Ped web site |
| Six regional transportation related organizations posted links to the Forsyth County Bike/Ped Plan web page from their main web sites |
| |
| Public comments in response to the DRAFT Forsyth County Bicycle and Pedestrian Plan |
| 1) Connect Pilgrim Mill sidewalks to two Core parks at end of road, Tidwell Park |
| 2) Construct mountain bike trails in some parks: Sawnee Mtn. |
| 3) Facilitate Lake Lanier Campgrounds for use during winter months |
| 4) Be aware of and take advantage of funding resources and new transportation projects |
| 5) There is an existing lack of sidewalks |
| 6) Construct bike lanes, paved trails, multi-use trails such as with the Silver Comet |
| 7) Develop facilities mainly in Southwest Forsyth |
| 8) Create extension of Big Creek Greenway |
| 9) Construct sidewalks on Castleberry |
| 10) Place street lights along sidewalk areas |
| 11) Place lights in day use areas to be used at night |
| 12) Develop family oriented trails around lake |
| 13) Develop large, safe lanes or facilities around schools, parks and libraries |
| 14) The value and safety of bicycle friendly shoulders is questionable |

Section 2. Existing Conditions

Subsequent to the development of the Task Force, its vision statement and the public involvement plan, it was important to grasp the baseline condition for bicycle and pedestrian planning in Forsyth County. To assist the Task Force in this effort, an analysis of the federal guidance with respect to bicycle and pedestrian planning was presented and a current trends report detailing similar efforts in the region was used to generate potential ideas for Forsyth County's plan development.

2.1 Federal Strategy Implementation Analysis

To develop a successful Forsyth County Bicycle and Pedestrian Plan, which eventually could be substantially funded with federal funds, it was important to review the federal strategies for promoting the use and proliferation of bicycle and pedestrian facilities and the TEA-21 Planning Factors for guidance and compliance. Recommendations that allow Forsyth County to implement their plan consistent with the TEA-21 Planning Factors and federal regulations were developed and incorporated into the plan.

The latest federal guidance on Bicycle and Pedestrian Provisions of the Federal Aid program was issued on February 24, 1999. The following are the federally recommended elements for a statewide or regional bicycle and pedestrian element of the long-range plan. Although these focus on regional and state agencies, it provides an appropriate framework for the development of the Forsyth County plan.

1. Vision and goal statements and network performance criteria;
2. Assessment of current conditions and needs;

3. Identification of activities required to meet the vision and goals developed above;
4. Implementation of bicycle and pedestrian elements into a Regional Transportation Plan (RTP) and a Transportation Improvement Program (TIP);
5. Evaluation of progress; and
6. Public involvement.

The development of the Forsyth County Bicycle and Pedestrian Plan was based on this federal guidance and included each of the federally recommended elements. Furthermore, the development of the Plan will be integrated into the Regional Transportation Planning process, which sets direction for transportation investments, including bicycle and pedestrian facilities. To effectuate this coordination, a copy of the plan document will be submitted to the Georgia Department of Transportation (GDOT) as the designated transportation planning agent for Forsyth County and to the GMRDC.

The plan draft goals and objectives reflect federal guidelines and TEA-21 planning factors. TEA-21 is the Transportation Equity Act for the 21st Century. It is the legislation that authorizes all national transportation funding. The TEA-21 Planning Factors are as follows:

- Increase the accessibility and mobility options available to people and for freight;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;

- Protect and enhance the environment, promote energy conservation and improve quality of life;
- Promote efficient system management and operation;
- Emphasize the preservation of the existing transportation system;
- Support the economic vitality of the metropolitan area, by enabling global competitiveness while increasing productivity and efficiency; and
- Increase the safety and security of the transportation system for motorized and non-motorized users.

TEA-21 states that Metropolitan Planning Organizations (MPO), such as the ARC, are required to plan for “the development and integrated management and operation of transportation systems and facilities (including pedestrian walkways and bicycle transportation facilities) that will function as an intermodal transportation system...” (Section 1203 and 1204 of TEA 21). Although Forsyth County does not have to meet this requirement since it is not an MPO, the county’s Bicycle and Pedestrian Plan development process meets the spirit of the federal legislation. Federal guidance outlines four main themes that should be addressed in the planning, development and construction of all federal aid transportation bicycle and pedestrian projects and programs: the mainstreaming, funding, safety, and implementation of bicycle and pedestrian projects.

2.1.1 Mainstreaming Non-motorized Transportation

The federal guidance strongly encourages bicycle and pedestrian facilities to become the norm rather than the exception in planning, developing and constructing a transportation system. Each project funded

with federal funds should include bicycle and pedestrian facilities, unless they are not permitted. Federal guidance further states that an alternative route on parallel surface streets should be identified and implemented where bicycle and pedestrian use are either prohibited or made incompatible.

The federal guidance outlines many simple and cost-effective ways to integrate non-motorized users into the design and operation of the transportation system. The methods include:

- Providing paved shoulders on new and reconstructed roads;
- Restriping roads (either as a stand alone project or after a resurfacing or reconstruction project) to create a wider outline lane or striped bike lane;
- Building sidewalks and trails, and requiring new transit vehicles to have bicycle racks and/or hooks already installed.

2.1.2 General Funding Requirements

As stated in the federal guidance, “Bicycle and walking contribute to many of the goals for the transportation system we have at Federal Highway Administration (FHWA) and at the state and local levels. Increasing bicycling and walking offers the potential for cleaner air, healthier people, reduced congestion, more livable communities, and more efficient use of precious road space and resources. That is why funds in programs such as Congestion Mitigation and Air Quality Improvement (CMAQ), Transportation Enhancements (TE), and the National Highway System (NHS) are eligible to be used for bicycling and walking improvements that will encourage the use of the two modes.”

All the major transportation funding programs can be used for bicycle and

pedestrian programs, so there is no federal barrier in implementing bicycle and pedestrian projects, either as stand-alone projects or in conjunction with other federally funded transportation projects.

To date NHS funds have only been used once in the Atlanta region for a pedestrian facility that was not included in a road project. CMAQ is currently under a great deal of scrutiny by state and local agencies who might request that the funds be diverted to other modes of transportation, instead of the current funding levels given to bicycle and pedestrian facilities.

Current regional funding levels are not creating a bicycle and pedestrian system that can provide some of the rewards mentioned in the federal guidance. Federal guidance makes it clear that the choice on how to use funds rests with the state; however, there is nothing in TEA-21 or federal transportation legislation that limits the funding, either by the amount or funding category, for bicycle and pedestrian funding.

The one restriction in funding guidance is the requirement that bicycle projects funded in Surface Transportation Program (STP), Congestion Mitigation Air Quality (CMAQ), National Highway System (NHS) or Federal Lands Highway Program be “principally for transportation rather than recreation purposes.” Federal provisions also do not allow motorized vehicle use on trails and pedestrian walkways. This may preclude the funding of “cart paths” that has received federal funding in the past.

Forsyth County must be aware of the federal funding opportunities and restraints as plans are made for a bicycle and pedestrian system. The system will be implemented more quickly if local funds are leveraged with State and Federal dollars.

2.1.3 Safety

The federal guidance states, “We also have a responsibility to improve the safety of bicycling and walking because the two modes represent more than 14 percent of the 41,000 traffic fatalities the nation endures each year...TEA-21 has opened up the Hazard Elimination Program to a broader array of bicycle, pedestrian and traffic calming projects that will improve dangerous locations.” CMAQ, STP and State Community Highway Safety Grant Program funds are also available for non-construction activities or safety programs.

To date the Atlanta region has not used funds from the Safety and Hazard Elimination Program to improve the safety of locations for bicycle and pedestrian use, unless it was combined with other road or intersection improvements. The Atlanta region has committed CMAQ funding to two safety programs: the Effective Cycling Classes offered by the Atlanta Bicycle Campaign and the Walking School Bus Program offered by Pedestrian Educating Drivers for Safety (PEDS). A pedestrian safety campaign was funded and conducted by the City of Atlanta.

Forsyth County included coordination with local organizations to implement educational and safety programs with available federal funds as part of their Bike/Ped Plan goals and objectives.

2.1.4 Streamlining Implementation Procedures

Federal guidance states, “It makes no sense for activities such as crosswalk striping, bicycle parking installation and bike-line marking – which usually require no additional right-of-way and cause no negative environmental impact – to have the same approval process as a multi-lane highway project. States and MPOs are

encouraged to...take any additional steps they can to speed up the implementation of projects that improve conditions for bicycling and walking.”

Currently design for the construction of bicycle facilities and sidewalks could take one year or more and, with the exception of TE projects, goes through the same approval process as multi-lane highway projects.

In prioritizing bicycle and pedestrian projects, Forsyth County assessed the implementation and construction aspects of a project in relation to the need for the project. Immediate safety needs, coordination with imminent road projects and low cost striping projects, were identified for streamlined implementation in the Forsyth plan.

2.1.5 Recommendations

The development of the Forsyth County Bicycle and Pedestrian Plan provided an opportunity to promote and implement federal strategies for the provision of bicycle and pedestrian facilities consistent with the TEA-21 planning factors. The following specific recommendations were included in the development of plan goals and objectives.

- Provide for a safe, convenient and accessible bicycling and pedestrian environment;
- Provide interconnection of bicycle and pedestrian facilities between origin and destination land uses, linking residential and commercial zones, education and employment areas, health care and service centers, natural, cultural and recreation resources;
- Build bicycle and pedestrian planning decisions into every phase of the transportation process, such as planning, construction and maintenance;
- Implement and coordinate bicycle and pedestrian planning goals through the

development review process where feasible;

- Explore maximizing local opportunities to fund bicycle and pedestrian projects in conjunction with other projects/programs; and
- Coordinate bicycle and pedestrian system planning with other countywide efforts such as park and greenway planning

2.2 Current Trends

While recreational cycling is still the primary use of bicycles in this country, people nationwide are recognizing the energy efficiency, cost effectiveness, health benefits, and environmental advantages of bicycling for transportation purposes. Nationwide, communities are organizing bicycle and pedestrian master plans to prepare for the needs of commuters who choose to bicycle and/or walk to work. More funding sources have become available, and bicycle and pedestrian facilities are becoming more popular in the North Georgia Region. Examples of dedicated bicycle and pedestrian corridors within the Region that have become success stories and models for the community include the following:

1. The Silver Comet Trail;
2. The GDOT Statewide Bicycle Network;
3. The Stone Mountain to Atlanta Trail;
4. Alpharetta’s Big Creek Greenway;
5. Powder Springs’ Wildhorse Creek and Lucille Creek Greenways; and
6. Roswell’s Riverside Drive trails and bike lanes.

Many communities are currently planning or constructing additional bicycle and pedestrian corridors that will be opened in the near future. As more and more bicycle

and pedestrian corridors are created, people in Forsyth County will realize the benefits of using these facilities for recreation and for commuting. By wisely planning for, and actively implementing a network of bicycle and pedestrian facilities, Forsyth County will enjoy the benefits of having alternative modes of transportation.

2.2.1 Benefits of a Bicycle and Pedestrian Transportation Plan

The development of a Bicycle and Pedestrian plan is essential to getting the funding secured to build proposed improvements within Forsyth County. However, there are other important benefits that arise from establishing a Bicycle and Pedestrian Plan:

- Connectivity may be provided between schools, parks, libraries and other areas of interest. This connectivity in turn reduces the reliance on the automobile and increases interactions between community members;
- Bicycle and pedestrian facilities will double as recreational amenities, not only serving bicyclists and those who walk, but also for those who run, skate and love nature. The additional recreational outlets will provide the community with an arena for physical activity and the health benefits associated with exercise;
- Groups such as PEDS can work with the County for the purpose of improving pedestrian safety; and
- BUGs can be formed to promote safe cycling.

As Forsyth County continues to grow and as the potential for transit improvements grow, it becomes essential to consider increasing the availability of bicycle and pedestrian facilities along potential future transit routes and between points of interest within Forsyth County. In order to advertise the

benefits of walking and bicycling the following programs were included as strategies for implementation:

1. Educational programs for cyclists, pedestrians, and motorists, to promote safety;
2. Promotional campaign to promote usage of expanded facilities;
3. Programs to enforce laws as they apply to bicycles and pedestrians;
4. Methods to provide safe, clearly designated facilities for bicycles and pedestrians; and
5. Maintenance programs to keep the facilities clear of vegetation and debris.

2.2.2 Regional, State and National Trends

1. Regional

Bicycle and pedestrian transportation became an important issue in the North Georgia Region nearly thirty years ago. In 1973, the ARC adopted a document entitled *The Bicycle: A Plan and Program for its use as a Mode of Transportation and Recreation*. The following were the plan's objectives:

1. Assess current bike trends;
2. Develop a conceptual bike facility plan that identified corridors with the most potential for facilities;
3. Select and evaluate types of facilities;
4. Determine potential funding sources;
5. Research legal constraints to providing facilities;
6. Suggest education and registration to reduce accidents and thievery; and
7. Select a demonstration project to illustrate the utility of facilities.

The report made the following recommendations:

1. Pursue Federal funds to implement these projects;
2. Develop bikeways in more areas, which are coordinated at a regional level;
3. GDOT petition the state legislature for bikeway funds, and
4. Allocate additional staff time at all levels be allocated to bike planning.

In 1979, ARC published a technical memorandum entitled *Bicycle Planning & Implementation in the Atlanta Region*. This document was an evaluation of Atlanta's bicycle and pedestrian transportation facilities.

The next significant development in bicycle and pedestrian transportation planning did not occur until 1991 when the United States Congress adopted the Intermodal Surface Transportation Efficiency Act, also known as ISTEA. This legislation placed new emphasis on bicycle and pedestrian facilities as legitimate transportation options. Higher levels of federal funding were made available for the design and construction of bicycle and pedestrian facilities.

In response to the new emphasis on bicycle and pedestrian planning, ARC created the Bicycle and Pedestrian Planning Task Force in 1992 to assist in the development of a regional Bike/Ped Plan. In 1993, ARC published the *Bicycle Transportation and Pedestrian Walkways Plan* that represented a primary shift in focus to explicitly include pedestrian issues in addition to bike issues. However, the effort fell short because the plan was a compilation of local plans with little regional coordination or cross-jurisdictional integration.

In 1995, ARC published an update to the *Bicycle Transportation and Pedestrian Walkways Plan*. The update focused only on revising the projects in the 1993 plan. The

new plan laid the foundation for the development of the bicycle and pedestrian section of the 2025 RTP.

Although the ARC region's bicycle and pedestrian planning efforts are progressive in comparison to other parts of the State, there are still many safety and funding issues left unresolved. In terms of pedestrian safety, the Atlanta area had the second highest pedestrian fatality rate in the nation. Moreover, due to congestion and air quality problems, bicycle and pedestrian planning in the region has typically not been a priority.

The history of bicycle and pedestrian planning in the ARC region, its successes and shortcomings, is very useful for the development and implementation of Forsyth County's bicycle and pedestrian planning efforts. Forsyth County has not been directly involved in these efforts since it belongs to the GMRDC. The counties in this Regional Development Center include Banks, Dawson, Franklin, Habersham, Hall, Hart, Lumpkin, Rabun, Stephens, Towns, Union and White. Due to the rural nature of the counties in this region, and because the GMRDC has limited funding for transportation planning, little attention has been given to bicycle and pedestrian planning efforts at the regional level. The GMRDC does review Developments of Regional Impact (DRI's), as does ARC, to determine compliance with the regional plans. In this effort, bicycle and pedestrian facilities are generally recommended for inclusion in developments. Moreover, the GMRDC is in the process of updating its RTP, which may include a bicycle and pedestrian element.



In recent years, there has been a greater emphasis on bicycle and pedestrian mobility at the regional scale. Non-motorized transportation has become a more legitimate transportation alternative to the single occupancy vehicle (SOV) in the North Georgia area. New attitudes, more funding, and better planning are helping to shape a friendlier atmosphere for those who chose to use bike lanes and sidewalks as an alternative form of transportation.

2. State

GDOT has also established a new set of policies and mindset that is more bicycle and pedestrian friendly. The State's Bicycle Coordinator works with all counties and RDCs to maximize and coordinate facility construction. In the case of Forsyth County, the Statewide Bicycle Coordinator can be instrumental in the implementation of facilities since GDOT helps to program County projects in the RTP. Projects that are identified in the Forsyth Plan will, therefore, be delivered and communicated to GDOT for funding and implementation.

GDOT created a bicycle master plan for the State of Georgia. This master plan proposes a network of 14 named and numbered routes, totaling 2,943 miles that are, or will be, particularly well suited for bicycle use. Six of the routes, totaling 265 miles, will pass through the ARC Region. The Northern Crescent Route passes along the southern end of Forsyth County, along the Gwinnett County – Chattahoochee River boundary. Signing of the network is expected to take five years. As sections of these routes are improved through GDOT normal road improvement projects, they will be upgraded with wide curb lanes, bike lanes, paved shoulders, and/or sidewalks. The Statewide improvements within the ARC Region are already in the RTP.

GDOT recently adopted and is implementing a more visible crosswalk standard. The new standard is appearing on

roads that are controlled by the state, and also on many that are not. The new crosswalks are boldly striped, and give pedestrians more visibility on Georgia's roadways.

GRTA was created in 1999 by the Legislature to promote regional cooperation in transportation. GRTA encourages better planning by government at all levels with involvement by citizens. One way that GRTA is encouraging public input into the transportation system is through its Citizen's Academy, which is divided into four groups. One group concentrates on transportation greenways, which are defined as linear linkages from origin to destination. The greenways may or may not include motorized transportation, but emphasize linear bicycle and pedestrian transportation linkages between origins and destinations. The group is also beginning to access the existing regional greenway network in the hopes of creating a true network of greenways to better serve non-motorized transportation options.

Another group of GRTA's Citizen's Academy is investigating alternative street designs. They are concentrating on ways to design roads to better accommodate bicyclists, pedestrians, and transit users. The group is encouraging jurisdictions to base their design guidelines on context sensitive design. The group is also looking at road design characteristics, such as bump outs, shelters, and better signage to increase the accessibility of Georgia's roadways to non-motorized and transit-oriented transportation alternatives.



3. National

Bicycle and pedestrian issues are taking greater precedence across the nation. As

development trends change to better integrate land use and transportation planning, pedestrian and bicycle facilities are more feasible. The trends that are attempting to combat “urban sprawl” in the United States favors construction of bicycle and pedestrian friendly corridors. For instance, the Regional Development Process (RDP) began in the state of California and is now used nationwide. The RDP encourages an integrated planning system that links transportation improvements to non-transportation improvements such as land development.

The United States Department of Transportation published the *National Bicycle and Walking Study* in 1994. The study expresses a renewed interest in non-motorized transportation. The study also sets two goals, to double the percentage of trips made by foot and bicycle while simultaneously reducing the number of crashes involving bicyclists by ten percent.

The Transportation Equity Act of the 21st Century (TEA-21) was signed into law by President Clinton on June 9, 1998. TEA-21 continues funding to integrate bicycling and walking into the overall transportation system. It also provides opportunities for communities to sponsor projects that will improve the safety and mobility for cyclists and pedestrians. FHWA has reacted positively to bicycle and pedestrian facility planning. Officials at FHWA are becoming more aware of and better prepared to handle bicycle and pedestrian issues. In August of 1998, FHWA convened a Task Force to seek advice on how to proceed with developing design guidance for bicycle and pedestrian facilities. After reviewing the numerous planning and technical manuals on designing pedestrian and bicycle facilities, the Task Force concluded that another set of guidelines was not necessary. The Task Force helped develop a set of policies.

In 1999, the American Association of State Highway and Transportation Officials (AASHTO) published the *Guide of the Development of Bicycle Facilities*. This guide book helps communities and planners in the development of bicycle and pedestrian facilities. The document recognizes the historic role of bicycles in transportation and underscores the notion that a bicycle is a viable transportation mode. Like FHWA, AASHTO Guide supports the use of bicycles on all highways, “except those where cyclists are legally prohibited.” AASHTO mandates that “all highways should be designed and constructed under the assumption that they will be used by cyclists. Therefore, bicycles should be considered in all phases of transportation planning, new roadway design, roadway reconstruction, and capacity improvement and transit projects.” AASHTO recognizes that “safe, convenient and well-designed facilities are essential to encourage bicycle use.” AASHTO is currently producing a guide for pedestrian facilities, which is expected to give the same support to pedestrian facilities as it does to bicycle facilities.

There has been a shift in the way that bicycle and pedestrian facilities and the people who use those facilities are viewed. Regionally, more funding and importance is given to non-motorized transportation. From a state viewpoint, bicycles and pedestrians are being better accommodated. Nationally, sidewalks and bicycle facilities are being seen as important additions to the overall transportation system. There is an obvious attempt to balance the needs of non-motorized transportation with those of the broader community.

2.2.3 Local Trends

Many cities and counties within the ARC and GMRDC regions currently have, or are planning to create, a bicycle and pedestrian master plan. Some are well organized and

professionally planned documents, while others are less aggressive plans developed by staff members. Regardless of who prepared the plans or how detailed they are, many communities in the Forsyth County Region are attempting to accommodate bicyclists and pedestrians in their transportation systems. Below is a summary of jurisdictional efforts to plan for bicycle and pedestrian facilities in communities near Forsyth County. The summary attempts to detail which jurisdictions do or do not have bicycle and pedestrian master plans in place, and which communities plan to do so. These plans have been analyzed for ideas and strategies to implement in the Forsyth County plan.

1. Neighboring Counties within the GMRDC:

Dawson, Hall and Lumpkin counties do not have bicycle and pedestrian master plans. Hall County does require sidewalk construction with new developments.

2. Other Neighboring Counties:

Cherokee County does not have a bicycle and pedestrian master plan. However, the County uses its Land Development Policies (LDP) to require developers to contribute to bicycle and pedestrian facilities.

Cobb County has a bicycle and pedestrian master plan. The county has also begun to provide bicycle friendly shoulders.

DeKalb County has a bicycle and pedestrian master plan. The county GDOT's Local Assistance Resurfacing Program (LARP) includes striping wider outside lanes for bicycle traffic where possible.

Fulton County included a bicycle and pedestrian master plan as part of its transportation master plan. This plan was adopted in 2000. Fulton County has provisions to require sidewalks.

Opportunities for Forsyth County to connect to Fulton County facilities were maximized.

Gwinnett County does not have a specific bicycle and pedestrian master plan, however, they have compiled a list of bicycle and pedestrian projects as part of their CTP and included them for Special Option Sales Tax (SPLOST) funding.

Pickens County does not have a bicycle and pedestrian master plan.

3. Representative Regional Cities:

City of Alpharetta (Fulton County) adopted a bicycle and pedestrian master plan in the Spring of 1996. The city is currently addressing bicycle and pedestrian facilities as part of the development of a CTP. The city has a sidewalk ordinance, requiring sidewalks adjacent to all roadways.

City of Atlanta (Fulton County) has a greenway plan that addresses bicycle and pedestrian issues. The city has a sidewalk ordinance.

City of Canton (Cherokee County) has a bicycle and pedestrian master plan for the downtown. Canton also has the Etowah River Greenway master plan, which provides bicycle and pedestrian connections from downtown Canton to newer commercial and residential neighborhoods. The city also has an ambitious sidewalk program to enhance major corridors. The city requires sidewalks to be constructed as part of its development regulations.

City of Gainesville (Hall County) does not have a bicycle and pedestrian master plan. However, the city requires sidewalks through their sidewalk ordinance.

City of Lawrenceville (Gwinnett County) does not have a bicycle and pedestrian master plan. Lawrenceville's sidewalk ordinance requires sidewalks within all

major residential and non-residential subdivisions.

City of Marietta (Cobb County) does not have a bicycle and pedestrian master plan. The city requires sidewalks through their sidewalk ordinance.

City of Powder Springs (Cobb County) has a comprehensive bicycle and pedestrian master plan, as part of its Community Enhancement Master Plan, which was adopted in 1996. The city has a sidewalk ordinance, which requires sidewalks on one side of the street.

City of Roswell (Fulton County) adopted a comprehensive bicycle and pedestrian master plan, as part of its overall transportation plan in 2000. The city of Roswell has a sidewalk ordinance.

City of Woodstock (Cherokee County) adopted a bicycle and pedestrian master plan in 1999. A sidewalk ordinance in Woodstock requires sidewalks on at least one side of the street.

4. Community Improvement Districts (CID)

Community Improvement Districts are special taxing districts created by Counties to generate funds for improvements within specified non-residential areas. Typically, business interests are the catalyst for creating these districts. They self impose an additional tax that they have control over and use to match federal funds for projects or for funding other improvements.

CID's have been formed in many areas of the region and some have used their resources for implementing bicycle and pedestrian projects.

Cumberland CID (Cobb County) has a bicycle and pedestrian master plan that was completed in 1999. The CID has been instrumental in building sidewalks around

Cumberland Mall and in helping to fund a pedestrian bridge across Cobb Parkway.

Town Center CID (Cobb County) completed a bicycle and pedestrian master plan in 1999.

The **Dekalb Perimeter Center CID** completed a sidewalk master plan and bicycle suitability map for roadways in their area. Construction of sidewalk projects is ongoing.

Cherokee County, Gwinnett County, Fulton County, have all recently created CID's.

5. Transportation Management Associations (TMA)

TMA's are organizations usually funded with CID dollars that promote the use of alternative transportation within their special tax districts.

Cobb Rides (Town Center Area) does not have a bicycle and pedestrian master plan. They intend to design a plan for future use.

Cumberland Transportation Network (Cobb County) does not have a bicycle and pedestrian master plan. They do not intend to design one at this time.

Gwinnett County TMA does not have a bicycle and pedestrian master plan.

2.2.4 Within Forsyth County

Forsyth County's growth and development have proven to be a challenge for all transportation infrastructure. The County's roadway network, particularly in the southern portion of the County, is in need of widening and there are several widening projects currently under design. In addition to roadway improvements, the County must also keep pace with the need for bicycle and pedestrian transportation needs. Although the County does not have a specific

ordinance to require sidewalk installation within developments, many of the subdivisions in the County have constructed sidewalks interior to the developments. Key to planning for the future bicycle and pedestrian network in the County was linking these existing neighborhood sidewalks to activity destinations. In addition, although the County currently does not have any existing bicycle facilities, future roadway improvement plans were analyzed to determine the possibility of including some form of bicycle facility infrastructure within these plans.

Currently, there is not any public transit in Forsyth County. The only form of public transit is a Dial-A-Ride demand/response system, which is currently underutilized. This deficiency limits the County's transportation options and focuses attention on SOV. However, the County has negotiated with GRTA to improve certain roadways for transit access. GRTA's Northern Sub Area Study is also recommending construction of park and ride lot facilities in the County. The future bicycle and pedestrian network must be coordinated with the potential for expanded transit use in the County.

The following documents are being updated by the County. The status of bicycle and pedestrian planning issues within these documents is outlined.

The County's Comprehensive Transportation Plan 2001 Update- The County has recently completed an update of their comprehensive plan, which clearly outlines roadway needs now and in the future. There is no specific bicycle and pedestrian element in this document. However, the development of the Bicycle and Pedestrian Plan was closely coordinated with the CTP.

The County's Comprehensive - Future Land Use Plan (1994-2015 – updated 1997-98)

recommends development of a pedestrian circulation system that extends beyond the Village Center to link with County neighborhoods. The plan recommends that walkway improvements should be planned along major road corridors that include Peachtree Parkway, Buford Highway, Dahlonega Highway, Canton Highway, McFarland Road, Bethelview Road, Post Road, Atlanta Highway, and McGinnis Ferry Road. This plan also recommends that the pedestrian circulation system be linked with the County's schools. The County's Unified Development Code includes design guidelines for village type residential and commercial development that encourages pedestrian friendly communities. Developments encouraged under these design guidelines have yet to be proposed in Forsyth County.

In 2000, Forsyth County published the *Georgia Greenspace Program – Forsyth County Grant Application – Community Program Report*. The report was developed in an effort to gain grant money provided by the Georgia Greenspace Program. These funds will assist the County in purchasing and preserving designated greenspace. Among the goals and objectives listed in this plan is to develop pedestrian trails linking recreation sites that will eventually result in a regional trail system. An acquisition strategy has been developed under the Community Program, which targets acquiring a minimum of 2% (576 acres) for greenways and 0.5% (150 acres) for bikeways.

The *Comprehensive System-Wide Recreation Master Plan (2000-2006)* was also developed in 2000. Among its goals is to provide additional passive use facilities including linking nature trails, interpretation areas and greenways. The plan recommends greenway development of two river corridors and one stream corridor. The Chattahoochee River corridor is the subject of interest from a preservation standpoint. A greenway extending to the south from Lake

Lanier through the Twin Branches Unit of the Chattahoochee River National Recreation Area would be a viable project. The Etowah River corridor in northwest Forsyth County offers a second opportunity for greenway development. The city of Canton in Cherokee County is beginning development of a greenway along the Etowah, and it is quite feasible that Cherokee County will continue the greenway through the northeast portion of the county. James Creek and some of its tributaries offer a third opportunity. The development plan for Windermere incorporates a multi-purpose trail for approximately two miles throughout the 87 acres park property. Three bikeways are also recommended (S.R. 369, S.R. 9 and S.R. 20).

In reviewing the federal guidance for bicycle and pedestrian planning, Forsyth County and the Task Force agreed to tailor the plan development process to be consistent with the goals of TEA-21, particularly to maximize federal funding opportunities for the plan. In addition, current trends reviewed allow the task force to consider ideas for bicycle and pedestrian planning that would be applicable to Forsyth County. However, to plan for a 25 year horizon, the task force also had to assess current and future challenges and opportunities in the context of the larger land use, environmental and transportation framework of the region. The feasibility of implementing the plan was also deemed dependent on the political and technical environments. Therefore, at the start of the strategic planning process to select alternatives, these issues were also analyzed and addressed.



Section 3. Strategic Planning Process

As stated previously, the vision for the Forsyth County Bicycle and Pedestrian Plan is to: *foster the development of an interconnected network of bicycle and pedestrian facilities that meets Forsyth County's future transportation mobility, serves recreation needs, promotes alternative means of transportation and enhances the County's overall quality of life.* The strategic planning process was used to identify issues and opportunities pertinent for the implementation of the stated plan vision. As part of this process, existing levels of service were assessed, regional land use, transportation and environmental planning efforts and processes were reviewed for possible coordination opportunities, and the technical and political environments were analyzed for their influence on successful implementation of bicycle and pedestrian systems. The strategic planning process detailed the potential challenges and opportunities to successful bicycle and pedestrian planning in Forsyth County and developed ideas for overcoming such obstacles. These ideas were formulated into specific strategies for action outlined in Section 4. Ultimately, these strategies formed the basis for identifying potential bicycle and pedestrian alternatives to include in the 2025 Bicycle and Pedestrian Plan.

3.1 Bicycle and pedestrian planning in relation to the larger Land use, Transportation and Environmental planning framework

3.1.1 Local Land Use Planning

1. Local Comprehensive Planning

In 1989 the Georgia Planning Act was passed, establishing a planning program providing local governments with a guide for minimum standards and procedures for

local comprehensive planning. The local comprehensive plan is intended to highlight community goals and objectives, as well as determine how the government proposes to achieve those goals and objectives. It is intended that the comprehensive plan be used to guide local government decision-making on a daily basis. In order to maintain eligibility for certain state grant programs, local governments are required to adhere to the Minimum Standards and Procedures for Local Comprehensive Planning, which are administered by the Department of Community Affairs (DCA).

The County's Planning Department is responsible for the development of the Land Use Plan consistent with the DCA guidelines. The adopted Land Use Plan goals and strategies include:

- Encouraging alternate modes of transportation;
- Encouraging village center type developments around key corridors. These centers are meant to include cultural and social activities in a pedestrian friendly setting (urban village zoning district);
- Recommending a pedestrian circulation system that extends beyond village centers to County neighborhoods;
- Development of a Countywide plan for bike paths and bike lanes; and
- Development of a countywide sidewalk system connecting areas such as schools, residential neighborhoods and village activity centers.

The County's Engineering Department is responsible for the development of the Transportation element of the comprehensive plan. Recently, a CTP was developed for Forsyth County, which outlines future roadway needs. These needs are included in updates to the comprehensive plan. Future bicycle and pedestrian needs will be formulated with the

development of the Bicycle and Pedestrian Plan and included in updates to the comprehensive plan.

3.1.2 Regional Planning

1. RDC

Forsyth County is a member of the GMRDC. The RDC provides assistance to counties within their jurisdiction in the areas of transportation, land use and environment.

Regional Transportation Element

The RDC develops a comprehensive regional plan pursuant to DCA guidelines. There is a transportation element in the plan, which is a compilation of transportation plans and programs developed by the GDOT for the County's in the region.

Regional Land Use Element

In the comprehensive regional plan, a set of development guidelines regarding land use has been adopted by the RDC. These guidelines do not include any reference to bicycle and pedestrian planning. There are some guidelines that encourage the coordination of land use and transportation planning.

DRI

State law requires that developments above a certain threshold be reviewed and approved by the RDC. GMRDC reviews major developments in Forsyth County and makes specific recommendations for improvements. Some of these recommendations may include the provision of bicycle and pedestrian facilities.

Environmental Coordination

The RDC provides technical guidance for developments along the Chattahoochee River. They also conduct watershed planning studies within the Lake Lanier and Etowah Basins. The GMRDC also assisted the local jurisdictions with development of their greenspace programs.

2. ARC

The EPA designated a 13 county metropolitan Atlanta area in serious non-attainment for air quality standards pursuant to the Clean Air Act. Forsyth County is included in the 13 county non-attainment area. Therefore, transportation projects of regional significance in Forsyth County are included in the ARC conformity determination and travel demand modeling processes. Forsyth County projects are also programmed through the ARC short term TIP. Due to Forsyth County's inclusion in the non-attainment area, the County is bound by restrictions to capacity enhancing projects when the ARC region reaches conformity lapses. Currently, there is an approved long-range plan in conformity with federal regulations. Forsyth's inclusion in the non-attainment area also makes them eligible for CMAQ funds. CMAQ funds are a primary source of bicycle and pedestrian project funding and are selected and programmed through the ARC.

3. GRTA

In 1999, the Governor created a new agency to address regional land use and transportation issues in areas considered in non-attainment of air quality standards. GRTA's land use responsibilities include reviewing DRI's and approval of any use of federal funds for road projects within DRI's. During the DRI review process, GRTA has the ability to require inclusion of bicycle and pedestrian facilities in proposed developments in order to mitigate negative transportation impacts of the development. GRTA has also established an Alternative Street Design Citizens Academy that focuses on best practices and design for bicycle and pedestrian facilities. A report is due in May 2002 that will be used by GRTA and others to encourage local governments in the region, as well as GDOT, to adopt these best practices. Additionally, GRTA has expedited implementation of additional transit in the region, which will need to be supported by pedestrian systems.

4. Metropolitan North Georgia Water Planning District

In April 2001, the Georgia legislature created a new Water Planning District whose main function is to develop regional and watershed specific plans for storm water management, wastewater management and water supply for an 18 county area in North Georgia. Forsyth County is included in this area. The District Board is working closely with the RDC's in their start up process. Several consultant contracts will be awarded to develop these plans. In the development of these types of plans, the amount of existing transportation infrastructure, including bicycle, pedestrian and non-motorized facilities, is needed to determine amounts of water runoff.

3.1.3 Statewide Planning

1. Georgia Department of Transportation (GDOT)

Local Planning Agency

GDOT is the local planning agency for Forsyth County. As such, transportation projects of regional significance included in the ARC plans are implemented by GDOT. GDOT also coordinates with Forsyth County to include their transportation needs in the STIP. With respect to bicycle and pedestrian facilities, GDOT cannot, by law, separately fund construction of these facilities with gas tax dollars. However, they are currently implementing the Statewide Bicycle Route plan and do include these type of facilities in their roadway design plans, if the facilities are included in adopted local plans. Statewide Plan implementation is the full time responsibility of the State's Bicycle and Pedestrian Coordinator.

Five County Study

GDOT is currently establishing a transportation planning process for Forsyth County, and four other non-attainment counties, similar to the ARC process. The process will provide the necessary

transportation planning tools, public involvement process guidelines and travel demand modeling processes to be consistent with federal regulations. The travel demand model will be consistent with the ARC models and will also have an air quality component so that conformity determinations can be performed for the five county area. The new model process refines the analysis area in Forsyth County, thereby, allowing a more detailed county level analysis potential for projects. However, there are no plans to include a non-motorized component to the model.

2. Governor's Office of Highway Safety (GOHS)

GOHS is a statewide agency that currently provides an average of \$250,000 a year in grants to local jurisdictions to promote pedestrian and bicycle education programs. Most of the dollars are expended on pedestrian programs. This amount is approximately 1% of their total budget and includes funds expended throughout Georgia.

3. Georgia Conservancy

The Georgia Conservancy is a statewide agency that continues to coordinate with communities to master plan large areas pursuant to smart growth policies. Typically, these smart growth policies have included the improvement of the pedestrian and bicycle environments.

4. Trust for Public Land (TPL)

The Trust for Public Land is another organization that works with local governments and citizens to implement bicycle and pedestrian facilities in close proximity to green spaces and rivers. TPL participates in technical advisory committees established by the GMRDC.

5. Greenspace Planning

In April of 2000 the Governor approved the Georgia Greenspace Program. The program awards grants to counties throughout

Georgia who have undertaken a plan to set aside 20% of their land for greenspace. Greenspace planning efforts have traditionally been coordinated with the implementation of bicycle and pedestrian facilities, particularly if some of the designated greenspace are accessible greenways. Although the greenspace program does not allow the purchase of land for bicycle and pedestrian transportation facilities, promotion of a coordinated and connected system could be achieved with the addition of greenspace trails.

Challenges/Opportunities: The challenges for the County relate to the general area of transportation planning. Currently, the majority of the transportation planning function is conducted by agencies other than Forsyth County. For example, GDOT coordinates project planning and programming in Forsyth County, as does ARC, due to the County's inclusion in the non-attainment area. On the opposite end of the scale, the GMRDC, of which Forsyth County is a member jurisdiction, performs very little transportation planning at the regional level. This disconnect in the transportation planning arena makes bicycle and pedestrian plan coordination more difficult. However, the County has risen to the challenge. The response to the accelerated growth in the County has allowed the establishment of progressive and sophisticated planning at the local level. For example, the comprehensive plan already includes policies to further the construction of bicycle and pedestrian facilities. Also, the development of the County's first Bicycle and Pedestrian Plan is underway. With the adoption of the plan there will be many opportunities to apply for funding and to coordinate with local groups and agencies, such as GRTA, TPL and the Georgia Conservancy, to further plan implementation. The environmental framework also provides opportunities for implementation of non-motorized transportation. With watershed planning

studies underway, the impact of roadway investments on runoff and water quality will be quantified. In an effort to minimize the negative impacts of such runoff, agencies will encourage mobility that is provided by bicycle and pedestrian enhancements and minimize roadway construction for vehicles.

3.2 Bicycle and Pedestrian issues within the political and technical environments

3.2.1 Technical Environment

1. Adequacy of existing levels of service

There are currently no recognized or designated bicycle facilities in Forsyth County. Data on existing pedestrian facilities indicates that many subdivision developments have interior sidewalks. However, these sidewalks currently do not provide desired connectivity to schools, parks or employment areas.

2. Potential connections to points outside Forsyth County (Cherokee, Dawson, Fulton, Gwinnett, Hall, Lumpkin and Pickens)

Bicycle and pedestrian facilities have been investigated for points outside of Forsyth County in order to assure coordination in the strategic planning process. Particular points of interest include the counties of Cherokee, Dawson, Fulton, Gwinnett, Hall, Lumpkin and Pickens. The associated RDC and Planning Departments for each county were contacted for information on Bicycle and Pedestrian Facility Master Plans. GDOT was also used as a resource for future planned projects. When developing the alternatives analysis, the available plans were consulted and opportunities for connections were maximized.

City of Canton and Cherokee County have the Etowah River Greenway master plan, which provides bicycle and pedestrian connections from downtown Canton to newer commercial and residential neighborhoods. The Etowah River Greenway extends from Canton to the

eastern county border where the river enters Forsyth County. A proposed greenway along the Etowah River in Forsyth was included in the Plan.

Fulton County. The best opportunity for connecting facilities to the Fulton County plan is found in the City of Alpharetta. The Big Creek Greenway trail is a recent successful greenway project that runs north to the Forsyth County line. The 2000 plan also includes a proposed greenway along the Chattahoochee River corridor, which extends north to the county line. Sidewalks and bike lanes are proposed for Medlock Bridge Road, which offers linkage northward to Peachtree Parkway. The proposed Georgia Statewide Bicycle Network extends east to west through Fulton County. The Northern Crescent route follows the Fulton/Forsyth County line along McGinnis Ferry Road, from the southeastern corner of Forsyth County to Sargent Road. Proposed greenways along the Chattahoochee River and Big Creek were recommended in the Forsyth plan.

Forsyth County's Bicycle and Pedestrian Plan development will also be coordinated with the *Georgia Department of Transportation Statewide Bicycle and Pedestrian Plan*. There are fourteen routes within the network that comprise approximately 2,943 miles. These routes were developed to complement other bicycle and pedestrian facilities that are planned or are underway. There are not any plans to dedicate funds to this plan; however, internal procedures will require designers to incorporate bicycle and pedestrian facilities elements into programmed improvement projects. This process would allow the entire network to be nearly completed within the next 20 years. Forsyth County's plan was coordinated with the State's Northern Crescent route.

3. ARC Region Technical Capabilities

Non-motorized model

ARC currently has a consultant contract that will assist in the design and implementation of a non-motorized travel demand model for the region. This effort will include an identification of possible pedestrian environment variable measures to use in the region. The actual calibration of the non-motorized models will require information on travel patterns that will only be available from the home interview survey presently being conducted by ARC. However, this data will not be available until the spring of 2002; therefore, the non-motorized models will not be available until the end of the year. This update can be coordinated with the GDOT Five County Study.

CMAQ Bikeway/Walkway Project Evaluation

In order for bikeway and walkway projects to qualify for CMAQ funding, quantitative tools are required by the Federal Highway Administration to project emission reductions that would result from proposed projects. Currently, bicycle and pedestrian modes are not included in the ARC model and, as stated above, cannot be included until the end of 2002. An interim approach was needed to evaluate CMAQ project's air quality benefits, therefore, a sketch-modeling tool, which can be used to estimate the vehicle miles traveled reductions for both individual projects and for the overall program was developed. A bicycle trip sketch modeling tool, as well as a pedestrian projection modeling tool, was developed for this purpose and will continue to be used by ARC until the development of their non-motorized models by the end of the year. Forsyth County is eligible for CMAQ dollars and has applied for funds through the GDOT. However, the County has yet to receive any CMAQ dollars for implementation of bicycle and pedestrian facilities.

Bicycle Suitability Mapping process

ARC currently has a consultant contract to develop a bicycle suitability map for the region. The map identified roadways with different levels of suitability for bicycle use. The suitability map is oriented toward intermediate or experienced bicyclists who are familiar with the roads and rules of cycling. The criterion assessed included traffic volumes, shoulder widths, posted speeds and pavement conditions. Based on this criteria, ratings of excellent, good, fair and poor were identified for well traveled routes leading to major origins and destinations. The routes will be identified by the Task Force, public involvement process, and BUGs throughout the region. Forsyth County is not included in this mapping process. However, future bicycle and pedestrian planning efforts in the County can include a suitability mapping process.



Project Development and Implementation process

Forsyth County applies for funding of bicycle and pedestrian projects through the ARC. Applications are submitted on ARC Project Evaluation forms, which are designed to prioritize projects that meet Regional Bicycle and Pedestrian Plan goals and further the ARC Regional Development Plan policies. Project evaluation forms also attempt to secure as much technical information as possible from the local governments.

Data Collection

Data collection efforts in Forsyth County should be coordinated with ARC efforts. For example, ARC has developed a regionwide Geographical Information Systems (GIS) database of existing and planned bicycle facilities. An additional database will consist of a regionwide

Bicycle Suitability Map. However, as previously mentioned, Forsyth County is not included in these efforts. The County should work with the GMRDC to explore expanded data collection assistance in the area of bicycle and pedestrian facilities.

3.2.2 Political Environment

1. ARC Region

The ARC region has been placing greater emphasis on land use and transportation coordination issues with the adoption of new Regional Development Plan policies. Many of these policies encourage the provision of bicycle and pedestrian facilities. The Livable Centers Initiative Program grants funds to jurisdictions that make the land use/transportation connection. ARC is also providing technical assistance to member jurisdictions for the provision of such facilities. Although Forsyth County is not bound by these land use/transportation coordination issues currently, there is a potential that this same issue will become pertinent in future planning efforts in the area.

2. GRТА

As mentioned previously, GRТА is also emphasizing the coordination of land use and transportation. Bicycle and Pedestrian facilities are typically characterized as a tool for enhancing the land use and transportation connection. Forsyth County is politically under the jurisdiction of GRТА due to its inclusion in the non-attainment area. GRТА's role includes some land use authority with respect to DRI reviews.

3. GDOT

By way of the five-County study, GDOT proposes to establish a transportation planning process similar to the ARC region. However, this process does not include the establishment of a regional Bicycle and Pedestrian Plan for GMRDC, nor does it include the establishment of a database of bicycle and pedestrian facilities. A bicycle

suitability mapping project, similar to ARC's, seems years away in the GMRDC. Lastly, the travel-demand modeling process being established for the five-County area will not include non-motorized analysis capabilities as planned for in the ARC model. However, the five-County study is an excellent first step in establishing a regional process that will in the future become sophisticated to the point whereby bicycle and pedestrian facility planning can become as advanced in the GMRDC as in the ARC region.

4. GMRDC

As mentioned previously, GMRDC does provide many services to Forsyth County; however, they do not have the staff, funding or authority to conduct planning at the same level as the ARC since they are not a designated MPO. The amount of continued growth in the region has rekindled discussions with the State regarding the designation of the GMRDC as an MPO. In the meantime, most of the transportation planning functions for Forsyth are conducted by GDOT.

5. BUGs

The Atlanta Bicycle Campaign started creating BUG's in 1995. The groups have been very active in furthering bicycle facility planning by coordinating with local governments, applying for federal funds for project implementation, and sponsoring bicycle rides in their respective areas. There are currently 14 BUGs throughout the ARC region and the number continues to grow. Efforts at establishing BUGS in Forsyth County should be explored.

6. Pedestrians Educating Drivers for Safety (PEDS)

PEDS is a member based advocacy organization founded in 1996 and has become a major catalyst for change in Metro Atlanta's pedestrian environment. PEDS publicizes the deficiency in the pedestrian system by using the media and political

process effectively. PEDS can be a significant resource to Forsyth County in the implementation of a pedestrian system.

7. PATH Foundation

This organization was founded in 1991 as a non-profit whose main goal was to help build a metro wide trail system. They have been very successful in raising private dollars to match public funds for the construction of such trails. Actual implementation of trails has led to many individuals in the region to become advocates for these facilities and support further construction. Most recently, PATH spearheaded the implementation of the Silver Comet Trail in Cobb and Paulding counties, which has been extremely successful and high profile project.

8. Trust for Public Land (TPL)

TPL continues to work with local communities, the National Park Service and others to build greenway trails throughout the metro area.

Challenges/Opportunities: A major challenge for Forsyth County will continue to be in the area of bicycle and pedestrian planning coordination with the various agencies that do and do not perform transportation planning activities for the County. Until the GMRDC enters the transportation planning arena there will be a disconnect between the identified County needs and the programming of those needs through the GDOT as opposed to the RDC. An additional challenge is the competition for federal funding at the adjacent ARC region level for implementation of these types of facilities. Many of the counties in the ARC region have received CMAQ funding in the past and are familiar with the process, whereas, Forsyth County must apply for those funds through GDOT. Fortunately, the opportunities in the technical and political arena are multiple. A good transportation planning process base will be established for the GMRDC region

through the GDOT five-County study. The Forsyth County bicycle and pedestrian planning efforts can build on this base. Moreover, this technical base is necessary in order to achieve some of the advancements in bicycle and pedestrian planning currently being achieved by the ARC region. Data collection, non-motorized model development, mapping and suitability identification efforts can all be next steps in the work plan for the development of bicycle and pedestrian planning in Forsyth County and the GMRDC region. Lastly, the successful implementation of these facilities, with potential assistance from interested organizations, will only lead to further proliferation of bicycle and pedestrian facilities in Forsyth County.

Section 4. Goals, Objectives and Strategies

All efforts at analyzing existing conditions and strategic planning to identify issues and opportunities leads to one of the key components in the Bicycle and Pedestrian Plan development process: establishing a set of goals to guide the Plan and a set of performance measures to evaluate the Plan.

Goals are a generalized expression of a desired end-state or direction for the Bicycle and Pedestrian transportation system. Objectives are specific quantitative or qualitative targets, which can be used to measure the degree of attainment of a specific goal. Strategies are individual actions that lead to accomplishment of objectives. Lastly, performance measures are attributes of alternative transportation systems that can be used to evaluate how well an alternative supports the study goals and objectives. Performance measures are designed to provide information to the transportation planning process for the purpose of decision-making. Performance measures can assist the County in making choices among which facilities to build and in making choices about priorities for facility construction.

Based on the vision statement approved by the Task Force and the opportunities presented in the strategic planning process, the following goals, objectives and strategies were developed for the Forsyth County Bicycle and Pedestrian Plan. Performance measure criteria were also developed for each goal in order to better assess their attainment. The goals, objectives and performance measure criteria were critical in the development of the alternatives selected for implementation. The strategies developed are consistent with federal guidance and with strategies being implemented throughout the region that are applicable to Forsyth County.

enhances the County's overall quality of life.

Goal 1: Provide a Countywide system of safe, convenient and accessible bicycling and pedestrian facilities for all users through the coordinated efforts of governmental agencies, the private sector and the general public.

Objective 1: Develop a connected system of bicycle and pedestrian facilities that can serve major origin and destination points, linking such important land uses as residential and commercial zones, educational and employment areas, health care and service centers, natural, cultural and recreational resources.

Strategies

- Work with the Board of Commissioners to provide bicycle and pedestrian facilities that connect to Countywide “points of interest” and potential tourist sites;
- Work with the County School Board to coordinate provision of bicycle and pedestrian facilities at existing and proposed school facilities;
- Use the Bike/Pedestrian web site to highlight bicycle and pedestrian activities at local and regional events;
- Work with any future CIDs or TMAs for the provision of these facilities in their jurisdictions;
- Work with the Parks Department to build sidewalks leading to County parks; and
- Work with proposed employment centers to encourage provision of bicycle and pedestrian facilities leading to their sites.

Objective 2: Ensure, to the maximum extent possible, that bicycle and pedestrian facilities are integrated and connected to other existing or planned modes of transportation in order to reduce dependence on the private automobile, reduce traffic and improve air quality.

Strategies

- Coordinate with regional transit planning efforts to maximize bicycle and pedestrian connections to proposed park and ride lots; and
- Coordinate with on going and future regional planning studies to incorporate the Forsyth Bike/Pedestrian plan recommendations.

Objective 3: Ensure that the bicycle and pedestrian system complements the existing transportation network to maximize and preserve the existing system and take advantage of public rights-of-way and corridors such as utility lines, future rail lines, linear waterways, etc. for bicycle and pedestrian facilities in order to minimize public costs.

Strategies

- During the comprehensive plan review process, identify utility lines, rail lines, and linear waterways on the future land use map as possible routes for bicycling and walking;
- Coordinate the planned bicycle and pedestrian facilities with proposed improvements of congested corridors in the Forsyth County Transportation Plan; and
- Encourage developments adjacent to waterways to dedicate land for greenways designated on the County plan.
- Consider pedestrian signal and crossing improvements during intersection redesign.

Objective 4: Ensure that the system addresses the safety and needs of different types of users, from experienced cyclists on arterial roadways to school-bound children walking and riding bicycles adjacent to local roads.

Strategies

- Encourage the development of educational programs on bicycle and

pedestrian safety, usage and benefits that address the different users of bicycle and pedestrian facilities;

- Participate as a community in National Walk to School, National Walk to Work, and National Bike to Work programs;
- Develop a tracking system for bicycle and pedestrian related accidents; and
- Contact established groups such as PEDS for pedestrian safety coordination and guidance
- Conduct a bicycle suitability analysis for roadways in the County

Objective 5: Establish a maintenance program and maintenance standards that ensure safe and usable bicycle and pedestrian facilities.

Strategies

- Work with organizations such as PATH Foundation to determine average maintenance costs for multi-use facilities;
- Work with Public Works staff to coordinate roadway maintenance activities with maintenance of bicycle and pedestrian facilities; and
- Set aside a percentage of funds from the bicycle and pedestrian fund for maintenance activities.

Objective 6: Provide ancillary facilities such as bicycle parking and storage, lighting, landscaping, signing, pavement marking and signalization to enhance the value and increase the utility and safety of the bicycle and pedestrian system.

Strategies

- Work with employment centers to encourage provision of bicycle parking and storage facilities;
- Coordinate resurfacing and pavement marking activities with potential marking for bicycle friendly facilities; and

- Encourage all public buildings throughout the County to provide bicycle parking facilities.

Objective 7: Support and encourage regular and continuing bicycle and pedestrian training and safety programs in conjunction with local institutions, organizations, and bicycle and pedestrian interest groups.

Strategies

- Establish the Bicycle and Pedestrian Task Force as a permanent ongoing structure and invite local bicycle and pedestrian groups such as PATH and PEDS to sit on the Task Force;
- Coordinate with local interest groups and the private sector to develop bicycle and pedestrian educational programs on safety and proper usage;
- Encourage the proliferation of “Effective Cycling” courses similar to those offered by the Atlanta Bicycle Campaign and funded with ARC dollars;
- Work with the school board to develop and implement educational programs on bicycle and pedestrian safety and usage in schools; and
- Encourage and provide assistance for the establishment of local advocacy groups, such as the BUGS .

Objective 8: Develop a bicycle and pedestrian system that meets the highest achievable design and safety standards, including ADA standards.

Strategies

- Encourage ADA facility/needs assessments as a beginning point for ADA planning at the local level; and
- Require that all bike/pedestrian facilities constructed in Forsyth meet the typical design standards adopted in the plan.

Goal 1 Performance Measures:

1. Miles of shared use facilities on road bicycle facilities and sidewalks.
2. Percent of employment within a five (5) mile distance from on-road bicycle facilities and shared use facilities.
3. Percent of households within a two (2) mile walking distance on a sidewalk to schools, parks, and community facilities.

Goal 2: *Amend the development process guidelines to encourage and promote the proliferation of bicycle and pedestrian facilities.*

Objective 1: Require sidewalks along identified high priority pedestrian corridors adjacent to proposed developments.

Strategies

- Identify the high priority pedestrian corridors on the Bicycle and Pedestrian Plan;
- Publish the adopted Bicycle and Pedestrian Plan throughout the County system, particularly at offices involved in development approvals; and
- Identify high priority pedestrian crossing improvements on the Plan.

Objective 2: Encourage developments to build sidewalks on interior subdivision streets.

Strategies

- Publicize the benefits of existing sidewalks in current subdivisions on the web page with citizen comments; and
- Allow flexibility in interior road design standards in exchange for construction of sidewalks.

Objective 3: Require proposed developments within ¼ mile distance of major origin/destination land uses to provide sidewalk connectivity.

Strategies

- Require proposed developers to purchase the adopted bicycle and pedestrian plan, in conjunction with other County codes and regulations, to inform them of proposed plans; and
- Explore establishing a development credit for building additional sidewalk facilities to provide desired connectivity to origin/destination points.

Objective 4: Encourage pedestrian connections (via paths, sidewalks) linking adjacent compatible land uses and developments.

Strategies

- Identify specific prioritized bike and pedestrian projects within the County’s Short-Term Work Program Update process; and
- Encourage the use of the DRI review process as a tool for including bicycle and pedestrian facilities in proposed developments.

Objective 5: Establish and encourage the construction of typical design sections for bicycle and pedestrian facilities within different road classifications.

Strategies

- Adopt the best design practices included in the Bicycle and Pedestrian Plan; and
- Include the associated typical sections in the Forsyth Development Code.

Objective 6: Include bicycle and pedestrian planning considerations in all transportation improvements (resurfacing, paving, new location, intersection improvements, reconstruction, and maintenance).

Strategies

- Encourage the inclusion of low-cost alternatives such as awareness signage and parking facilities in all projects to support the development of a coherent bicycle and pedestrian system; and
- Prioritize road widening and construction projects that include bicycle and pedestrian facilities.

Objective 7: Coordinate bicycle and pedestrian planning efforts with countywide recreational and health planning considerations.

Strategies

- Work in conjunction with the Centers for Disease Control to develop a tool outlining the health and environmental benefits of bike and pedestrian usage;
- Work with local interest groups and the private sector to develop bicycle and pedestrian programs on the health benefits of bicycle and pedestrian usage; and
- Identify greenspace corridors purchased as part of the Forsyth County Greenspace program on future land use maps and the Bicycle and Pedestrian plan map.

Goal 2 Performance Measures:

1. Number of new developments with sidewalks.
2. Number of developments that construct sidewalks that connect to existing public facilities or activity centers within ¼ mile of the development

Goal 3: Provide adequate funding and staffing resources for planning, developing and maintaining high quality bicycle and pedestrian systems.

Objective 1: Actively pursue all eligible federal and state funds for bicycle and pedestrian planning and development.

Strategies

- Develop and distribute a catalogue of potential state and federal assistance for bike and pedestrian projects to relevant County staff and commissioners;
- Identify potential funding sources for the development of pedestrian walking maps and bicycle suitability maps;
- Deliver copies of the adopted Bicycle and Pedestrian Plan to GDOT and the GMRDC for incorporation into the Regional Transportation Planning process; and
- Create a permanent Citizens Bike and Pedestrian Task Force for plan implementation purposes.
- Apply to ARC for funds to conduct a bicycle suitability study and for additional bicycle and pedestrian data collection efforts.

Objective 2: Coordinate the development of bicycle and pedestrian projects to maximize use of opportunities for joint development using other public or private resources.

Strategies

- Attend ARC Bike and Pedestrian Task Force meetings to maximize coordination and compete for funding; and
- Explore establishing a development credit for proposed developments that include bicycle and pedestrian facilities.

Objective 3: Establish a bicycle and pedestrian fund for developer contributions in lieu of construction of such facilities, if such construction is not deemed timely by Forsyth County. Allow private donations to the bicycle and pedestrian fund for construction of these facilities.

Strategies

- Establish average cost estimates for bicycle and pedestrian facilities to use for in lieu contributions; and
- Explore establishing a development credit for developers who donate additional funds to the bicycle and pedestrian fund beyond that required for their development.

Objective 4: Include bicycle and pedestrian projects in future local sales tax programs.

Strategies

- Collect information on the Bike and Pedestrian web site regarding citizen support of bicycle and pedestrian projects;
- Include a survey question on the Bike and Pedestrian web site regarding support of local sales tax dollars for provision of bicycle and pedestrian facilities; and
- Establish a percentage goal for budget allocation to bicycle and pedestrian facilities.

Objective 5: Explore establishing a staff position to act as a technical resource for zoning, land use and roadway design changes to promote bicycle and pedestrian friendly development, as well as for grant writing.

Strategies

- Investigate the current duties of the Statewide Bicycle Coordinator and other type positions established in the metro area; and
- Establish a critical mass limit for a certain number of bicycle and pedestrian projects in the implementation process to justify a staff position.

Goal 3 Performance Measures:

1. Number of staff dedicated to bicycle and pedestrian facility development and coordination issues.

2. Amount of federal dollars received for bicycle and pedestrian project implementation.
3. Amount of County local match dollars applied to bicycle and pedestrian project implementation.
4. Miles of developer constructed bicycle and pedestrian facilities

Section 5. Alternatives Analysis

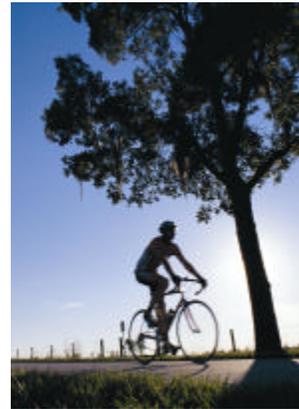
Armed with established goals, objectives and strategies and with a compilation of the best available information regarding bicycle and pedestrian planning at all levels of government, the Task Force was able to identify a list of recommended facilities. The facility recommendations were based on a 25-year planning period. The alternative facilities recommended constitute Forsyth County's 2025 Bicycle Transportation and Pedestrian Walkways Plan and are represented on Figure 1. The facility descriptions on the map correspond to the typical sections described below. Each typical section is best suited for different types of cyclists and pedestrians, as is indicated in the graphic presentations for the typical sections in Appendix A. Recommendations on designing these facilities are included as "best practices" for Forsyth County and should be incorporated into the County's Land Development Code.

Once the facilities were identified, an additional analysis to help refine and prioritize the proposals was conducted. The analysis consisted of analyzing traffic congestion along the County roadways and integrating any solutions with the proposed Bicycle and Pedestrian Plan. Consistent with the goals and objectives, the Bicycle and Pedestrian Plan, if implemented, can play a crucial role in the mitigation of transportation congestion. A successful plan works to create an environment that promotes safe walking and bicycling within a community. By providing this type of environment, a community has an effective transportation alternative that improves the interaction between motorists, bicyclists and pedestrians. Additionally, the improved interaction works to relieve traffic congestion and improve air quality. The analysis conducted helped to identify where bicycle and pedestrian improvements could be coordinated with roadway improvements along congested areas. It also identified

potential less congested routes for bicycle and pedestrian use.

5.1 Best practices for bicycle and pedestrian facility design

A successful network of bicycle and pedestrian facilities must include facilities for all types of users if it is to be successful as a viable transportation network. It should also be noted that every roadway, unless prohibited by law, is a viable transportation option for cyclists. Many streets and transportation corridors that have no improvements or facilities specifically for



bicycles are commonly used as transportation corridors for non-motorized transportation. The facilities described herein are proposed improvements to a standard road and range from

minimal improvements, to facilitate the ease of use, to completely separate non-motorized facilities. The following guidelines should be established for the implementation of the proposed bicycle and pedestrian facilities in Forsyth County.

5.1.1 Cyclists and Pedestrians

In order to produce a viable transportation network, the potential users must be considered when developing a plan. AASHTO's *Guide for the Development of Bicycle Facilities* defines three types of cyclists. Facilities that accommodate a very confident adult cyclist who regularly commutes to work may not be very appropriate for a child on his/her way to school, and vice versa.

AASHTO has not defined types of pedestrians. For the purposes of this study,

pedestrians will be defined into four groups: Adult Pedestrians, Child Pedestrians, Environmental Justice Community Pedestrians, and Pedestrians with Disabilities. A definition of each type of cyclist and pedestrian is provided below.

Type A Cyclists: Advanced adult cyclists best describe the Type A Cyclist. These cyclists are aware of the rules of the road and are skilled at maneuvering a bicycle through vehicular traffic. Typically, these cyclists are commuters or cyclists who are confident with their skills and more interested in reaching a destination in the shortest time possible than they are in scenery or the added safety of less-traveled routes. These cyclists will use any road legally open to bicycle traffic.

Type B Cyclists: A typical adult qualifies as a Type B Cyclist. These cyclists know the rules of the road and know how to ride a bicycle. The main distinction is that they prefer less traveled routes to and from their destinations and are less confident in high volumes of vehicular traffic and are less likely to be found competing with motorists for space on a busy road. These cyclists may use facilities for transportation purposes, but will forego the most direct and fastest route in favor of less traveled, safer, or more scenic routes. Type B Cyclists need facilities that are safer and less intimidating than those required by Type A Cyclists.

Type C Cyclists: Children are the prototypical Type C Cyclists. These cyclists may be very skilled cyclists. However, they are unaware of the rules of the road because they have never legally driven a motorized vehicle in traffic. These cyclists ride for both recreation and transportation; the most obvious destination is an academic institution, such as an elementary school, middle school, high school, or library. Type C Cyclists should not travel with motorized vehicles.

Adult Pedestrians: Adult Pedestrians use pedestrian facilities for commuting, recreation, and exercise. Adult Pedestrians are aware of the rules of vehicular traffic. Adult Pedestrians can have difficulty crossing high speed, multi-lane streets that lack median refuge islands or pedestrian signals, or where reckless drivers threaten their safety.

Child Pedestrians: Child Pedestrians see and hear the world differently than adults. Children often have trouble judging traffic speed, gaps in traffic, or whether a car is coming, going or standing still. Children are shorter than adults, and have limited peripheral vision. Facilities that reduce traffic speed, calm traffic, and provide separation from the travel lane are types of facilities needed by Child Pedestrians. Neighborhood streets with sidewalks and shared-use facilities can accommodate Child Pedestrians.

Environmental Justice (EJ) Community Pedestrians: Many counties within the North Georgia area house numerous citizens from a host of international countries. Many parts of the Forsyth County and Metropolitan Atlanta area are home to concentrations of new residents of the United States. Several areas have a concentration of people who do not necessarily read the English language well and may not be able to read warning signs that are written in English. Therefore, in these known EJ areas, safety and directional signage should be shown in symbols rather than written words. The Manual on Uniform Traffic Control Devices (MUTCD) offers several options for regulating the flow of vehicular and pedestrian traffic.

Many Environmental Justice Community Pedestrians are unable to drive, and rely on walking as a primary mode of transportation. These Pedestrians rely on safe sidewalks and safe, easy to use pedestrian crossings. Facilities in

neighborhoods which have a high population of Environmental Justice Community Pedestrians should be numerous and provide connections from residential neighborhoods to destinations such as employment centers, shopping areas, and public and semi-private institutions.

Pedestrians with Disabilities: The ADA prohibits discrimination to pedestrians with disabilities. Pedestrians who are blind, deaf, or who rely on wheelchairs have needs that are very specific to those types of disabilities. For instance, people who are deaf need visible warnings about crossing vehicular traffic. People with vision impairments need tactile indications that they are approaching an intersection or other hazard. Since they cannot see safety signs, they need audible indicators to inform them of proper times to cross the street. Pedestrians in wheelchairs are unable to mount curbs or maneuver through rough, narrow, or steep surfaces; therefore, provision must be accounted for in the design process.

It is expected that all design solutions for recommendations in this plan will be consistent with ADA standards. The FHWA publication, *Designing Sidewalks and Trails for Access: Best Practices Design Guide* offers many details that cater to Pedestrians with Disabilities. Guidelines in this publication will prove helpful and should be considered on every facility proposed in this plan.

5.1.2 Facility Descriptions

The facilities described below are ideal designs, based on best practices. AASHTO's *Guide for the Development of Bicycle Facilities*, 1999, encourages many of the elements in the bicycle facilities. These guidelines have been tailored to meet conditions within the Forsyth County area. It should be noted that guidelines and best

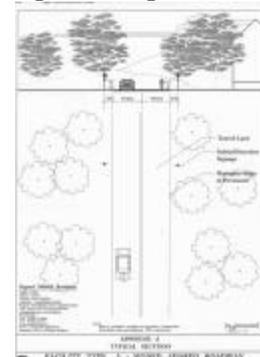
practices might need to be altered to fit individual sites and conditions.

Pedestrian facilities tend to be more diverse and are not well defined by AASHTO. The FHWA and GDOT have no detailed best practices for sidewalks. The FHWA is publishing the second part of a two part series entitled *Designing Sidewalks and Trail for Access, Best Practices Design Guide*. This guide discusses many alternatives for designing for persons with disabilities. The pedestrian facilities outlined below are based on the best existing facilities currently used in metropolitan areas. Design features in the typical sections will better facilitate pedestrian safety and comfort.

See Appendix A for typical sections of the types of facilities listed below.

Facility Type A – Signed Shared

Roadways: Type A Cyclists will use all legally open streets for transportation purposes. Many of the streets and roads will have hazards to cyclists that are not considered to be hazardous to motorists, these include streets that have drainage grates, bridge expansion joints, railroad crossings, rough pavement, and signal timing designed with only motorists in mind. An opportunity to provide preferred routes for cyclists, with relatively little financial infusion is the Signed Shared Roadway. The physical improvements to an existing road or street may include bicycle-safe drainage grates and bridge expansion joints, improved railroad crossings, smooth pavements, and signal timing and detector systems that respond to bicycles.



Once these types of improvements are made, the route should be signed, both to alert

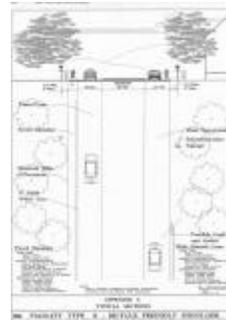
motorists that bicycles are likely to be sharing a travel lane and to direct cyclists that the signed route has advantages over other routes. Directional signage is also encouraged. Destination arrows can be added to sign poles to help cyclists maneuver through the safest routes to and from major destinations.

In a Signed Shared Roadway facility, the cyclist shares a lane with motorized vehicles. As lane widths will vary, wider existing lane widths will be one consideration when choosing a route. Slower speeds are preferred over faster moving traffic routes. A relatively low traffic volume is also desired to minimize the potential for conflicts between cyclists and motorists. Long sight distances will also be desirable as cyclists and motorists will be sharing a lane.

Many examples of this type of facility can be found in the Metro Atlanta area. For example, the Stone Mountain to Atlanta path has several sections of Signed Shared Roadways, which, due to the high traffic volume and speed, are more appropriate for a Type A Cyclist. In downtown Powder Springs, Dillard Street is currently being signed to provide part of an important connection between the Silver Comet Trail and the historic downtown. In this particular case, specimen trees close to the road and limited right-of-way precluded a more intensive improvement, but because traffic volume and speed are relatively low and because sight distance is unlimited, a Signed Shared Roadway with both safety and directional signage will serve Type A Cyclists, Type B Cyclists, and Type C Cyclists with the guidance of adults.

Facility Type B – Bicycle Friendly Shoulders: Bicycle friendly shoulders may be incorporated into the roadway by either the addition of wide outside lanes or by striping a paved shoulder to increase safety for bicycle users and motorists.

1. Wide Outside Lane: A way to provide more maneuvering room is to provide increased lane width. Lanes wider than twelve feet can better accommodate both bicycles and motor vehicles in the same lane. Providing a wider curb lane may allow motorists to pass a cyclist without changing lanes. This option still requires safety and directional signage and the removal of hazards. Wide Outside Lanes can provide a cost-effective option for areas where there is inadequate width for bike lanes, but where there is the opportunity to gain additional width or simply to re-stripe the road. Fourteen feet of useable width is optimal along straight, relatively flat stretches of road. Fifteen feet may be desirable in some cases, such as where site distance is limited or on steep inclines or where on-street parking effectively reduces useable width.



As important as it is to provide continuity within the bicycle system, long, uninterrupted stretches of wide curb lane may be improperly used as two lanes in congested urban or suburban areas. This possibility should be considered when designing the facility. In more urban situations where a continuous lane width of fifteen feet may be available, it may be more effective to re-stripe the lane to provide a designated bike lane.

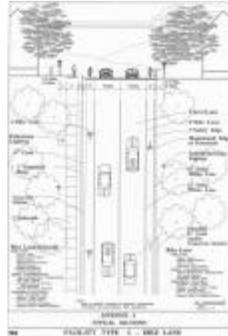
2. Paved Shoulder: Adding or improving Paved Shoulders can often be the most effective way to provide better bicycling facilities, especially in rural areas. Paved Shoulders provide areas where cyclists can pull off the travel lane if needed, or can ride more slowly on steep inclines or sharp curves. Paved Shoulders also add safety for motorists by increasing the durability of the travel lane and providing an emergency pull-off area. The additional width can be

beneficial for improved safety and mobility for both cyclists and motorists.

Paved Shoulders should be at least four feet wide and should not be painted as a bike lane. If guardrails or other roadside hazards exist, then five feet of useable width is recommended. The edge of the pavement should be well maintained to avoid hazards that would minimize the available useable width. Care should be taken to keep debris off Paved Shoulders, as gravel and leaves often accumulate on these types of facilities.

Facility Type C – Bike Lane: The County should consider the user when incorporating either of these types of facilities. The Bike Lane/Sidewalk should be used where more non-motorized transportation is encouraged. Bike lanes are sufficient in those areas where pedestrian use is more likely to be discouraged.

1. Bike Lane/Sidewalk: The combination of bike lanes and sidewalks is often desirable for corridors where non-motorized transportation options are specifically encouraged. Often, through an urban setting, bike lanes and sidewalks will be parallel. It is important to provide both vertical and horizontal separation between motorists and pedestrians. The bike lane helps to provide horizontal separation, and a two-foot vegetated strip and six-inch curb help to separate pedestrians from cyclists. Since a more limited vegetated strip is required, streetlights, signage, and amenities can appear directly behind the walk, as space allows.



2. Bike Lane: It may be desirable to incorporate Bike Lanes into a roadway design in urban areas or where bicycle use is expected to be more frequent. Bike Lanes

provide delineated road space for preferential use by bicyclists and therefore makes their movements more predictable. Cyclists are more confident that motorists will not swerve into their travel space. Motorists are less likely to swerve out of their lane while passing a cyclist traveling in a designated bike lane.

Bike Lanes should always be one-way facilities and should travel in the same direction as vehicular traffic. Bike Lanes should be placed to the right of the vehicular lanes. Where on-street parking exists, the Bike Lane should be located between the travel lane and parking lane. The desired width will vary depending on the exact situation, but generally four feet of useable width will be sufficient. Gutter width should not be considered a part of the required four-foot width. If on-street parking, guardrails, or other roadside hazards are present, Bike Lanes should be five feet wide.

Bike Lanes are most successful if they are continuous. Their presence encourages bicycle traffic. Many Type B Cyclists who would otherwise be intimidated to attempt a ride on a heavily traveled street or road will be much more likely to use a facility that includes Bike Lanes. In many instances throughout the Metro Atlanta area, bike lanes stop when the road narrows, has steep inclines, or approaches an intersection. When cyclists need the most protection and direction, and when predictability is the most vulnerable, they are all too often left to their own resources on an unimproved vehicular travel lane. Bicycle Lanes that are not continuous may be more dangerous than providing no bicycle facilities at all.

Intersection designs should always accommodate bike lanes. AASHTO's Guide for the Development of Bicycle Facilities (1999) provides adequate design guidelines to accommodate individual intersection designs.

Facility Type D – Interior Sidewalk:

Town centers are candidates for the urban sidewalk, which provides physical separation between the active roadways and pedestrian areas but also allows quick access between parking and sidewalks. The neighborhood sidewalk creates a greater physical separation between roadway and sidewalk in areas where access to the street is less a necessity.

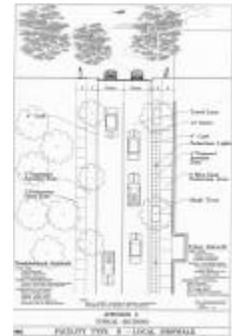
1. Urban Sidewalk: While AASHTO does not currently provide design guidelines for sidewalks, it is necessary to develop standards for the safety of pedestrians. Urban conditions exist in many places throughout the Metro Atlanta Area. Most town centers have areas that will require a design similar to the Urban Sidewalk. Pedestrian facilities should provide as much separation from vehicular traffic as possible. This is important for both motorists and pedestrians. As pedestrians are not insulated from weather, amenities such as shade trees are desirable whenever possible. Safety can be significantly enhanced with pedestrian lighting. Amenities such as trash receptacles, directional signage, streetlights and benches enhance both a pedestrian safety and experience. ADA standards such as handicapped ramps should be provided in all cases.

The Urban Sidewalk Typical Section attempts to achieve these goals. Pedestrians occasionally need to access the sidewalk from the parking lane or even from the travel lane on quiet streets. Therefore, a paved and textured ‘amenity zone’ should be provided to allow horizontal separation from vehicles. The amenity zone also allows room for utilities such as fire hydrants, utility poles, and street signs and amenities such as trash receptacles, benches, and directional signage without compromising the clear path for pedestrians.

The widths for pedestrian clear zones will vary depending on need. Six feet is

recommended as a minimum in urban conditions. Wider clear zones will be necessary on particularly busy streets and may be desired for aesthetic considerations. A four-foot amenity zone is recommended for most situations. Six-inch curbs are recommended in all cases to provide for vertical separation from travel and/or parking lanes. There are areas within the Metro Atlanta area where existing conditions will not allow for the ten-foot combination of pedestrian and amenity zones. In these instances, as much room as possible should be allocated for sidewalks and a narrowed amenity zone and a minimum five-foot clear zone should still be provided.

2. Neighborhood Sidewalk: Many areas within Forsyth County can accommodate pedestrians with the Neighborhood Sidewalk. As with the Urban Sidewalk, maximum vertical and horizontal separation are still recommended. Because there is less need to

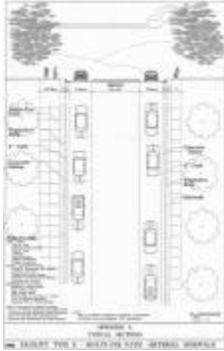


access the sidewalk from a parking lane or travel lane, a four-foot vegetated amenity zone will accommodate utilities and amenities. The pedestrian clear zone is recommended to be a minimum of five feet in width. There will be areas where the need will dictate a wider pedestrian clear zone. In areas where space is limited, the vegetated amenity zone can be limited to a minimum of two feet. In instances where the amenity zone is only two feet wide, trees should not be included and a more creative and site specific solution for providing shade trees will be required. All sidewalks must meet minimum ADA requirements.

Facility Type E – Multi-use path/arterial sidewalk:

There are situations in Forsyth County where it may be necessary to provide connections between bicycle

facilities along high speed or heavily traveled roadways having inadequate space for bicyclists. In limited locations, which are uninterrupted by driveways and intersections for long distances, it may be acceptable to provide a wide sidewalk that can be used for both bicycles and pedestrians. Since this facility is off-road, bicycle traffic can occur in both directions. Pedestrians and cyclists can use the same facility similar to the way a shared use path is used.



One side of the travel corridor should be a wide sidewalk, which allows bicycle use. The other side of the corridor should contain a five-foot sidewalk and be used for pedestrians only. Safety signage should be posted to limit

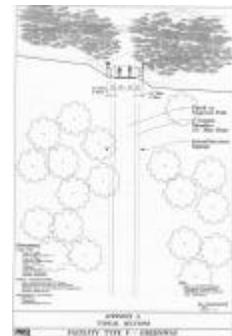
conflicts between pedestrians and cyclists using this type of facility. This type of facility has many opportunities for conflicts between vehicles and bicycles and bicycles and pedestrians. Therefore, all other options, including alternate routes, should be considered before planning a wide sidewalk used for bicycles and pedestrians. Consult AASHTO's Guide for Development of Bicycle Facilities for more information and other design considerations.

Facility Type F – Shared Use Path:

Opportunities to provide transportation options that can serve all non-motorized populations exist in the form of Shared Use Paths. This type of facility is typically located on an exclusive right-of-way such as an abandoned rail corridor, utility easements, or along rivers, streams, and lakes. Shared Use Paths have many commonly used names, such as mixed-use path, trail, and off-road facility. All types of cyclists and all types of pedestrians use Shared Use Paths. They can provide short cuts through residential neighborhoods by connecting cul-de-sac streets, act as

connections between major destinations, such as schools and neighborhoods, and can serve as a regional off-road corridor linking pedestrian and bicycle networks in towns and cities, forming a safer and more comprehensive regional network.

Because Shared Use Paths do not share the right-of-way with vehicular traffic and often cross streets at grade separations, they are ideal for all types of users. Children and adults alike can use Shared Use Paths for transportation with little fear of vehicular conflicts. Type A Cyclists often prefer to avoid Shared Use Paths in favor of more direct, on-street routes, which are currently available. Shared Use Paths generally serve the bulk of the general population who require safer, less congested routes for cycling and walking. In most instances Shared Use Paths should be paved. The minimum width that will accommodate both cyclists and pedestrians traveling in two directions is eight feet. By providing better separation between users and making passing easier, ten feet is the recommended minimum width for Shared Use Paths. These paths can also be wider, if a high amount of use is anticipated. While it is recommended that Shared Use Paths be paved with either concrete or asphalt, it is possible to construct a successful path that is not paved. The National Park Service no longer allows any kind of hard pavement in their facilities. Often, National Parks provide land for important, off-road connections.



For instance, the Chattahoochee River National Recreation Area at Powers Ferry is a gravel facility up to thirty-foot wide in some locations. The path follows the Chattahoochee River and is very well used by the public. Although this particular path is primarily used for recreation, it links neighborhoods that are remote by the road

system and can be used to facilitate non-motorized transportation. Also, the wide, unpaved path easily accommodates numerous representatives of every type of user.

5.1.3 Motorist/Pedestrian Conflicts

Pedestrians and motorists conflict most often when pedestrians attempt to cross a street. Unsignalized intersections on high speed, multi-lane streets are common throughout Metro Atlanta and pose serious risk for pedestrians. Marked crosswalks need to be supplemented by medians, refuge islands, overhead signs and/or lights, bulb-outs, and/or pedestrian activated signals. Pedestrian signage can help motorists know that there are pedestrians needing to cross streets. School zones should always be signed as such. Since there is likely to be an increase in pedestrian activity at and near schools, crossings near these locations should be as visible and safely designed as possible.

Several road design practices can help increase pedestrian safety. While travel lane design is out of the scope of the bicycle and pedestrian plan, several key points should be noted. Traffic calming can be an important addition to pedestrian safety, especially for Child Pedestrians. Lane widths of eleven-feet should be implemented where possible on local and neighborhood streets, to reduce the speed of motorized travel and reduce the length of the pedestrian crossing. Access points to businesses should utilize shared curb-cuts to minimize potential conflict points between motorists and pedestrians. The sidewalk's paving pattern should cross curb cuts and driveway aprons to give a more continuous surface for pedestrians and to provide a visual reminder to motorists that they are crossing a pedestrian route.

There is no single facility or facility type that will work for every user and every existing site condition. The best practices

outlined above and illustrated in Appendix A serve as ideal designs in ideal situations. Every travel corridor will have its own constraints and opportunities. It is important to use judgment and creativity in increasing safety and ease of mobility for all types of cyclists and pedestrians.

5.1.4 Congestion Analysis

Federal legislation requires that MPOs prepare Congestion Management Systems (CMS). The adjacent MPO, ARC, has an adopted CMS. Because the GMRDC is not an MPO they are not required to prepare a CMS. However, the basic purpose of a congestion management system is to identify congested corridors, identify the causes of congestion, and recommend potential solutions or mitigation strategies to relieve the congestion based on the causes. In many established congestion management systems, bicycle and pedestrian facilities are considered potential mitigation strategies. Although Forsyth County nor the GMRDC are required to prepare a CMS, the County expressed an interest in analyzing the current congestion levels on their roadway in relation to the proposed Bicycle and Pedestrian Plan. Recommendations were prepared that coordinated proposed bicycle and pedestrian facilities with identified congested roadways. Moreover, the congestion analysis helped to refine and prioritize the alternative facilities identified in the plan.

Traffic congestion results from a need for additional capacity on a roadway, which can be influenced by many factors. The identification of these factors is important for the purpose of providing congestion mitigation measures. Congestion mitigation comes in many different forms, with bicycle and pedestrian facilities being an identified congestion mitigation strategy. Including bicycle and pedestrian projects as a congestion relief strategy along with proposed improvements along congested

corridors will help to improve the effectiveness of Forsyth's improvement strategies.

Causes of Congestion in Forsyth County

Several specific causes of congestion are pertinent to bicycle and pedestrian issues:

- Heavy vehicle volumes;
- Heavy peak period volumes;
- Heavy intersection volumes;
- Heavy pedestrian volumes;
- Too many driveways;
- Poor signal timing coordination; and
- Poor intersection geometrics.

Heavy vehicle volumes, peak volumes and intersection volumes are found in the southern and eastern portion of Forsyth County where residential and commercial development continues to expand. The roadways serving these areas were designed to service mainly rural needs and their improvement has not kept pace with the fast growing County. Typically, experienced cyclists use roads with heavy vehicle volumes as they provide the most direct routes from origins and destinations. Therefore, facilities such as bicycle friendly shoulders and bike lanes should be accommodated along these roadways. At intersections with heavy vehicle volumes, pedestrian improvements should be considered.

Heavy pedestrian volumes are typically found within the vicinity of major activity centers, such as the City of Cumming, schools and parks. The identification of these areas was used to prioritize sidewalk facilities and pedestrian crossings.

Roads with multiple driveways not only contribute to traffic congestion but also present an unfriendly pedestrian environment. A possible solution to this type of congestion can have a positive impact both vehicular and pedestrian traffic. For instance, sidewalk construction projects can be implemented along major arterial

roadways that are targeted for driveway curb-cut closures.

Signal timing coordination is another source of congestion that relates to bicycle and pedestrian issues. Signal timing improvements should include pedestrian signal/crossing improvements and possibly signal detection devices for bicycle crossings at intersections.

Another frequent cause of congestion involves poor intersection geometrics. An intersection with poor geometrics is not only a safety hazard for vehicles, but also for pedestrians. Future intersection improvements should address ADA standards, pedestrian signals and crossings.

Possible Congestion Mitigation Strategies

Congestion mitigation strategies can be grouped into four categories. These are trip elimination strategies, trip reduction strategies, existing system optimization and capacity addition strategies. With guidance from the ARC's CMS, these strategies were evaluated regarding the strategy's potential impact on mobility. In this analysis, required data was identified to measure the strategy's impact in the future.

Trip Elimination Strategies

Trip elimination strategies include modifications to the land use mix and site design. Under site design, provision of inter-connecting sidewalks between offices and commercial areas can be identified as a strategy. In combination with a strategy to provide inter-parcel access, this approach has the potential to impact or reduce trips by 3%. Data required to measure this impact includes accident rates and intersection volumes. For shorter trips, bicycle and pedestrian facilities should be included as a potential trip elimination strategy.

Trip Reduction Strategies

Trip reduction strategies include preferential treatment strategies, administrative measures and economic measures. Under preferential treatment, provision of bicycle and pedestrian facilities and the provision of bicycle access to transit were included as potential trip reduction strategies. Provision of bicycle/pedestrian facilities has a 0.2% potential reduction in trips and bicycle access to transit had no impact as a stand-alone strategy. Required data to measure this impact includes bicycle/pedestrian counts.

Existing System Optimization Strategies

These strategies include ATMS technology application, freeway management, access management, traffic signalization and intersection geometric improvements. From the analysis with respect to causes of congestion and their relationship to bicycle and pedestrian issues, sidewalk construction should be added as a strategy under access management in conjunction with closing driveways. Pedestrian signals/crossing and ADA improvements should be added as a strategy under intersection geometric improvements and bicycle and pedestrian signal improvements should also be added under traffic signalization strategies.

Capacity Addition Strategies

This strategy includes building new roadways, roadway widening and provision of more bus and rail service. Bicycle and pedestrian provisions should be included in roadway and transit capacity projects.

In terms of strategic planning for the Bicycle and Pedestrian Plan, it is also important to identify non-congested parallel facilities that are direct links between origins and destinations. These facilities are important to identify since they can be considered attractive direct alternate routes for the bicyclist. For example, greenway corridors

can be considered as an alternative to congested facilities if they are somewhat direct and connect origins and destinations.

Definition of Congestion in Forsyth County - As previously stated, Forsyth County does not currently have a CMS. Such a system would allow the county to identify roadway facilities that are deficient. In order to generally define congestion in Forsyth County, capacity thresholds for each facility type in a roadway network must be identified. The general facility types analyzed for this study are presented in Figure 2. These facility types include a freeway, major arterials, minor arterials and collectors.

For the purposes of this study, congestion will be identified based on the current level of service (LOS) associated with the major transportation network in Forsyth County. The LOS of a roadway is a qualitative measure of the road user's perception of traffic flow. The letters A through E represent the LOS of a transportation facility. The letter "A" represents the most favorable driving conditions, while the letter "E" represents a congested facility. A generalized LOS table, presented as Table 1, helps to explain the definitions of LOS in terms of capacity. The LOS of a facility in this analysis was based on the facility type and its associated average daily traffic (ADT). There was no attempt to forecast congestion levels in the future. The County's CTP performed an analysis of future travel demand on County roadways. The current congestion analysis provides a snapshot of current congestion levels to assist in the development of the Bicycle and Pedestrian Plan.

The current snapshot of congestion was validated with information provided in the County's CTP existing conditions analysis.

Table 1

Generalized Level of Service²

| Facility Type | Levels of Service Volumes | | | | |
|------------------------|----------------------------------|--------|---------|---------|---------|
| <i>Freeway</i> | A | B | C | D | E |
| 4 lanes | 20,900 | 32,800 | 49,200 | 62,600 | 74,500 |
| 6 lanes | 32,100 | 50,400 | 75,600 | 96,200 | 114,500 |
| 8 lanes | 43,800 | 68,800 | 103,200 | 131,300 | 156,300 |
| 10 lanes | 54,700 | 86,000 | 129,000 | 164,200 | 195,400 |
| Major Arterials | | | | | |
| 2 undivided | - | 10,800 | 15,600 | 16,600 | 16,600 |
| 4 divided | - | 23,500 | 33,200 | 35,000 | 35,000 |
| 6 divided | - | 35,800 | 49,900 | 52,500 | 52,500 |
| Minor Arterials | | | | | |
| 2 undivided | - | - | 9,900 | 14,900 | 16,200 |
| 4 divided | - | - | 22,900 | 32,500 | 34,300 |
| 6 divided | - | - | 35,500 | 48,900 | 51,700 |
| Collectors | | | | | |
| 2 undivided | - | - | 8,600 | 14,600 | 16,000 |
| 4 divided | - | - | 19,800 | 31,700 | 33,900 |
| 6 divided | - | - | 30,800 | 47,800 | 51,000 |
| Local Streets | | | | | |
| 2 undivided | - | - | 4,800 | 10,900 | 11,900 |
| 4 divided | - | - | 11,600 | 23,800 | 25,400 |

Note: Blank lines indicate that the level of service cannot be obtained on a corridor basis.

Congested Facilities

The ADT counts that were collected by GDOT along Forsyth County roads for the year 2000 are presented in Figure 3. These counts were obtained from an online database of traffic count coverage's that is produced by GDOT for each county in the State. The congestion analysis for this study only included the major roadways within Forsyth County. The consultant identified the congested roadways by applying a LOS to the analyzed segments. Most of the congested traffic is located in the southern portion of Forsyth County, with the exception of Browns Bridge Road in the northeast portion of the county. Otherwise, the northern portion of the county has an

adequate roadway system. The most congested roadways include Georgia State Route 400 (GA 400), McFarland Road, State Route 20 (SR 20), McGinnis Ferry Road and a portion of State Route 9 (SR 9). The analysis results are displayed in Figure 4.

As indicated above, a generalized LOS "E" represents a congested facility. Roadways identified in Table 2 were identified as currently congested for the purposes of this analysis. Table 2 also identifies the proposed improvements in various plans to address the congestion. The Proposed Bicycle and Pedestrian Plan improvements, and specific type of improvements, were coordinated with the planned roadway projects.

² 1998 Level of Service Handbook, Florida Department of Transportation

**Table 2
Planned Transportation Projects for Congested Roadways**

| Project | Source | Location | From/To | Type of Improvement |
|----------------|---------------|--------------------|---|----------------------------------|
| II-3 | CTP | Browns Bridge Road | Gravitt Rd. to Hall County Line | Widen from 2/3 to 4 lanes |
| I-12 | CTP | Keith Bridge Road | GA 400 to Dawsonville Hwy. | Widen from 2 to 4 lanes |
| II-12 | CTP | Keith Bridge Road | Spot Rd. to GA 400 | Extension |
| FT 007A | RTP | GA 400 | GA 400 @ McFarland Rd. | Bridge Construction |
| FT 011 | RTP | GA 400 | GA 400 @ SR 20 | Interchange Reconstruction |
| I-30 | CTP | GA 400 | GA 400 @ McFarland Rd. | Interchange Replacement |
| II-10 | CTP | GA 400 | McFarland Rd. to Browns Bridge Rd. | Widen from 4 to 6 lanes |
| II-11 | CTP | GA 400 | Fulton County Line to McFarland Rd. | Widen from 4 to 6 lanes with HOV |
| III-6 | CTP | GA 400 | McFarland Rd. to Browns Bridge Rd. | Widen from 4 to 6 lanes |
| III-7 | CTP | GA 400 | Browns Bridge Rd. to Dawson County Line | Widen from 4 to 6 lanes |
| III-14 | CTP | GA 400 | At McGinnis Ferry Rd. | New Interchange |
| III-15 | CTP | GA 400 | At Majors Rd. | New Interchange |
| FT 007 | RTP | McFarland Rd. | SR 9 to GA 400 | Widen from 2 to 4 lanes |
| FT 015 | RTP | McFarland Rd. | McGinnis Ferry Rd. to GA 400 | Widen from 2 to 4 lanes |
| I-20 | CTP | McFarland Rd. | Atlanta Hwy. To Union Hill Rd. | Widen from 2 to 4 lanes |
| I-21 | CTP | McFarland Rd. | Union Hill Rd. to McGinnis Ferry Rd. | Widen from 2 to 6 lanes |
| III-12 | CTP | McFarland Rd. | Union Hill Rd. to Atlanta Hwy. | Widen from 4 to 6 lanes |
| FT 004 | RTP | SR 20 | From GA 400 to Samples Rd. | Widen from 2 to 4 lanes |
| FT 006 | RTP | SR 20 | From 0.5 miles north of Greenwood Acres Dr. to Kelly Mill Rd. | Widen from 2 to 4 lanes |
| I-6 | CTP | SR 20 | Gwinnett County Line to Samples Rd. | Widen from 2/3 to 4 lanes |
| I-7 | CTP | SR 20 | Samples Rd. to Atlanta Hwy.. | Widen from 2/5 to 6 lanes |
| I-8 | CTP | SR 20 | Kelly Mill Rd. to Doc Sams Rd. | Widen from 2/3 to 4 lanes |
| I-29 | CTP | SR 20 @ GA 400 | Interchange Replacement | n/a |

| | | | | |
|------|-----|-------|--------------------------------------|---------------------------|
| II-4 | CTP | SR 20 | GA 400 to Gwinnett County Line | Widen from 4 to 6 lanes |
| II-5 | CTP | SR 20 | Cherokee County Line to Doc Sams Rd. | Widen from 2/3 to 4 lanes |
| II-6 | CTP | SR 20 | Spot Rd. to Kelley Mill Rd. | Widen from 4 to 6 lanes |

| Project | Source | Location | From/To | Type of Improvement |
|----------------|---------------|---------------------|---|----------------------------|
| III-2 | CTP | SR 20 | Cherokee County line to north of Spot Rd. | Widen from 4 to 6 lanes |
| FT 001 | RTP | SR 9 | SR 141 to SR 20 | Widen from 2 to 4 lanes |
| FT 009 | RTP | SR 9 | SR 20 to SR 306 | Widen from 2 to 4 lanes |
| FT 023A | RTP | SR 9 | McFarland Rd. to SR 371 | Widen from 2 to 4 lanes |
| FT 023B | RTP | SR 9 | SR 371 to SR 141 | Widen from 2 to 4 lanes |
| I-1 | CTP | SR 9 | McFarland Rd. to Mullinax Rd. | Widen from 2 to 4 lanes |
| I-2 | CTP | SR 9 | Mullinax Rd. to Maple St. | Widen from 2/3 to 4 lanes |
| I-10 | CTP | SR 9 | Main St. to Dunn Rd. | Widen from 2 to 4 lanes |
| I-22 | CTP | McGinnis Ferry Road | Gwinnett Co. line to Cherokee County line | Widen from 2 to 4 lanes |
| II-1 | CTP | SR 9 | Cherokee County Line to McFarland Rd. | Widen from 2 to 4 lanes |
| II-18 | CTP | McGinnis Ferry Road | McFarland Road to Brookwood Road | Widen from 4 to 6 lanes |
| II-7 | CTP | SR 9 | Dunn Rd. to Browns Bridge Rd. | Widen from 2 to 4 lanes |
| III-13 | CTP | McGinnis Ferry Road | Brookwood Road to Gwinnett Co. line | Widen from 4 to 6 lanes |
| III-1 | CTP | SR 9 | McFarland Rd. to Mullinax Rd. | Widen from 4 to 6 lanes |

Browns Bridge Road is a two-lane major arterial that is congested from Keith Bridge Road to approximately Little Mill Road. Additional capacity has been recommended for this facility in the CTP, with the proposed improvement being a four-lane facility. Keith Bridge Road is also congested within this area from Browns Bridge Road to GA 400 and the CTP recommends additional capacity. The

Bicycle and Pedestrian Plan proposes multi-use paths and sidewalks along these roads.

GA 400 is a deficient roadway as it enters Forsyth County from the south and improves as it extends north. Additional capacity is being planned along this state highway and there are various interchange improvements that are planned or are under construction. The Bicycle and Pedestrian Plan

recommends a parallel multi-use path, possibly, following utility easements. Pedestrian improvements are recommended at the interchange crossings.

McFarland Road is a deficient roadway north of GA 400. This roadway is a major arterial with termini at McGinnis Ferry Road and SR 9. North of GA 400, the average daily traffic count is 21,848 vehicles per day (vpd). This roadway is a two-lane facility from McGinnis Ferry Road to Union Hill Road, which at this point, turns into a four-lane facility. Additional capacity is being planned for this roadway in the CTP that proposes for the facility to be a six-lane roadway. Bicycle friendly shoulders and sidewalks are recommended along this roadway.

Currently, SR 20 in Forsyth County has a variable number of lanes. However, the arterial is predominately a two-lane state highway. This facility is congested south of GA 400. Both the CTP and the Regional Transportation Plan have numerous roadway projects for this facility that will add additional capacity. Sidewalk improvements are recommended along this roadway.

McGinnis Ferry Road is a two lane facility that serves Forsyth, Fulton and Gwinnett County traffic. It is considered a major east-west regional corridor. The road is congested from the Gwinnett County line to McFarland Road. Provisions to widen the roadway are in the County's CTP. A proposed multi-use path is being designed along with the roadway improvement.

Lastly, SR 9 is congested as it enters Forsyth County from the west. The average daily traffic count north of McFarland Road is 22,000 vehicles. Provisions for additional capacity along this facility have been provided in the CTP. Bicycle friendly shoulders are recommended along this facility.

As traffic volumes in Forsyth County increase, the need for both safety and capacity becomes apparent. Elements from the Proposed Bicycle and Pedestrian Plan have been strategically placed in areas help to relieve traffic congestion. Forsyth County currently does not have a transit system and there are not any rail connections. However, park and ride lots are being proposed at certain GA 400 interchanges and discussions are underway with the Georgia Regional Transportation Authority (GRTA) to improve certain arterials for potential use of buses. Additionally, GRTA is proposing to operate express buses along GA 400 from proposed park and ride lots to MARTA stations. Proposed bicycle and pedestrian improvements have been coordinated with these efforts in order to maximize the potential use of transit in Forsyth County.

Direct improvements from the Proposed Bicycle and Pedestrian Plan include projects, such as the addition of bicycle friendly shoulders to a congested roadway. This type of improvement can be seen on SR 141, which has a LOS "D" south of Old Alpharetta Hwy. An indirect improvement to a congested corridor can be seen through the use of greenways that connect the county's park system or in the multi-use path that runs parallel to the GA 400 corridor. Each of these improvements is intended to compliment each other and offer the citizens of Forsyth with alternate modes of transportation.

A comparison of the proposed bicycle and pedestrian improvements with the planned transportation projects ensures maximum performance from a system wide congestion relief program. Coordination of these efforts is essential for an efficient transportation system and for future long range planning efforts.

Integrating the Congestion Analysis with the Proposed Bicycle and Pedestrian Plan Update

- Based on the analysis that has been prepared for Forsyth County and its relationship to the Proposed Bicycle and Pedestrian Plan, the following additional strategies were recommended and included in Section 4 (Goals, Objectives and Strategies. These strategies will strengthen the relationship between the transportation and the bicycle and pedestrian needs of the residents:

1. In the Bicycle and Pedestrian strategic planning process, consider sidewalk projects along congested corridors with “too many driveways” in combination with origin/destination information.
2. Include a strategy in the Bicycle and Pedestrian plan that requires bicycle friendly signal timing/detection improvements along congested corridors with signal timing problems that are also identified as suitable for bicycling in the suitability analysis.
3. Consider pedestrian signal and pedestrian crossing improvements for corridors that are experiencing signal timing and poor intersection geometric problems.
4. Include a strategy in the Bicycle and Pedestrian plan that requires intersection improvement projects that rectify congested intersection geometric problems to include bicycle and pedestrian design elements.
5. Include the provision of bicycle facilities as a potential trip elimination strategy in future congestion analysis and updates to the Comprehensive Transportation Plan.
6. Include data collection regarding bicycle and pedestrian in future congestion data collection efforts, i.e., bike counts, pedestrian counts,

etc. Use bicycle and pedestrian information to quantify bicycle and pedestrian benefits in the Bicycle and Pedestrian Plan update.

Section 6. Plan Recommendations

The following are the specific facilities recommended in the 2025 Forsyth County Bicycle Transportation and Pedestrian Walkways Plan.

These estimates are construction costs only and do not include engineering or right-of-way. The facilities are identified by facility type and by priority.

BIKE/PED PROJECTS

By Facility Type

PROPOSED GREENWAY

| Road Name: | Area Description: | Facility Description: | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|------------------------------|---|-------------------------|-------------------------------|--------------------------|
| Big Creek Extension Phase I | Park off of Hwy 9 to McGinnis Ferry | 10'-12' Shared-Use Path | \$4,200,000 | 21,000' |
| Big Creek Extension Phase II | Atlanta Hwy to Majors | 10'-12' Shared-Use Path | \$1,400,000 | 7,000' |
| Etowah Greenway Extension | Cherokee Co. Border to Dawson Co. Border | 10'-12' Shared-Use Path | \$6,200,000 | 31,000' |
| Sawnee Mountain Greenway | Pooles Mill Park to Swannee Mountain Park | 10'-12' Shared-Use Path | \$9,000,000 | 45,000' |
| Chattahoochee River | Buford Dam Road to McGinnis Ferry | 10'-12' Shared-Use Path | \$10,000,000 | 50,000' |
| TOTAL GREENWAY: | | | \$30,800,000 | 154,000' |

MULTI-USE PATH

| Road Name: | Area Description: | Facility Description: | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|------------------------------|---------------------------------------|------------------------------|--------------------------------------|---------------------------------|
| Hwy 371 | Kelly Mill to Atlanta Hwy | 8'-10' Walk/Bikeway | \$4,200,000 | 21,000' |
| McGinnis Ferry | Chattahoochee River to Old Alpharetta | 8'-10' Walk/Bikeway | \$8,900,000 | 44,500' |
| Hwy 400 | McGinnis Ferry to Buford Hwy | 8'-10' Walk/Bikeway | \$9,000,000 | 45,000' |
| Browns Bridge | Keith Bridge to Waldrip Circle | 8'-10' Walk/Bikeway | \$6,400,000 | 32,000' |
| Keith Bridge | Waldrip to Browns Bridge | 8'-10' Walk/Bikeway | \$6,800,000 | 34,000' |
| TOTAL MULTI-USE PATH: | | | \$35,300,000 | 176,500' |

SIDEWALKS

| Road Name: | Area Description: | Facility Description: | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|----------------------------|--------------------------------|-----------------------|-------------------------------|--------------------------|
| Canton Road | Bethelview to City Limits | 5' Concrete Walk | \$1,072,500 | 16,500' |
| Ridgefield and Shiloh East | Loop around back to McFarland | 5' Concrete Walk | \$1,235,000 | 19,000' |
| James Burgess | Old Atlanta to River Mist | 5' Concrete Walk | \$910,000 | 14,000' |
| Haw Creek | Old Atlanta to Buford Hwy | 5' Concrete Walk | \$520,000 | 8,000' |
| Gilbert Road | Old Atlanta to Trammel | 5' Concrete Walk | \$390,000 | 6,000' |
| Trammel | Buford Hwy to Old Atlanta | 5' Concrete Walk | \$1,300,000 | 20,000' |
| Buford Hwy | Tribble Gap to Chamonix Drive | 5' Concrete Walk | \$1,365,000 | 21,000' |
| Echols | Buford Hwy to Hudgins | 5' Concrete Walk | \$396,500 | 6,100' |
| Hudgins | Buford Hwy to New College Way | 5' Concrete Walk | \$390,000 | 6,000' |
| Fairway | Buford Hwy to School | 5' Concrete Walk | \$325,000 | 5,000' |
| Buford Dam Road | Sanders to Chattahoochee River | 5' Concrete Walk | \$1,365,000 | 21,000' |
| Pilgrim Mill | City Limits to Tidwell Park | 5' Concrete Walk | \$1,683,500 | 25,900' |
| Browns Bridge | Keith Bridge to Hendrix | 5' Concrete Walk | \$1,235,000 | 19,000' |

| | | | | |
|-----------------------------------|---|------------------|---------------------|-----------------|
| McFarland | Jones to GA 400 | 5' Concrete Walk | \$195,000 | 3,000' |
| New Proposed Access Road | Hwy 141 to City Limits and Market Place Blvd. | 5' Concrete Walk | \$1,495,000 | 23,000' |
| Bald Ridge Marina Exit Bridge | | 5' Concrete Walk | \$45,500 | 700' |
| Dahlonega Hwy | Rte 9 to proposed Pilgrim Mill Access Road | 5' Concrete Walk | \$390,000 | 6,000' |
| Castleberry | Rte 9 to Bethelview | 5' Concrete Walk | \$637,000 | 9,800' |
| Peachtree Pkwy | Mathis Airport to McGinnis Ferry | 5' Concrete Walk | \$487,500 | 7,500' |
| Proposed Pilgrim Mill Access Road | Pilgrim Mill to Browns Bridge | 5' Concrete Walk | \$731,250 | 11,250' |
| Brookwood | Peachtree Pkwy to Fulton County Border | 5' Concrete Walk | \$364,000 | 5,600' |
| Hwy 141 | Majors to Mathis Airport | 5' Concrete Walk | \$845,000 | 13,000' |
| Pooles Mill Link | Poole Mill Park to Etowah River Greenway | 5' Concrete Walk | \$455,000 | 7,000' |
| Bethelview | Canton Hwy to Majors | 5' Concrete Walk | \$2,600,000 | 40,000' |
| TOTAL SIDEWALK: | | | \$20,432,750 | 314,350' |

Bicycle Friendly Shoulder

| Road Name: | Area Description: | Facility Description: | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|---------------------------------|---|------------------------------|--------------------------------------|---------------------------------|
| Atlanta Hwy | Hwy 371 to Bethelview | Additional Shoulder Width | \$804,000 | 20,100' |
| Sharon | Hwy 141 to Old Atlanta | Additional Shoulder Width | \$224,000 | 5,600' |
| Jones | Bluegrass Lakes Pkwy to Dalesford Drive | Additional Shoulder Width | \$200,000 | 5,000' |
| McFarland | GA 400 to McGinnis Ferry | Additional Shoulder Width | \$204,000 | 5,100' |
| Old Atlanta Road | Brannon to Haw Creek | Additional Shoulder Width | \$400,000 | 10,000' |
| Pilgrim Mill | Proposed Access Road to Tidwell Park | Additional Shoulder Width | \$676,000 | 16,900' |
| Waldrep | Keith Bridge to Browns Bridge | Additional Shoulder Width | \$800,000 | 20,000' |
| TOTAL BICYCLE SHOULDERS: | | | \$3,308,000 | 82,700' |

Signed Shared Roadway

| Project Name: | Area Description: | Facility Description: | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|----------------------------------|---|------------------------------|--------------------------------------|---------------------------------|
| Bentley Trail | Kelly Mill to Cherokee County Border | Bicycle Traffic Signage | \$26,000 | 26,000' |
| Kelly Mill Trail | Cherokee County Border to City limits | Bicycle Traffic Signage | \$35,200 | 35,200' |
| Northern Trail | City Limits to Karr to John Burriss to Elmo to Westray to Dawson County | Bicycle Traffic Signage | \$50,000 | 50,000' |
| Holbrook - Karr Link | Burnt Bridge to John Burruss | Bicycle Traffic Signage | \$13,000 | 13,000' |
| Western Loop | Pleasant Grove to Watson to Heardsville to Hurt Bridge to Holbrook | Bicycle Traffic Signage | \$55,000 | 55,000' |
| Harris Drive - Burnt Bridge Link | Burnt Bridge to Wallace Tatum to Whitmire to Mount Taber to Harris | Bicycle Traffic Signage | \$40,000 | 40,000' |
| Govan - Hendrix Link | Hendrix to 369 to Hubert Mathis to Riley to Dawson County | Bicycle Traffic Signage | \$39,500 | 39,500' |
| Tribble Trail | Watson to Kelly Mill | Bicycle Traffic Signage | \$16,900 | 16,900' |
| Spot Trail | Bettis Tribble Gap to Dahlenega Hwy | Bicycle Traffic Signage | \$17,500 | 17,500' |

| | | | | |
|----------------------------------|--------------------|-------------------------|------------------|-----------------|
| Heardsville Circle | Heardsville Circle | Bicycle Traffic Signage | \$10,000 | 10,000' |
| TOTAL SIGNED SHARED ROAD: | | | \$303,100 | 303,100' |

Pedestrian Crossing

| Project Name: | Facility Description: | Preliminary Estimate of Cost: |
|-----------------------------------|---------------------------------|--------------------------------------|
| Canton Hwy @ Post | Pedestrian Signal and Crosswalk | \$43,000 |
| Canton Hwy @ Bethelview | Pedestrian Signal and Crosswalk | \$43,000 |
| Post @ Bentley | Pedestrian Signal and Crosswalk | \$43,000 |
| Post @ Majors | Pedestrian Signal and Crosswalk | \$43,000 |
| Post @ Dickerson | Pedestrian Signal and Crosswalk | \$43,000 |
| Hwy 9 @ Pendley | Pedestrian Signal and Crosswalk | \$43,000 |
| Fairway Drive @ Buford Hwy | Pedestrian Signal and Crosswalk | \$43,000 |
| James Burgess @ Old Atlanta Road | Pedestrian Signal and Crosswalk | \$43,000 |
| TOTAL PEDESTRIAN CROSSING: | | \$344,000 |

| | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|-------------------------------------|--|-------------------------------------|
| PROGRAM TOTAL FORSYTH COUNTY | \$90,487,850 | 1,030,650' |

These facilities were prioritized based on the potential for receiving funding, their ability to be constructed along with a road project, cost, proximity to high population and employment densities, proximity to destinations such as schools and parks, and

feasibility. Short-term projects are those that can be built in a 5-year time frame. Mid-term projects are those that can be built between 5 and 10 years. Long-term projects are those that are anticipated to be constructed beyond the 11 year period.

SHORT-TERM PROJECTS

(1-5 years)

| Project Name: | Area Description: | Facility Description: | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|-----------------------|---------------------------------------|------------------------------|--------------------------------------|---------------------------------|
| MULTI-USE PATH | | | | |
| McGinnis Ferry Road | Chattahoochee River to Old Alpharetta | 8'-10' Walk/Bikeway | \$8,900,000 | 44,500' |
| TOTAL: | | | \$8,900,000 | 44,500' |

| SIDEWALKS | | | | |
|----------------------------------|--------------------------------|---------------------------|--------------------|----------------|
| Buford Hwy | Tribble Gap to Chamonix Drive | 5' Concrete Walk | \$1,365,000 | 21,000' |
| Buford Dam Road | Sanders to Chattahoochee River | 5' Concrete Walk | \$1,365,000 | 21,000' |
| McFarland Road | Jones to GA 400 | 5' Concrete Walk | \$195,000 | 3,000' |
| Bald Ridge Marina Exit Bridge | | 5' Concrete Walk | \$45,500 | 700' |
| Hwy 141 | Majors to Mathis Airport | 5' Concrete Walk | \$845,000 | 13,000' |
| Bethelview Road | Canton Hwy to Majors | 5' Concrete Walk | \$2,600,000 | 40,000' |
| TOTAL: | | | \$6,415,500 | 98,700' |
| Bicycle Friendly Shoulder | | | | |
| McFarland Road | GA 400 to McGinnis Ferry | Additional Shoulder Width | \$204,000 | 5,100' |
| Old Atlanta Road | Brannon to Haw Creek | Additional Shoulder Width | \$400,000 | 10,000' |
| TOTAL: | | | \$604,000 | 15,100' |

Signed Shared Roadway

| | | | | |
|----------------------------------|--|-------------------------|------------------|-----------------|
| Kelly Mill Trail | Cherokee County Border to City limits | Bicycle Traffic Signage | \$35,200 | 35,200' |
| Northern Trail | City Limits to Karr to John Burris to Elmo to Westray to Dawson County | Bicycle Traffic Signage | \$50,000 | 50,000' |
| Holbrook - Karr Link | Burnt Bridge to John Burruss | Bicycle Traffic Signage | \$13,000 | 13,000' |
| Western Loop | Pleasant Grove to Watson to Heardsville to Hurt Bridge to Holbrook | Bicycle Traffic Signage | \$55,000 | 55,000' |
| Harris Drive - Burnt Bridge Link | Burnt Bridge to Wallace Tatum to Whitmire to Mount Taber to Harris | Bicycle Traffic Signage | \$40,000 | 40,000' |
| Govan - Hendrix Link | Hendrix to 369 to Hubert Mathis to Riley to Dawson County | Bicycle Traffic Signage | \$39,500 | 39,500' |
| TOTAL: | | | \$232,700 | 232,700' |

Pedestrian Crossing

| | | |
|----------------------------------|---------------------------------|------------------|
| Canton Hwy @ Post Road | Pedestrian Signal and Crosswalk | \$43,000 |
| Canton Hwy @ Bethelview Road | Pedestrian Signal and Crosswalk | \$43,000 |
| Post Road @ Bentley Road | Pedestrian Signal and Crosswalk | \$43,000 |
| Post Road @ Majors Road | Pedestrian Signal and Crosswalk | \$43,000 |
| Post Road @ Dickerson Road | Pedestrian Signal and Crosswalk | \$43,000 |
| Hwy 9 @ Pendley Road | Pedestrian Signal and Crosswalk | \$43,000 |
| Fairway Drive @ Buford Hwy | Pedestrian Signal and Crosswalk | \$43,000 |
| James Burgess @ Old Atlanta Road | Pedestrian Signal and Crosswalk | \$43,000 |
| TOTAL: | | \$344,000 |

| | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|---|-------------------------------|--------------------------|
| SHORT-TERM PRIORITY PROJECT TOTALS | \$16,496,200 | 391,000' |

MID-TERM PROJECTS

(5-10 years)

| Project Name: | Area Description: | Facility Description: | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|----------------------------|-------------------------------|-----------------------|-------------------------------|--------------------------|
| MULTI-USE PATH | | | | |
| Hwy 371 | Kelly Mill to Atlanta Hwy | 8'-10' Walk/Bikeway | \$4,200,000 | 21,000' |
| TOTAL: | | | \$4,200,000 | 21,000' |
| SIDEWALKS | | | | |
| Road Name: | Area Description: | Facility Description: | Preliminary Estimate of Cost: | Approximate Linear Feet: |
| Canton Road | Bethelview to City Limits | 5' Concrete Walk | \$1,072,500 | 16,500' |
| Ridgefield and Shiloh East | Loop around back to McFarland | 5' Concrete Walk | \$1,235,000 | 19,000' |
| James Burgess | Old Atlanta to River Mist | 5' Concrete Walk | \$910,000 | 14,000' |
| Haw Creek | Old Atlanta to Buford Hwy | 5' Concrete Walk | \$520,000 | 8,000' |
| Trammel | Buford Hwy to Old Atlanta | 5' Concrete Walk | \$1,300,000 | 20,000' |
| Hudgins | Buford Hwy to New College Way | 5' Concrete Walk | \$390,000 | 6,000' |
| Fairway | Buford Hwy to School | 5' Concrete Walk | \$325,000 | 5,000' |

| | | | | |
|-----------------------------------|---|------------------|---------------------|-----------------|
| Pilgrim Mill | City Limits to Tidwell Park | 5' Concrete Walk | \$1,683,500 | 25,900' |
| Browns Bridge | Keith Bridge to Hendrix | 5' Concrete Walk | \$1,235,000 | 19,000' |
| New Proposed Access Road | Hwy 141 to City Limits and Market Place Blvd. | 5' Concrete Walk | \$1,495,000 | 23,000' |
| Dahlonega Hwy | Rte 9 to proposed Pilgrim Mill Access Road | 5' Concrete Walk | \$390,000 | 6,000' |
| Peachtree Pkwy | Mathis Airport to McGinnis Ferry | 5' Concrete Walk | \$487,500 | 7,500' |
| Proposed Pilgrim Mill Access Road | Pilgrim Mill to Browns Bridge | 5' Concrete Walk | \$731,250 | 11,250' |
| Brookwood | Peachtree Pkwy to Fulton County Border | 5' Concrete Walk | \$364,000 | 5,600' |
| TOTAL: | | | \$12,138,750 | 186,750' |

Bicycle Friendly Shoulder

| Road Name: | Area Description: | Facility Description: | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|---------------|---|---------------------------|-------------------------------|--------------------------|
| Atlanta Hwy | Hwy 371 to Bethelview | Additional Shoulder Width | \$804,000 | 20,100' |
| Sharon Road | Hwy 141 to Old Atlanta | Additional Shoulder Width | \$224,000 | 5,600' |
| Jones Road | Bluegrass Lakes Pkwy to Dalesford Drive | Additional Shoulder Width | \$200,000 | 5,000' |
| TOTAL: | | | \$1,228,000 | 30,700' |

Signed Shared Roadway

| Project Name: | Area Description: | Facility Description: | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|----------------------|--------------------------------------|------------------------------|--------------------------------------|---------------------------------|
| Bentley Trail | Kelly Mill to Cherokee County Border | Bicycle Traffic Signage | \$26,000 | 26,000' |
| Tribble Trail | Watson to Kelly Mill | Bicycle Traffic Signage | \$6,900 | 16,900' |
| Spot Trail | Bettis Tribble Gap to Dahlonega Hwy | Bicycle Traffic Signage | \$17,500 | 17,500' |
| TOTAL: | | | \$60,400 | 60,400' |

| | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|---|--------------------------------------|---------------------------------|
| MID-TERM PRIORITY PROJECT TOTALS | \$17,627,150 | 298,850' |

**LONG-TERM
PROJECTS**

(+11 years)

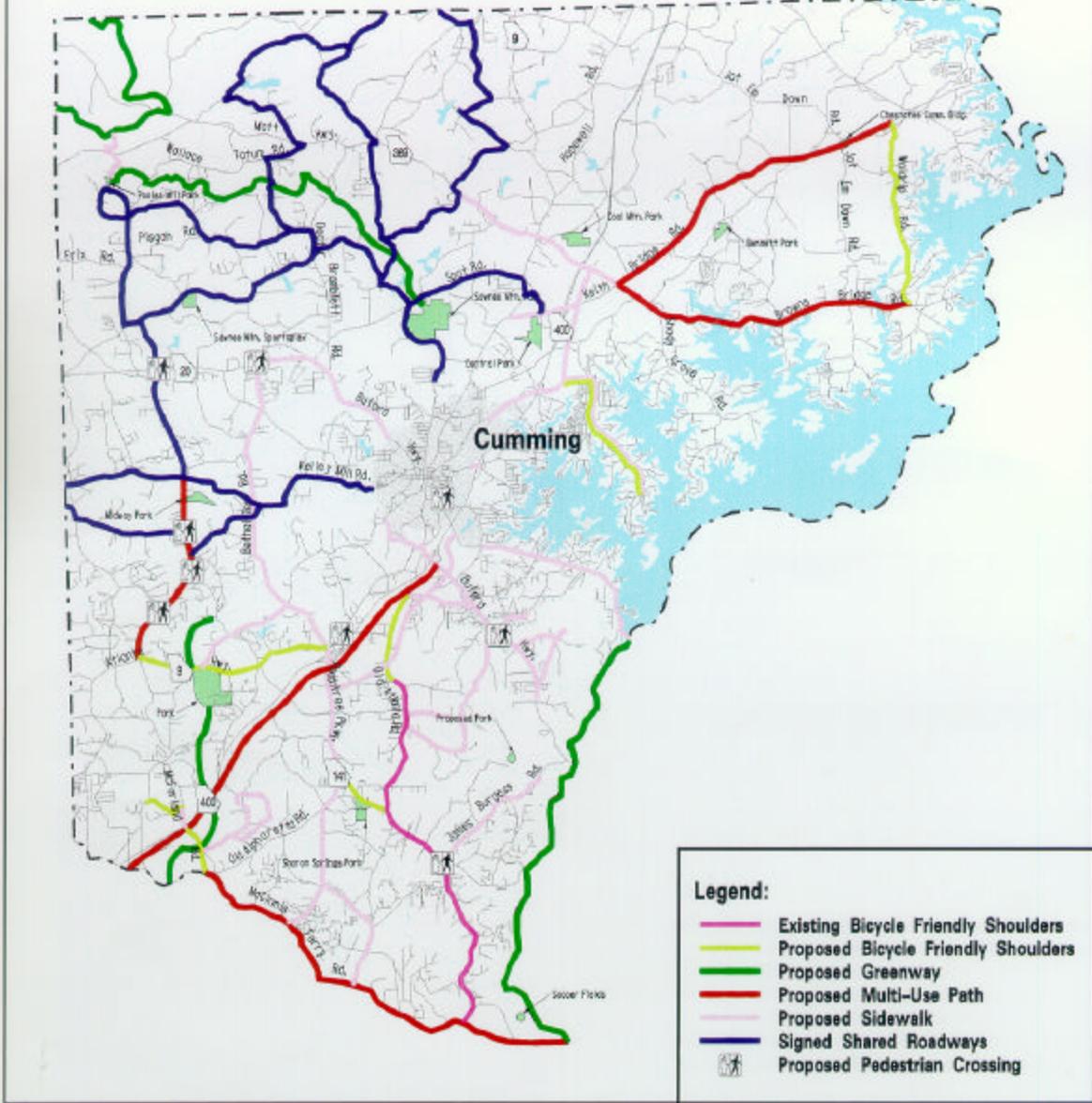
| Project Name: | Area Description: | Facility Description: | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|------------------------------|--|------------------------------|--------------------------------------|---------------------------------|
| PROPOSED GREENWAY | | | | |
| Big Creek Extension Phase I | Park off of Hwy 9 to McGinnis Ferry | 10'-12' Shared-Use Path | \$4,200,000 | 21,000' |
| Big Creek Extension Phase II | Atlanta Hwy to Majors | 10'-12' Shared-Use Path | \$1,400,000 | 7,000' |
| Etowah Greenway Extension | Cherokee Co. Border to Dawson Co. Border | 10'-12' Shared-Use Path | \$6,200,000 | 31,000' |
| Sawnee Mountain Greenway | Pooles Mill Park to Swanee Mountain Park | 10'-12' Shared-Use Path | \$9,000,000 | 45,000' |
| Chattahoochee River | Buford Dam Road to McGinnis Ferry | 10'-12' Shared-Use Path | \$10,000,000 | 50,000' |
| TOTAL: | | | \$30,800,000 | 154,000' |
| MULTI-USE PATH | | | | |
| Hwy 400 | McGinnis Ferry to Buford Hwy | 8'-10' Walk/Bikeway | \$9,000,000 | 45,000' |
| Browns Bridge Road | Keith Bridge to Waldrip Circle | 8'-10' Walk/Bikeway | \$6,400,000 | 32,000' |
| Keith Bridge Road | Waldrip to Browns Bridge | 8'-10' Walk/Bikeway | \$6,800,000 | 34,000' |
| TOTAL: | | | \$22,200,000 | 111,000' |

| SIDEWALKS | | | | |
|------------------|--|------------------|--------------------|----------------|
| Gilbert Road | Old Atlanta to Trammel | 5' Concrete Walk | \$390,000 | 6,000' |
| Echols | Buford Hwy to Hudgins | 5' Concrete Walk | \$396,500 | 6,100' |
| Castleberry | Rte 9 to Bethelview | 5' Concrete Walk | \$637,000 | 9,800' |
| Pooles Mill Link | Poole Mill Park to Etowah River Greenway | 5' Concrete Walk | \$455,000 | 7,000' |
| TOTAL: | | | \$1,878,500 | 28,900' |

| Bicycle Friendly Shoulder | | | | |
|----------------------------------|--------------------------------------|---------------------------|--------------------|----------------|
| Pilgrim Mill | Proposed Access Road to Tidwell Park | Additional Shoulder Width | \$676,000 | 16,900' |
| Waldrep | Keith Bridge to Browns Bridge | Additional Shoulder Width | \$800,000 | 20,000' |
| TOTAL: | | | \$1,476,000 | 36,900' |

| Signed Shared Roadway | | | | |
|------------------------------|--------------------|-------------------------|-----------------|----------------|
| Heardsville Circle | Heardsville Circle | Bicycle Traffic Signage | \$10,000 | 10,000' |
| TOTAL: | | | \$10,000 | 10,000' |

| | Preliminary Estimate of Cost: | Approximate Linear Feet: |
|--|----------------------------------|--------------------------|
| LONG-TERM PRIORITY PROJECT TOTALS | \$56,364,500 | 340,800' |



- Legend:**
- Existing Bicycle Friendly Shoulders
 - Proposed Bicycle Friendly Shoulders
 - Proposed Greenway
 - Proposed Multi-Use Path
 - Proposed Sidewalk
 - Signed Shared Roadways
 - Proposed Pedestrian Crossing

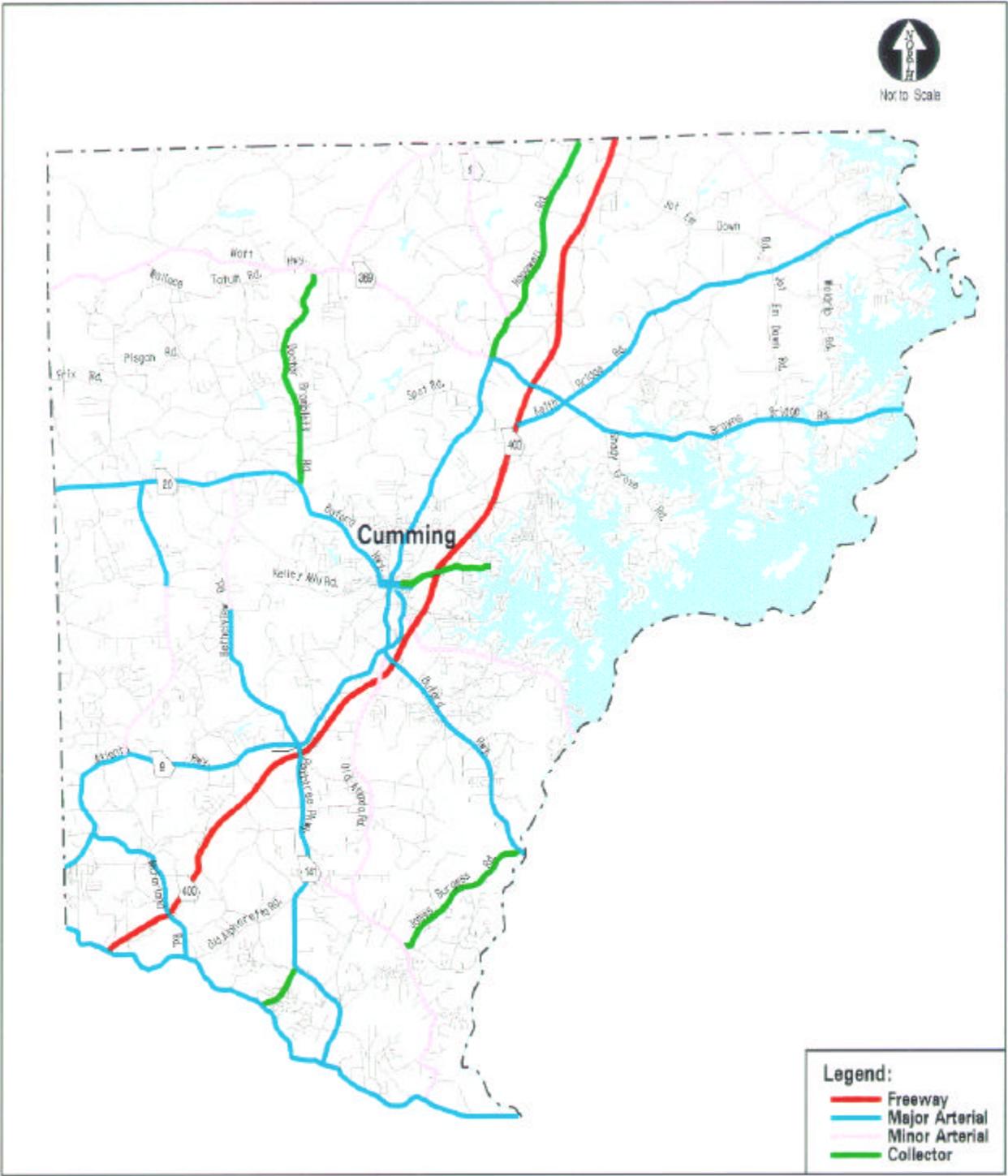
Proposed Bicycle and Pedestrian Plan



**Bicycle and Pedestrian Plan
Forsyth County, Georgia**

Figure 1

nr\890624.00\bikeplan.dgn



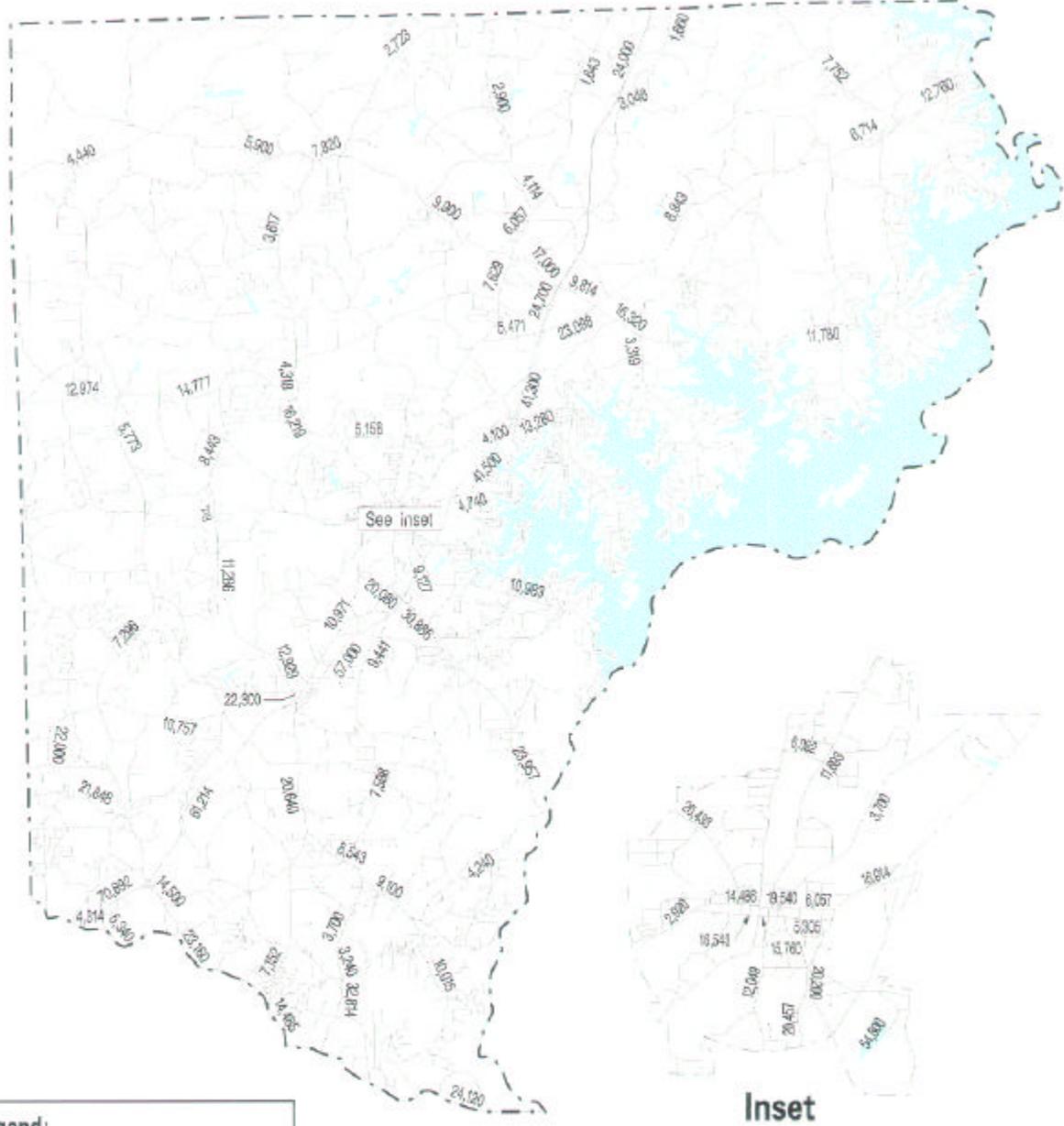
Roadway Facility Types



**Bicycle and Pedestrian Plan
Forsyth County, Georgia**

Figure 2

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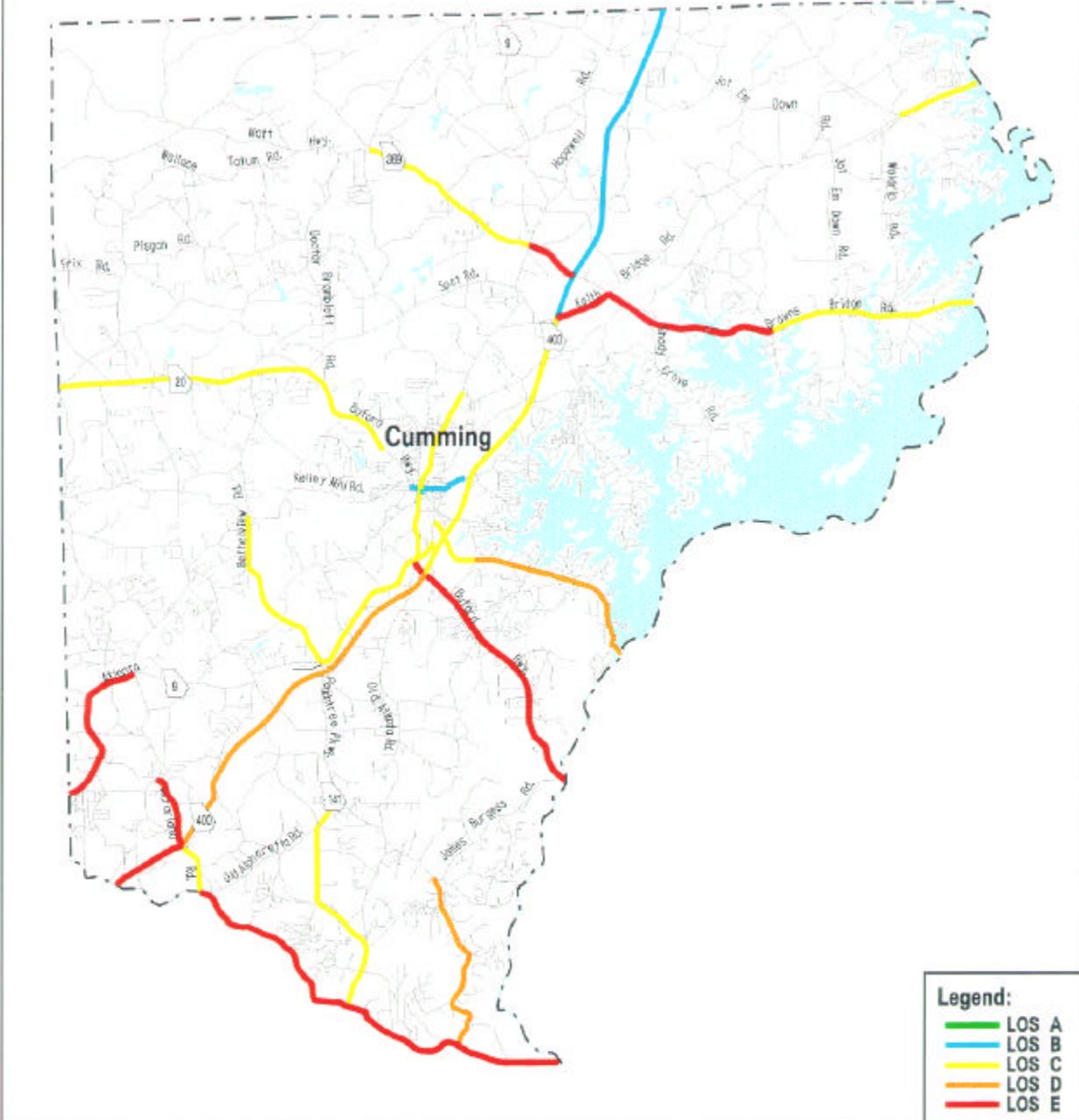
Legend:
1,000 Average Daily Traffic Count

2000 Average Daily Traffic Counts



Bicycle and Pedestrian Plan Forsyth County, Georgia

Figure 3



Level of Service



**Bicycle and Pedestrian Plan
Forsyth County, Georgia**

Figure 4

nc:\052624.02\10s2.dgn