REGIONAL BIKE AND PEDESTRIAN FACILITIES PLAN

FOR THE

NORTH GEORGIA REGION

Prepared by
The North Georgia Regional Development Center

June, 2005

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REGIONAL BIKE AND PEDESTRIAN FACILITIES PLAN

For the

North Georgia Region
(Fannin, Gilmer, Murray, Pickens and Whitfield Counties)

June 23, 2005

ACKNOWLEDGEMENTS

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CHAPTER ONE - EXECUTIVE SUMMARY

Background

This plan has been developed through a contract with the Georgia Department of Transportation (GDOT). In order to relieve traffic congestion, conserve fuel, and meet the need of transportation disadvantaged populations, the Federal Highway Administration and GDOT are supportive of expanding and enhancing alternative forms of transportation like bicycle and pedestrian travel. Historically, through our dependence on the automobile, bicycle and pedestrian needs in the North Georgia region have generally been forgotten when transportation infrastructure has been created. As a result, bicycling and walking are not currently widely used forms of transportation in North Georgia. However, due to increasing traffic congestion, higher fuel prices, and interest in recreational bicycling and walking, these forms of transportation are growing in popularity. Through planning and implementation they could grow even further in North Georgia.

Bicycle and Pedestrian Planning Process

This plan was developed with the input of a North Georgia Planning Advisory Committee (PAC). The PAC was made up of elected officials, other city and county officials, citizens, bicycle dealers, bike and pedestrian advocates, school officials, and public health officials from the North Georgia region. The PAC met three times during the development of this plan. The first meeting was to review existing conditions and develop a needs list; the second was to develop goals and objectives; and the third, to review and discuss implementation strategies. Two public meetings were also held - one to review and comment on the goals and objectives, and the other to review and comment on implementation strategies.

Plan Goals and Objectives

Three goals with related objectives and implementation strategies were established as indicated below.

Goal 1: Promote and encourage bicycling and pedestrian travel as viable forms of transportation, as healthy forms of exercise, and as a positive benefit to the environment and community.

Objectives:

- Establish educational and marketing programs that promote bicycling and walking.

Implementation:

- Develop and distribute materials citing the benefits of bicycling and walking.
- Develop and distribute materials regarding bike and pedestrian rules and regulations and safety issues
- Publish maps of established routes and facilities.

- Organize and promote events such as National Bike Month and Walk to School Day.

Goal 2: Provide a regional system of bicycling and pedestrian facilities that is safe, convenient and accessible for all users.

Objectives:

- Develop a system of bicycle routes that will connect the region's major urban centers to the State bicycle routes.
- Develop a system of bicycle and pedestrian facilities that will link residential areas with major activities centers in each county.
- Support education, training and enforcement of regulations to ensure safe and proper use of the bicycle and pedestrian system.

Planning Strategies:

- Identify secondary roads that connect major urban centers.
- Conduct an inventory of right of ways and other features in the region that could be developed into multi-use trails.
- Identify major activity centers and establish safe routes connecting residential areas to these areas.

Implementation:

- After routes are approved, install signs and publish regional maps and pamphlets indicating route locations.
- Require developers to install sidewalks along new streets in developments.
- Provide support facilities such as bicycle parking and storage, lighting, signing, pavement marking, benches and other rest areas.
- Establish maintenance standards and programs that ensure safe and usable bicycle and pedestrian facilities.
- Conduct regular training and safety education programs using such agencies as the League of American Bicyclists or local clubs.
- Educate local officials and enforcement officers on biking rules and safety issues.
- Encourage local governments to install "Share the Road- It's the Law" signs on approved routes.

Goal 3: Promote coordinated and continuous bicycle and pedestrian planning and development at the regional and local levels.

Objectives:

- Local governments and State to implement local plans and establish new bike and pedestrian facilities.
- Establish policies that incorporate bicycle and pedestrian design elements in all transportation projects.
- Provide adequate funding for project development.

Implementation:

- Identify federal and state grants and provide information to local governments.
- Coordinate the development and implementation of local plans and look for joint development of facilities.
- Encourage and provide technical assistance for all land use and other plans to promote bicycle and pedestrian friendly development.
- Identify federal and state grants and provide information to local governments.
- Provide technical assistance to local governments concerning alternative financing mechanisms for bicycle and pedestrian facilities.
- Encourage local governments to set aside an equitable amount of transportation funding for bicycle and pedestrian projects.
- Investigate the use of "user fees" to help pay for bike and pedestrian projects.
- Encourage special events that raise money for bike and pedestrian projects.

Inventory and Analysis of Existing Conditions

The inventory and analysis of existing conditions involved the following activities:

- Information gathering and visioning sessions at three PAC meetings,
- Conducting field inventory of existing conditions,
- Reviewing census commuting statistics, crash statistics, and land use data,
- Reviewing and analyzing existing bike and pedestrian plans,
- Seeking input via two public hearings,
- Working with local officials, city and county departments, local clubs, and the public, and
- Reviewing bicycle and pedestrian plans from other locations.

Bike Route Recommendations

Proposed bike routes have been made for each county in the North Georgia region in order to fulfill the objectives stated above. Three different types of bike route recommendations were made (shared lanes that would be signed only, bike lanes or wide shoulders, or multi-use paths). Maps showing the proposed routes and type of planned facility for each county are contained in plan. Detailed route descriptions and explanation of the type of bike facilities recommended for each route segment are also located in the recommendations chapter of the plan.

Pedestrian Facility Recommendations

The proposed sidewalk additions recommended in this plan are suggested as improvements that will expand and enhance pedestrian travel in the region. Generally, an assessment was made to identify major traffic generators such as schools, parks, shopping facilities, and major employment centers, and analyze their proximity to concentrated residential areas. Generally, people will walk a distance of a quarter to one/half mile to major destinations such as a school,

park or shopping, if they can do so safely. An assessment was made in each of the major communities in the region to determine if there were sidewalk deficiencies within a half mile radius of these major activity centers. If there was a lack of sidewalks within these areas, the plan recommends that sidewalks be installed as shown on maps contained in the plan. Further study and engineering will need to be done before installation, however, to determine the feasibility of the proposed sidewalk additions. This is mainly due to topographic conditions, right-of-way limitations and other factors that may make installation impractical.

Implementation

The implementation of the recommended bicycle and pedestrian systems, and encouragement of their use, is a responsibility that will be shared by all government agencies and jurisdictions in the region, as well as many community organizations. The implementation will rely not only upon the development of good facility plans, but commitment at each level of government to support funding for good bicycle and pedestrian projects. This will include support to raise new revenues for projects and programs. Whereas each agency has a different level of responsibility for building capital facilities, the implementation of public education, and encouragement of developing programs is a responsibility that needs to be shared among all agencies including the North Georgia RDC. An implementation agenda listing the strategies for each goal and objectives, as well as a timeline, responsible parties, and possible funding sources for each strategy is also included.

CHAPTER TWO - INTRODUCTION

As traffic congestion increases, alternate forms of transportation will have to be sought. Building larger roads with more lanes becomes increasingly difficult over time. The cost to build roads has skyrocketed in recent years and acquiring right-of-way can be very costly and politically difficult to obtain. Roads can also have an adverse affect on land, water, and air quality. In recent years, the Georgia Department of Transportation (GDOT) and transportation planners have been looking at alternatives to solve traffic problems. Bicycle and pedestrian travel has always been a form of transportation for some. However, through our dependence on the automobile, bicycle and pedestrian needs have been forgotten when infrastructure is created. This has made it difficult to utilize these forms of transportation due to concerns for safety and lack of facilities. Hence, people used them less and less. Now however, as traffic and health concerns grow, people want to go back to these basic forms of transportation.

GDOT has investigated these alternatives for years in areas like Atlanta with severe traffic congestion. Although they quickly realized that several changes needed to be made before bicycle and pedestrian travel could become a viable and safe form of transportation. Through planning and implementation many of these changes are now being addressed. This plan is being developed because GDOT is interested in enhancing bicycle and pedestrian alternatives in the whole State of Georgia. Through better planning, education, and the development of infrastructure it is hoped that bicycle and pedestrian travel will create more travel choices while preserving environmental quality and open space. Biking and walking are healthy, low-impact modes of travel that don't contribute to air pollution and traffic congestion. They are modes of travel that provide mobility to all citizens, including the young, old, disabled, low-income and others who may not drive. Furthermore, bicycle and pedestrian facilities support economic development in downtowns, urban centers and other mixed-use areas.

Over the last decade, bicycling has increasingly gained legitimacy as a feasible form of transportation. Cities and regions across the country are now choosing to create comprehensive transportation systems that include integrated bicycle and pedestrian facilities. These places offer their citizens alternative choices to using their automobiles for all of their transportation needs and are trying to break the monopoly that the automobile has had on our streets for most of the last century. The North Georgia region, like many other regions across the country, is facing increased healthcare costs, air pollution, traffic congestion and economic competition. Bicycling has warranted a second look because it is a convenient pollution-free mode of transportation that addresses these issues. Even with the enormous benefits bicycling offers, its adoption has been slow and remains marginalized within many American cities and regions. The major reason for this is that it requires a major cultural shift from the automobile as the sole means of transportation. This shift must take place on an individual level as well as a political level. For cities to reap the many benefits of bicycling, it must be institutionalized within the psyche of the entire community. Through this plan it is proposed that as the North Georgia region continues to grow and prosper, it will choose to integrate bicycle and pedestrian facilities as a part of its transportation strategy. This is not an easy task. This plan provides a clear course of action that, if implemented, can produce the required culture shift that will make the area a bicycle-friendly region. The transformation will not happen overnight. It will require a strong commitment from everyone involved. This plan is the first step.

Recent Bicycle and Pedestrian Improvements

Bicycles

Like many communities around the country, North Georgia is experiencing a resurgence in interest in bicycling as a means of transportation. The bicycle is a low-cost and effective means of transportation that is quiet, non-polluting, extremely energy-efficient, versatile, healthy, and fun. Bicycles also offer a low-cost mobility to the non-driving public.

Bicycling as a means of transportation has been growing in popularity as many communities work to create more balanced transportation systems and reclaim streets from auto dominance. In addition, recent trends find that more people are willing to cycle more frequently if better bicycle facilities are provided.

There are several reasons why North Georgia will make major gains in increasing bicycle use.

First**,** North Georgia has many of the attributes needed to become a bicycle-friendly community. This includes small cities, beautiful rural surroundings, a moderate climate, recreational attractions, and a population with a growing interest in health, environment, and livable neighborhoods. The popularity of recreational bicycling in North Georgia has significantly increased bicycle ridership. This plan addresses bicycles as a transportation mode of travel, defined as any trip that replaces a vehicle trip whether it be for commuting, shopping, traveling to and from school, or to reach a recreational destination.

Second, improvement in the bikes themselves have increased area interest. Since the invention of the Mountain bike, Mountain biking has become an increasingly popular activity in the region. The mountains provide a beautiful backdrop for use of this type of recreation. Many miles of mountain biking trails are available throughout the region or within a short drive outside the region. New trails are being developed all the time. However, due to the often-steep terrains of these trails, these trails can provide a challenge for the average rider. Many individuals after buying these bikes develop an interest to enjoy them on city streets instead of or in addition to driving to the mountains to enjoy them. Road biking is also growing in popularity the area. The rural roads outside the cities provide a wonderful setting for recreational riders. The sale of bicycles has done very well in the area. New bicycle shops are opening and the established ones are doing very well.

In recent years, area residents are expressing desire for more miles of bicycle lanes and off-street paths, “Share the Roads” signage, more bicycle parking, and better maintenance of existing facilities. For example, a biking club has recently started up in Whitfield County. Some of its members have been attending City of Dalton and Whitfield County government meetings asking for more bicycling facilities and educating council members on local bicycling issues. Council members have reacted favorably and “Share the Road” signs have been placed in the City of Dalton and in Whitfield County. The City has also donated land for the development of riding trails. These issues got television and newspaper coverage, which likely has led to more riders in the area.

Thirdly, policy support and additional funding have recently been made available for bicycle transportation improvements. This has been true on the Federal and recently the State level thanks to the State Transportation Board adoption of several goals to guide the development and implementation of a statewide bicycle and pedestrian system in 1995 and the Safe Routes to Schools programs. This has also been the case on the Federal level through:

- 1990 Clean Air Act,
- 1991 Inter-Modal Surface Transportation Efficiency Act (ISTEA), and
- 1998 Transportation Equity Act for the 21st Century (TEA21).

These laws have provided for increased spending on bicycle travel and allow communities more flexibility in spending highway funding on alternative modes, such as bicycling, walking, and transit. Already, these laws have led to over a billion dollars in bicycle, trail, and pedestrian projects nationwide, and thousands of miles in new bicycle lanes, sidewalks, multi-use trails, and other non-motorized enhancements.

The increased ridership, resulting advocacy, and increased policy and financial support from all government levels have resulted in a desire for significant bicycle transportation improvements. The following Regional Bicycle and Pedestrian Plan is a direct result of these changes and is intended to set a proactive course toward making bicycling and walking an integral part of daily life in the North Georgia region.

Pedestrians

Walking is the oldest and most basic form of human transportation. It is clean, requires little infrastructure, and is integral to the health of individuals and communities. People who walk know their neighbors and their neighborhood. A community that is designed to support walking is livable and attractive.

Although pedestrians have been valued for their contribution to urban vitality, walking, like bicycling, has not, until recently, been considered a serious means of transportation. Thanks in part to the passage of the 1991 ISTEA legislation and its companion funding opportunities, this is beginning to change. Communities are beginning to recognize the need for and value of developing pedestrian facilities, whether it is to enhance safety, health, or for commuting.

The North Georgia region's rural atmosphere seems to invite pedestrians to take a leisurely stroll downtown or walk to a community park. In fact, many of the cities in this region are indeed pedestrian friendly places to walk with their charm of historically significant buildings and architecture on a small, walkable scale. However, getting from outlying housing areas to these urban services or employment areas by foot can be challenging. Many streets have discontinuous sidewalks or no sidewalks at all, and crossing streets can be intimidating.

Opportunities certainly exist for improving the pedestrian system of North Georgia, which will offer more residents the option of walking to school, shop, work or play. These opportunities will be discussed in the subsequent sections.

Setting for the Plan

The planning area for this plan is the geographic area that the North Georgia Regional Development Center serves. This region is comprised of five counties: Fannin, Gilmer, Murray, Pickens, and Whitfield Counties. There are a total of 15 municipalities in this region. The largest cities in each county are Dalton (Whitfield County), Chatsworth (Murray County), Jasper (Pickens County), Ellijay (Gilmer County), and Blue Ridge (Fannin County). Other incorporated cities in the region are McCaysville, Mineral Bluff, and Morganton in Fannin County; East Ellijay in Gilmer County; Eton in Murray County; Nelson and Talking Rock in Pickens County; and Cohutta, Tunnel Hill, and Varnell in Whitfield County. The region covers 1,679 square miles and had a estimated population of 201,391 in 2003.

The region is located in the northern most middle part of the state with three counties (Whitfield, Murray, and Fannin) bordering the State of Tennessee. The northwestern part of the region starts to the southwest of Chattanooga, Tennessee and stretches along the State of Tennessee border to the southwestern tip of the State of North Carolina. The region extends to the south to Pickens County, which borders the northern portion of the greater Atlanta metropolitan area.

The region contains portions of the Chattahoochee National Forest to the west in Whitfield County and to the east in Murray, Gilmer, Fannin, and Pickens County. Much of the region contain steep slopes/mountainous areas. All these changes in topography make for beautiful scenery but challenging bicycling and pedestrian travel. There are a large number of rivers and streams throughout the region and many bridges across them. There are two large man-made lakes in the region: Carters Lake in Gilmer County and Blue Ridge Lake in Fannin County.

While the mountains and the scenic surrounding are the biggest attraction in the region, there are many other areas of significance in the region. Some of these destinations include:

- Fort Mountain - Murray County. A heavily visited State park which contains ancient serpentine wall of piled native stone once thought to be a fort, now thought to have been built for ceremonial purposes during the Woodland Period, at least one thousand years ago.
- Vann House, Mission Cemetery, and Historic Township of Spring Place - Murray County. Vann House was built in 1805 by half-Cherokee James Vann, noted for his promotion of Indian education and is now a museum.
- Tate House and Historic Township of Tate - Pickens County. Neoclassical Revival mansion built in 1923 of Georgia Etowah (pink) and white marble by Samuel C. Tate, owner and president of the Georgia Marble Company and founder of the township. Marble from quarried there was used to build everything from the Georgia Capital in Atlanta to the statue in the Lincoln Memorial in Washington D.C.
- Civil War Sites. The region is the holder of the largest collection of intact civil war embattlements in the country. Sites: *Resaca Battlefield* -Gordon and Whitfield Counties; *Rocky Face Ridge* -Whitfield County

- Railroad tunnels at Tunnel Hill -Whitfield County. Original Chetoogeta Mountain tunnel constructed in 1848-50 was the first railroad tunnel constructed in Georgia and one of the first in the South. This section of railroad, including the tunnel, became General Sherman's supply line, essential to his Atlanta Campaign. Site of yearly re-enactments.
- Appalachian Trail – Fannin County. Springer Mountain is the southern gateway to the Appalachian Mountains and the southern most terminus of the world-famous Appalachian Trail.
- Carpet Capital of the World – Whitfield and Murray Counties. 90% of the nation's floor coverings are manufactured in the region.
- Carter's Lake and Blue Ridge Lake Recreation Areas – Gilmer and Fannin Counties. Popular recreational areas. Carter Lake is built with a US Army Corp of Engineers dam, which is the largest earthen dam east of the Mississippi.
- Scenic Railroad in Blue Ridge – Fannin County. Seasonal train rides through beautiful mountain scenery.
- Northwest Trade and Convention Center – Whitfield County. Regional facility for conventions and mass audience entertainment events.
- Praters Mill – Whitfield County. Mid-19th century mill still grinds. Campsite for both Union and Confederate solders during the Civil War. Site of Indian village and mound. Host to annual Praters Mill Fair.

Why the North Georgia Bicycle and Pedestrian Plan?

This plan is part of a State-wide initiative funded by the State of Georgia Department of Transportation (GDOT) to promote bicycle and pedestrian travel as an alternative form of transportation throughout the State of Georgia. The following are the goals set by the Transportation Board for the State to guide the development and implementation of a statewide bicycle and pedestrian system.

- Promote non-motorized transportation as a means of congestion mitigation.
- Promote non-motorized transportation as an environmentally friendly means of mobility.
- Promote connectivity of non-motorized facilities with other modes of transportation.
- Promote bicycling and walking as mobility options in urban and rural areas of the state.
- Develop a transportation network of primary bicycle routes throughout the state to provide connectivity for intrastate and interstate bicycle travel.
- Promote establishment of U.S. numbered bicycle routes in Georgia as part of a national network of bicycle routes.
- Encourage economic development opportunities that enhance bicycle and pedestrian mobility.

GDOT is funding this and other plans throughout the State as part of implementation of the aforementioned goals.

Even without this State initiative there are many reasons why this plan is needed for North Georgia. Rapid growth and development of certain areas has not provided facilities for pedestrians such as sidewalks or bike lanes for pedestrians. Also, with increased growth and

development comes increased traffic congestion and larger faster roads that are not bike or pedestrian friendly. Furthermore, while some areas in North Georgia are perfect for walking and bicycling in many respects, many residents choose to drive even for short trips of a block or two, adding to the very traffic problems they dislike. This Plan is one step in addressing pedestrian travel and traffic congestion in the County.

Another reason is the enjoyment and quality of life for the residents of this North Georgia region. Since walking and bicycling are among the most popular forms of recreational activity in the United States (with 84 percent walking and 46 percent of Americans bicycling for pleasure), we can assume that many North Georgia residents walk and bicycle at least occasionally. Safety concerns are one of the primary reasons to improve bicycling conditions in North Georgia. Concerns about safety are a major reason why people do not commute by bicycle. Addressing safety concerns for pedestrians and bicyclists through physical and program improvements is another major objective of this North Georgia Bicycle and Pedestrian Plan.

Purpose of the North Georgia Bicycle and Pedestrian Plan

There are several things that are hoped that this plan can create and benefits that will come out of this plan.

First, implementation of this plan will give the citizens of North Georgia more transportation options. It would be great to increase the amount of people who commute to work by bike or walking, but even if people used this option for an occasional trip to the store it will help relieve traffic congestion. There are also citizens of North Georgia who do not own motor vehicles. In many of the cities in North Georgia there is a large need for a low skill labor force. Many of people in these jobs do not have their own motorized transportation to get to work. Taxis and other forms of transportation can be expensive for those on these limited incomes. These people could benefit from more transportation options.

The State of Georgia Department of Transportation (GDOT) would like to see better bicycle and pedestrian connectivity within and between regions of the State. GDOT has attempted to do this by establishing Bicycle Routes throughout the State. However, it could be a long time before these routes have the amenities to make them viable routes for bicycling travel. Also, many areas (counties) do not presently have State Bike Routes going through them and need bicycle travel consideration.

Increasing biking and walking can improve the health of North Georgia residents. This country has become more and more sedentary and obesity has become a problem for North Georgia and the nation as a whole. The health benefits of bicycling and walking to improve aerobic activity are substantial. Exercise has been proven to be effective in improving cardiovascular health and reducing strokes and other chronic diseases like obesity. While a formal exercise program is not practical for all individuals, reducing sedentary activities and substituting bicycling and walking for recreation or transportation would provide significant health benefits. Incorporating bicycling and walking into a daily routine is also time-efficient, as both travel and exercise are accomplished simultaneously.

There are potential environmental benefits associated with biking and walking for the region. Motor vehicles are the main source of noise and air pollution in the United States. Motor vehicle trips are the least fuel-efficient and most pollutant-producing form of travel. Carbon monoxide emissions from motorized vehicles can be as high as 90 percent of all emissions in urban areas. Air pollution is especially troublesome in mountain regions like North Georgia, because the mountains will sometimes trap the emissions from nearby cities. Areas of the Cohutta Wilderness in this region have shown elevated air pollution, because it is being trapped there from Chattanooga, Tennessee and cities in this region like Dalton and Chatsworth who have a large amount of industry. Motor vehicles also contribute to this problem. Biking and walking will mostly replace short trips, which have been found to the most polluting.

Increasing bicycling and pedestrian transportation can also have economic benefits. Increasing the overall level of fitness of the area can help reduce health care costs for both individuals and on public service providers. Additionally, less expenditures for road construction and maintenance are required as a result of increasing the use of bicycling and pedestrian forms of transportation. Individuals may benefit from logging less miles on their vehicles and potentially reducing the number of vehicles per household. Many people cannot afford a vehicle or choose not to have a car. Bicycling offers these people a viable independent travel option. Yearly cost to operate a vehicle has been estimated over $5,000 dollars a year, while the yearly cost to operate a bicycle for one year has been estimated by the League of American Bicyclists to cost about $120. The area it takes to park one car could park 12 bicycles. There is also a societal benefit of having less fossil fuel reliance. Furthermore, bicycle facilities contribute to enhanced quality of life and are considered attractive to potential new residents as well as businesses which promote wellness/fitness. The provision of greenways can result in an increase in property values in addition to providing corridors for transportation.

Other potential benefits of bicycling include promotion of community cohesiveness and an enhanced sense of neighborhood by increasing and encouraging personal contact.

Becoming a Bicycle and Pedestrian Friendly Region

Safety, access, quality of life, a shift in attitudes, and effective implementation are imperative elements for North Georgia to become a more bicycle and pedestrian friendly region.

Safety is the number one concern of citizens, whether they are avid or casual recreational cyclists or walkers or pedestrian/bicycle commuters. In most cases, bicyclists and pedestrians must share narrow, high traffic roadways and cross busy intersections. A consistent bicycle network with either bike lanes or wider shoulders and signage is generally lacking in the region. The lack of a continuous sidewalk system in many areas of the cities and neighborhoods of the region, especially along busy streets and in older areas usually where there are steeper slopes, forces pedestrians and cyclists into traffic.

Access improvements for bicyclists and pedestrians are important to help improve the ability to take utilitarian trips to destinations like shops, work, and school. Additionally, North Georgia communities suffer from a lack of continuous and connected bikeways and walkways into the city's centers, schools, parks, and employment and shopping areas.

This plan urges the North Georgia counties and cities to take measurable steps toward the goal of improving every North Georgia citizen's quality of life**,** creating a more sustainable environment, reducing traffic congestion, vehicle exhaust emissions, noise, and energy consumption. The importance of developing a bicycle and pedestrian system that is attractive and inviting is a key element in preserving North Georgia as a place where people want to live, work, and visit. The attractiveness of the environment not only invites bicyclists and pedestrians to explore the North Georgia region, but more importantly, a beautiful environment helps to improve everyone's positive feelings about the quality of life in North Georgia.

There needs to be a major shift in the way we think about bicycle and pedestrian travel in this country. Through the last decades, this country has become so car dependent that riding a bike or walking are now thought of as activities only for the poor. Much in the way that meat on the table became a symbol of being well off, a person's car has become a symbol of a person's status. These attitudes effect perception of use of available facilities. Many motorists think that roads are for cars only and bikers and walkers do not belong on them. Many people believe (motorist and bikers) that bikers should be on sidewalks, which is usually always against the law due to safety issues for the pedestrian. These attitudes have to change before bicycling and pedestrian travel will become a widely used form of transportation. Some headway has been made in this area in the last few years but there is still room for much improvement. Increasing bicycle use will require a major cultural shift from the notion of the automobile as the sole means of transportation. The dominance of the automobile can be seen in the design of our roads and in the places we live. It can be seen in the individual choices that we make everyday.

Too often our infrastructure design discourages alternative modes of transportation in an attempt to optimize conditions for automotive travel. This promotes the widespread use of the automobile for even the shortest in-town trips. The ever-increasing levels of traffic further discourage people from choosing the cleaner, safer, more affordable, more efficient and more healthful alternatives - biking and walking. The optimization of the system for auto travel, to the extent that it degrades the walking and biking environment, works against drivers as people who might otherwise walk or bike choose to drive and compete for limited roadway and parking space.

Education, enforcement, engineering, and funding are the basic components of an effective **i**mplementation program for this Bicycle and Pedestrian Plan. Education must be targeted to the bicyclist as well as to the motorist regarding the rights and responsibilities of the bicyclist, pedestrian, and automobile driver. Also critical are comprehensive enforcement of existing traffic and parking laws and the implementation of sound design and engineering principles for bikeways. In the appendix is a section on sound design guidelines and principles for quality bicycle and pedestrian facilities. Finally, this plan proposes a strategy for obtaining grants and competing for other funding sources in order to realize the physical improvements identified as the highest priorities.

Role of the Bicycle and Pedestrian Plan

The North Georgia Bike and Pedestrian Plan is primarily a coordinating and resource document for the cities and counties of the region. This plan will focus on developing a primary network of bike routes, programs, and specific pedestrian enhancements. The plan also helps to ensure

good connectivity between the counties and cities within the region, yet connect outside the region. This plan will help develop joint projects where needed and develop consistent design standards.

Each county and city in the region has the option to develop and approve its own bicycle and pedestrian improvements. To the extent feasible, this plan has incorporated existing local plans and priorities as part of its recommendations. Each county and city can adopt this plan and meet State and Federal requirements for the projects identified in this plan.

Local projects not specifically included in this plan can be adopted and funded by each community as well. Many projects and programs included in this plan would need to be sponsored by a county or city, requiring local approvals and additional public input. All projects in this plan will require additional feasibility, design, environmental, and/or public input prior to being funded and constructed.

Bicycle and Pedestrian Planning Process

This plan was guided through a North Georgia Planning Advisory Committee (PAC). The PAC was made up of elected officials, other city and county officials, citizens, bicycle dealers, bike and pedestrian advocates, school officials, and public health officials from the North Georgia region. The PAC met three times during the development of this plan. They met once to develop a needs list, once to develop goals and objectives and once to discuss implementation strategies. There were also two public meetings for the plan. One meeting was to review and comment on the goals and objectives and one meeting was to review and comment on implementation strategies. Minutes of all these meetings are in the appendix. Drafts of the plan were reviewed by the PAC, local officials, and approved by the board of the North Georgia Regional Development Center.

Overview of the Plan

The following plan will outline the actions needed, specific bike and pedestrian routes, and time lines for making the North Georgia region a truly bicycle and pedestrian friendly. Chapter 3 summarizes the goals, objectives, and strategies guiding the implementation of this plan. Chapter 4 details the existing bikeway and pedestrian systems in the North Georgia region. Chapter 5 outlines the recommended bike routes and pedestrian system improvements, including education programs. This includes a framework for educating youth and adult cyclists and motorists, encouraging more cycling, and increasing the number of children bicycling and walking to schools. Chapter 6 outlines the implementation strategies, including priority projects, some estimated costs, and funding opportunities.

This plan is meant as a long-term guide for making North Georgia bicycle and pedestrian friendly. Its success will only be assured by the continued support of the North Georgia cycling and walking communities and other residents recognizing the benefits bicycling and walking bring to all residents.

CHAPTER THREE – GOALS AND OBJECTIVES

Study Area

The study area for this plan includes the five counties of the North Georgia Regional Development Center (Fannin, Gilmer, Murray, Pickens, and Whitfield Counties) and all the cities within this region. The focus of this plan is to develop a comprehensive network of bikeway corridors for intra-city and regional travel. Additionally, the plan will discuss local priorities for bikeway and walkway improvements, as many of these will be funded through regional and state funding sources.

This section establishes a policy framework to guide future transportation decisions and capital improvement programming for both the unincorporated and incorporated areas of the North Georgia Bike and Pedestrian Planning area. This undertaking is intended to promote regional planning and offer opportunities to coordinate infrastructure improvements.

The Plan is intended to help coordinate and guide the provision of all pedestrian and bicycle-related plans, programs, and projects in the region. It is intended to assist local jurisdictions to implement their priorities but does not mandate any particular action on their part.

The other studies or planning efforts detailed in the next chapter have been reviewed and where appropriate have been incorporated into North Georgia Bike and Pedestrian Plan.

Planning Advisory Committee (PAC)

Initially, a Joint Regional Bike and Pedestrian Plan Advisory Committee was set up in January between the five counties of the North Georgia Regional Development Center (Fannin, Gilmer, Murray, Pickens, and Whitfield Counties) and the 10 counties of the Coosa Valley Regional Development Center (Dade, Catoosa, Walker, Chattooga, Gordon, Floyd, Bartow, Polk, Haralson, and Paulding Counties). These areas combined are often referred to as Northwest Georgia. This Joint Committee was made up of elected officials, other city and county officials, citizens, bicycle dealers, bike and pedestrian advocates, school officials, and public health officials.

This Joint Committee met twice: once in March and once in April and helped formulate the goals, objectives, and strategies for expanding and enhancing biking and pedestrian activities in the Northwest Georgia region. This Joint Committee was later divided into two committees, split by the boundaries of the Regional Development Centers, to more effectively delve into the

bicycle and pedestrian needs each of these two regions. After the split, the North Georgia Regional Development Center's portion of the Bike and Pedestrian Planning Advisory Committee met in February to discuss the implementation strategies for this plan in that five county region.

Conducting a Visioning Session

At the first meeting of the Joint Committee on March 2004, the members were given background and an explanation of the plan's purpose and an outline of the schedule for the plan. They were also presented with a current inventory of existing bike and pedestrian plans for both of these regions. The main focus of the meeting was a visioning session. At this visioning session, Joint Committee members took the information provided to them and through use of a nominal group process determined their likes and dislikes of current bike and pedestrian facilities in northwest Georgia.

Likes and Dislikes of Current Regional Bicycle and Pedestrian Facilities and Policies

The following is a list of likes and dislikes of current bike and pedestrian plans and existing bike and pedestrian facilities in the region. The Committee, through the visioning session, generated the following Likes and Dislikes.

LIKES

- Silver Comet / Pinhoti Trails: Members indicated that these routes are excellent facilities and were good benchmarks for other facilities that could be developed in the region.
- Good Secondary Road System: The region has a good secondary road system that travels through scenic areas and could be utilized for bicycle routes.
- Existing Trails Attract Tourists: Members stated that trails like the Silver Comet and Pinhoti Trails attract tourists, which adds to the economic development of the region.
- Some Designated Bike Lanes: Although there are few designated bike lanes in the region, they are appreciated.
- Some Prior Planning: Members appreciated GDOT's development of the State Bicycle Plan and publication of the Georgia Bicycle Map. A few local communities have also recently prepared plans.
- Number of Abandoned Railroads: There are a number of abandoned railroads in the region, which would make good bike/pedestrian facilities like the Silver Comet Trail.
- Downtown Streetscape Projects: A number of communities in the region have undertaken downtown streetscape projects, which were funded mainly by Transportation Enhancement dollars and have improved pedestrian accessibility.
- Rural / Scenic Assets: Members think that northwest Georgia is a beautiful region, which make it an attraction for biking and pedestrian activity. The mountainous terrain in the region also made it an attraction for the Tour De Georgia, which will bring more attention to bicycling in the region.

DISLIKES

- Routes Are Disconnected: While the State's proposed routes travel through the region and provide continuity to other parts of the State, the few local bike and pedestrian routes that exist in the region are disconnected from each other.
- Not Enough Routes / Facilities: There are not enough designated routes and built bicycle and pedestrian facilities in the region.
- Not Enough Funding for Planning / Facilities: There is a need more funding for both local planning and construction of facilities.
- Scenic Byways Not Designated as Bike / Pedestrians Routes: All scenic byways designated in the region should also be designated and developed as bike and pedestrian routes.
- Existing Facilities Not Well Maintained: Generally, existing sidewalk facilities are not well maintained or kept in good condition. Many are overgrown with weeds and brush. Others have cracks or other impediments to walking safely. Many are not handicapped accessible.
- Lack of Planning/Coordination Among Local Governments: Very few governments have prepared bicycle/pedestrian facility plans. What little planning that has been completed by local governments in the region has not been well coordinated with other agencies and organizations.
- No Safe Routes to School: This program needs to have more attention in the region.
- No Connectivity Between Activity Centers: Major activity centers in the region like schools, shopping areas, employment areas, recreation areas, libraries, etc. are not adequately connected by bike and pedestrian facilities.
- Existing Routes not Well Marked: Existing designated routes do not have adequate signage.
- Lack of Obedience/Enforcement of Traffic Laws: Automobile drivers do not understand the rules of the road concerning bicyclists. Bicyclists do not always obey traffic signals and stop signs.
- Lack of Education: There needs to be more education about rules of the road, bike and pedestrian safety, designated routes, available facilities, encouragement of biking and walking as alternative transportation mode, etc.
- Not Enough Off-Road Trails: There needs to be more off road facilities like greenways and similar facilities.
- Lights Don't Change for Bikes: Automated traffic lights do not change for bikes.
- Rumble Strips: Excessively wide rumble strips along highways make it difficult and dangerous for bicyclists to safely utilize paved shoulders as a bicycle lane.

Needs Assessment through a Visioning Session

During the same visioning session in March, 2004, the Joint Committee was asked to develop a list of needs for the region. Again, through use of a nominal group process the Joint Committee were asked to determine what needs to be done to expand and enhance the bicycle and pedestrian facilities of the region. The Joint Committee divided into groups and using the results of what they liked and disliked about the current bike and pedestrian plans and facilities, brainstormed to develop a Needs list. The members then rated the newly generated list of Needs.

The following is a list of Needs listed in priority order as indicated by the votes received (in parenthesis).

NEEDS

1. There needs to be better connectivity between activity centers and bike and pedestrian facilities, better connectivity between existing bike and pedestrian routes to increase ease of traveling longer distances. (17)

2. Conduct an inventory of abandoned railroad right of ways; acquire access easements; and develop into multi-use trails. (13)

3. Increased funding to maintain and improve existing bike and pedestrian facilities, and develop new ones. (12)

4. Utilize secondary roads for bicycle routes instead of placing them along major roads as is currently often done. (10)

5. Provide safe bike and pedestrian routes to schools for children. (6)

6. Increase funding and other incentives to the local governments to encourage more local bike and pedestrian facility planning. (5)

7. More local government planning to increase bike and pedestrian facilities in local communities. (4)

8. Acknowledgment by State and local governments that bike and pedestrian facilities are used more for recreation purposes than for transportation. (4)

9. Increased education of the public as it relates to rules of road regarding bike and pedestrian issues, safe walking and biking practices, and where to find out about existing routes and facilities. All educational materials need to be multiple languages. (3)

10. Find ways to promote biking and walking to the public as a means to improve general health and wellness, reduce traffic congestion, and reduce fuel consumption. (3)

11. Better signage along roads to alert drivers that bicyclists are sharing the roads. (3)

12. Require developers to install sidewalks along new streets in urban areas. (2)

13. Finish construction of the Pinhoti Trail and other trails that are planned. (1)

14. Keep utilities like utility poles out of areas where bike and pedestrian facilities exist. (1)

15. Promote the development of organized biking and pedestrian events. (1)

16. Increase amenities that support pedestrian activities like trash cans, benches, public restrooms, and similar facilities. (1)

17. Improve the automatic traffic signals so they will change when bicyclists approach intersections. (0)

18. Develop a north to south biking route in State. (0)

19. Increase amenities that support bicycling activities such as bicycle storage and parking facilities. (0)

20. Require a license to be issued before people are allowed to bike on public streets; and require user fees for people to utilize public off-road trails. (0)

Goals, Objectives, and Strategies

Goals, objectives, and some strategies were drafted from the previous Needs list. At a Joint Committee meeting in April, 2004 these goals, objectives, and strategies were refined. These goals, objectives, and strategies were reviewed and some additional changes were made from a public meeting held in June, 2004. In a later chapter, there are some specific recommendations for each county and city regarding how to improve and enhance bike and pedestrian travel in the region.

Goals provide the context for the specific objectives and strategies discussed in this North Georgia Bike and Pedestrian Plan. Goals are the generalized expressions that provide direction for the bicycle and pedestrian transportation system and help provide the long-term vision and serve as the foundation of the plan. Objectives are specific quantitative or qualitative targets, which can be used to measure the degree of attainment of a specific goal. Strategies provide a series of smaller steps to help achieve these objectives. In this section, strategies are more regional in nature and generally can be applied to any one of the counties or cities in the region. Later, recommendations will be introduced specific to each county and city government. This plan and the goals, objectives, strategies, and recommendations herein do not mandate any specific action by the local jurisdictions. The following are to be used as a guide to coordinate efforts throughout the region and to fill gaps in existing local initiatives.

Goal 1: **Promote and encourage bicycling and pedestrian travel as viable forms of transportation, as healthy forms of exercise, and as a positive benefit to the environment and community.**

Objective 1.1: Establish a regional educational and marketing program that promotes the public health, economic development and environmental benefits of bicycling and walking.

Implementation:

A. Work with regional health organizations, school systems, local bicycle clubs and other agencies to develop and distribute written, graphic and other materials citing the benefits of bicycling and walking.

B. Work with local governments, local bicycle clubs, and other agencies to develop written, graphic and other materials highlighting the rules of road regarding bike and pedestrian issues, safe walking and biking practices, and where to find out about existing routes and facilities. All educational materials need to be in multiple languages

C. Organize and promote regional and local events such as National Bike Month, Bike to Work Week, and Walk to School Day.

Goal 2: Provide a regional system of bicycling and pedestrian facilities that is safe, convenient and accessible for all users.

Objective 2.1: Develop a system of bicycle routes that will connect the region's major urban centers to the State bicycle routes.

Planning Strategies:

A. Identify secondary roads that connect major urban centers and utilize these for bicycle routes instead of placing them along major roads as is currently often done.

B. Conduct an inventory of abandoned railroad right of ways, utility right of ways, and other public right of ways in the region that could be developed into additional multi-use trails.

Implementation:

C. Once routes have been approved by local governments, install signs and publish regional maps and pamphlets indicating route locations.

Objective 2.2: Develop a system of bicycle and pedestrian facilities within local jurisdictions that will link residential areas with commercial areas, employment areas, educational centers, and cultural and recreational resources.

Planning Strategies:

A. Identify major activity centers and establish safe bike and pedestrian routes connecting residential areas to these areas.

Implementation:

B. Encourage local governments to require developers to install sidewalks along new streets that are developed in the region's urban areas.

C. Encourage local governments to provide support facilities such as bicycle parking and storage, lighting, signing, pavement marking, benches and other rest areas to increase the utility and safety of the bicycle and pedestrian system.

D. Encourage local governments establish maintenance standards and programs that ensure safe and usable bicycle and pedestrian facilities.

Objective 2.3: Support education, training and enforcement of regulations to ensure safe and proper use of the bicycle and pedestrian system.

Implementation:

A. Assist local organizations and bicycle and pedestrian interest groups to conduct regular training and safety education programs.

B. Utilize League of American Bicyclists to conduct training sessions on bike safety to the public**.**

C. Educate local officials and enforcement officers on biking rules and safety issues.

D. Encourage local governments to install "Share the Road- It's the Law" signs on key routes in each county and communities.

Goal 3: Promote coordinated and continuous bicycle and pedestrian planning and development at the regional and local levels.

Objective 3.1: Encourage and provide assistance to local governments to prepare local plans that assess local bicycle and pedestrian needs, and establish new bike and pedestrian facilities where needed or desired.

Implementation:

A. Identify federal and state grants and provide information to local governments.

B. Coordinate the development of local bicycle and pedestrian plans to make maximum use of opportunities for joint development of facilities.

Objective 3.2: Establish policies that require the incorporation of bicycle and pedestrian design elements in all transportation projects that are identified as part of a local or regional bicycle or pedestrian route.

Implementation:

A. Encourage and provide technical assistance for zoning, land use plans, subdivision regulations, roadway design changes, public transportation (bus service), and other similar areas to promote bicycle and pedestrian friendly development.

B. Encourage GDOT to add more staff or contract the RDC's to conduct local bike and pedestrian planning.

Objective 3.3: Provide adequate funding for project development and maintaining high quality regional and local bicycle and pedestrian systems.

Implementation:

A. Identify federal and state grants and provide information to local governments.

B. Provide technical assistance to local governments concerning alternative financing mechanisms for bicycle and pedestrian facilities including local option sales tax programs, user fees for operations and maintenance of off-road facilities, and programs to encourage tax free contribution of funds and property.

C. Encourage local governments to set aside an equitable amount of transportation funding for bicycle and pedestrian projects incorporating design, right-of-way acquisition, and construction.

D. Investigate the use of "user fees" to help pay for bike and pedestrian projects.

E. Encourage special events that raise money for bike and pedestrian projects.

Public Involvement

Two public hearings were held. The first meeting was in June, 2004, which was for the purpose of reviewing and getting input on proposed goals and objectives. Potential strategies were also discussed at that time. The second public meeting was in March, 2005 for the purpose of review and getting input on proposed recommendations and strategies. Some suggested changes and additions were introduced at these meeting and incorporated in the plan.

CHAPTER FOUR – EXISTING CONDITIONS

Existing conditions in North Georgia Bike and Pedestrian region include both existing patterns of walking and bicycling and existing physical improvements and programs that support these activities. Bicycle facilities in North Georgia range from established biking roads and paths to serious gaps in connections between communities. The same can be said of pedestrian conditions. While the North Georgia area has several walkable downtowns and neighborhoods, pedestrians must still negotiate streets with sub-standard sidewalks or without sidewalks, and try and cross busy streets with limited protection. One aspect of existing conditions that is difficult to measure but widely identified by the public is the general attitude of people toward bicyclists and pedestrians. Numerous public comments were heard about the lack of courtesy between people using the same roadway, whether they are on foot, bicycle, or car. There are many possible reasons for this and one could speculate that this is a product of increased traffic congestion in the North Georgia region.

Commuting Statistics

Bicycle and pedestrian usage is difficult to determine in the North Georgia region. U.S. Census journey-to-work data is available and is the most comprehensive measurement of travel to work. However, its weakness is that it measures only the primary mode of travel to work and does not take into account walking and bicycling secondary trips that are not work related.

There are currently no other sources for evaluating bicycle and pedestrian usage in the North Georgia region. Other possible sources include surveys and questionnaires completed as part of transportation plans and actual counts conducted by local agencies.

The following table shows the reported means of commuting to work in the five county North Georgia bicycling and pedestrian planning region as reported on the 1980, 1990, and 2000 U.S. Census. As one might expect in 2000 U.S. Census, of the estimated 85,784 people commuting to work in the North Georgia region, the overwhelming majority report commuting to work by a motor vehicle (82,270 people or 95.9%). This category includes car, truck, or van (drove alone and carpooled) and public transportation. Only 1,158 or 1.3% biked or walked to worked in the entire North Georgia Region. However, this 1.3% is still more than double the number of people who report taking public transportation (including taxis) to work (431 people or 0.5%).

COMMUTING TO WORK IN NORTH GEORGIA (Workers 16 years and over)						
Subject	**Number**			**Percent**	**Percent Change**	
	1980	**1990**	**2000**	**2000**	**1980-1990**	**1990-2000**
Car, truck, or van - drove alone	37,978	53,623	66,396	77.4%	41.2%	23.8%
Car, truck, or van - carpooled	11,782	12,784	15,443	18.0%	8.5%	20.8%
Public transportation (including taxicab)	303	182	431	0.5%	-39.9%	136.8%
Walked	1,299	943	1,053	1.2%	-27.4%	11.7%
Bicycled	NA	52	105	0.1%	NA	101.9%
Other Means	609	454	625	0.7%	-16.9%	44.3%
Worked at home	691	1,281	1,731	2.0%	85.4%	35.1%
Mean travel time to work (minutes)	19	20	25	(X)	0.0%	0.0%
Total	53,489	69,481	85,784	100.0%	29.9%	23.5%

Source: U.S. Bureau of the Census 1980, 1990, & 2000

The above chart also shows the trends for the last twenty years for walking and biking to work in the North Georgia region. The number of people walking to work decreased from 1,299 to 943 between the years 1980 to 1990, but then increased again to 1,053 people in 2000. Although there is no biking information in 1980, the number of people biking to work increased from 52 to 105 from the years 1990 to 2000. This increase is more than double over the decade. This data seems to indicate trends that once losing popularity, biking and walking to work are becoming more popular means of commuting to work. However, biking and walking still remain a small part of the overall commuting habits for the region.

The following table shows the reported means of commuting to work by county in the North Georgia bicycling and pedestrian planning region as reported on the 2000 U.S. Census. Whitfield County reports having the most people walking and biking to work (51 biking and 638 walking to work). However, they tie with Gilmer County in the percentage of their commuters biking and walking to work (1.8% for both counties report biking and walking to work). They are followed closely by Fannin County who reported having 1.4% of its commuters biking and walking to work. All three of these counties have a much higher percentage of its workforce biking and walking to work than either Murray (0.5%) or Pickens (0.7%) counties. This is mostly due to the location of low skill jobs in the cities of Dalton (Whitfield County), Ellijay (Gilmer County), and Blue Ridge (Fannin County) in close proximity of affordable housing in these cities.

COMMUTING TO WORK BY COUNTY IN NORTH GEORGIA (Workers 16 years and over)					
Subject	**County**				
	Fannin	**Gilmer**	**Murray**	**Pickens**	**Whitfield**
Car, truck, or van:	7,646	9,495	16,977	10,677	37,044
Public transportation	26	103	39	46	217
Motorcycle	0	28	8	2	15
Bicycle	5	35	9	5	51
Walked	109	151	77	78	638
Other means	61	68	92	81	270
Worked at home	258	333	239	227	674
Total	8,105	10,213	17,441	11,116	38,909
Percentage Biking and Walking	**1.4%**	**1.8%**	**0.5%**	**0.7%**	**1.8%**

Source: U.S. Bureau of the Census, 2000

Bicycle/Pedestrian Crash Statistics

As indicated, walking and bicycling can be dangerous, especially when facilities such as sidewalks, safe street crossings and bicycle facilities are not present. Although walking and bicycling activities are currently done on a limited basis in North Georgia, there have been a number of reported accidents in recent years. Based upon data provided by the Georgia Department of Transportation, twenty three accidents involving either a bicyclist or a pedestrian were reported in the region between the years 2000 through 2002. Of those, 18 were reported for Whitfield County (the largest county), with 16 accidents involving a bicycle and two involving pedestrians. One of these accidents resulted in a fatality. Only one accident involving a bicycle was reported for Gilmer County. Two accidents were reported in Murray County with one involving a bicycle and the other a pedestrian. Two accidents were also reported in Pickens County with one involving a bicycle and the other a pedestrian, which resulted in a fatality. There were no accidents reported in Fannin County.

Regional Patterns of Development

The majority of the North Georgia region is rural land and land in conservation. The North Georgia region contains a land area of 1,086,590 acres. Of this total, 84,940 acres (7.82%) are developed, 774,490 (71.28%) acres are considered rural, and 227,121 acres (20.9%) are in conservation (see the following Regional Land Use Analysis Table).

REGIONAL LAND USE ANALYSIS							
County	Total Land Area (Acres)	Developed (Acres)	% of Total Land Area	Rural	% of Total Land Area	Conservation	% of Total Land Area
Fannin	250,964	11,482	4.58%	134,149	53.45%	105,333	41.97%
Gilmer	277,288	14,156	5.11%	208,333	75.13%	54,799	19.76%
Murray	222,210	22,518	10.13%	146,295	65.84%	53,397	24.03%
Pickens	149,585	12,290	8.22%	135,866	90.83%	1,429	0.96%
Whitfield	186,543	24,534	13.15%	149,847	80.33%	12,163	6.52%
Region	1,086,590	84,980	7.82%	774,490	71.28%	227,121	20.90%

Source: North Georgia RDC, 2003. "Developed" consists of significant concentrations of land areas where urban services are already provided. "Rural" consists of areas currently not provided urban services, and areas not expected to require the provision of urban services in the future. The "conservation" category consists of lands currently preserved from development, and areas expected to be preserved in the future.

Developed areas are defined as significant concentrations of land areas where urban services are already provided. Within the region, Whitfield County is the most developed and contains significant urban areas. Murray County is the only other county in the planning area with more than 10 percent developed land. Fannin County has the least amount of developed areas (4.58%), which are contained primarily within a few small cities. Gilmer County has just over 5% to its total land areas in developed land.

According to regional population and land use projections, the region will become significantly more urbanized in the future with an additional 9.17% of the land area allocated to the “developing” category (“developing” consists of areas that will become more intensely developed and will require the provision of new or extended urban services during the planning period). This is more than the 7.82% already designated as “developed”. This will increase the need for bike and pedestrian travel and likely the interest among the people of the region in alternative forms of travel.

Rural areas consist of areas, which may have some development, such as very low-density residential or agricultural activities but have not yet been provided a high level of urban services. Within the region, Pickens County is the only county with more than 90 percent of

their land area in the rural category. However, all the counties have more than 50 percent of the land in this category.

The bulk of land utilized for conservation purposes is contained within the Chattahoochee National Forest area. Fannin County contains the largest percentage of its land area within the conservation category at 41.97 percent followed by Murray County at 24.03 %, and Gilmer County at 19.76%. Most of the land in conversation is land in very steep slopes, which is difficult for either bike or pedestrian travel.

Development patterns are significant because they correlate with nonmotorized transportation facilities. Densely developed communities are more reliant on pedestrian and bicycle transportation and can justify the cost of facilities. In dense, mixed-use developments, for instance, residents may find driving unnecessary, while in more typical suburban subdivisions, they will need to use an automobile to reach most destinations. Developed areas make the most sense for practical bike and pedestrian travel to reach employment centers and other services. However, without connected facilities, urban areas can make for very difficult and dangerous bike and pedestrian travel. Rural areas reduce bike, pedestrian, and motor vehicle conflicts but there are less "practical" reasons for bike and pedestrian in these areas. It is worth noting that these rural and conservation areas are the preferred areas for the recreational bicyclists; many of which drive to these areas from developed areas to enjoy the scenic vistas and less road competition with motorists. Often these bicyclists come from highly urbanized areas as far as Chattanooga and Atlanta. However, these outings do not reduce traffic congestion and can contribute to it.

One of the biggest economic influences for development in the region is the carpet industry. The carpet industry, which originated in Dalton and Whitfield County during the late 1950s, has grown significantly over the last three and a half decades. Continual expansion of manufacturing, distribution and support industries has occurred not only in Dalton and Whitfield County, but also throughout many adjoining counties like Murray County in the region. The ever-growing employment opportunities have led to significant residential growth throughout the area. The carpet industry is increasingly consolidating its headquarters and manufacturing facilities in North and Northwest Georgia, and unlike other textile industries (apparel, etc.); which have sought off-shore locations for cheaper labor, it is expected to remain in the area in the future. Although affected by cyclical economic recessions, the industry continues to experience steady but moderate growth, and therefore, will continue to be a stimulus for growth and development in the region. This growth pattern has also provided concentrated employment areas in a fairly close proximity to housing. Some of this segment of the population is using bike and pedestrian travel for economic reasons to reach employment centers. This need is likely to continue in the future. Increasing bike and pedestrian facilities in the area will likely accelerate the use of these modes of transportation.

Interstate 75, which was completed in the 1960's and 1970's continues to be a predominant factor influencing land use patterns in Whitfield County. This Interstate greatly increased accessibility between relatively remote rural areas of Whitfield County and the Chattanooga and Atlanta Metropolitan Areas, which has also caused portions of the county to become "bedroom" communities. The Interstate has also stimulated substantial new commercial and industrial development at various access nodes along their entire length throughout the

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region.

Completion of Interstate 575/Appalachian Development Highway (SR 515) in the early 1980s has also influenced development patterns in Pickens, Gilmer and Fannin Counties. Located in mountainous areas, the new highway greatly improved accessibility between these counties and the Atlanta Metropolitan Region thus improving opportunities for tourism, second home or vacation home development and business and industrial development. A considerable amount of second home/vacation home development has occurred in all three counties, which will likely continue in the future. In addition to the above economic development activity, Pickens County is also beginning to experience the "bedroom community" phenomenon of other suburban counties of the Atlanta Metropolitan Area. As transportation improvements are continually made in the North Atlanta Metro area (such as the proposed Outer Perimeter Highway and Commuter Rail to Canton), this “bedroom community” phenomenon will become more evident in the future. Suburban areas generally are not conducive to bike and pedestrian travel. Increases in this type of development will present more challenges to the bike and pedestrian traveler and commutes to work are generally too long for practical bike and pedestrian travel.

New development patterns can affect roadway design. Arterial streets were primarily designed to move rising volumes of motor vehicles with little accommodation for bicyclists and pedestrians. Incremental development along many of the North Georgia arterials and collectors, with multiple access points for automobiles, resulted in inconvenient and unsafe bicycle and pedestrian linkages. In short, transportation policy was geared more towards economic development than multimodal transportation.

Regional Transit Systems

All five counties have Federal Transit Administration 5311 money for public transportation. Through a Federal Transit Administration 5311 grant, they operate demand-response and route-deviation transportation systems. Service is generally provided Monday through Friday between 6:30 a.m. and 5:00 p.m. and is available to residents for various trip purposes, including medical, nutrition, shopping, education, recreation, etc. This transit services picks people up at their homes and takes them to their desired locations. As such, it does not need any bike or pedestrian connection. Hence, the buses are not equipped with bike racks and none would be needed with this type of system. The County’s 5311 program serves the disadvantaged populations, which is the same segment of the population currently biking and walking for mobility. However, bike and walking would provide these people more freedom and they would not have to wait for their transportation.

The City of Dalton Multimodal Transportation Study, completed in January 2003, indicated that fixed-route public transit might be feasible in Whitfield County, particularly in the more densely developed corridors. The City of Dalton has a high concentration of two groups that are typically identified as needing or choosing public transit service – Hispanic and elderly residents. Of the City of Dalton’s total population of 27,912, 40% or 11,219 persons are Hispanic and 11% or 3,202 are elderly. Other transit feasibility studies are in the works for Whitfield County and

should be completed by June 30, 2005. If fixed route public transit is instituted in the City of Dalton, bike racks should be placed on the buses and the pedestrian facilities around bus stop should be improved to help serve the most people possible.

Challenges that the Regional Land Character Present to Bicycle and Pedestrian Travel (Safety Concerns)

Breaks in elevation are very common in the North Georgia area along the side of highlands and faces of the ridges. As natural barriers, there are limitations to the formal spread of development and to the circulation of traffic (including bike and pedestrian). These barriers are sometimes positives of the region to mark neighborhoods or to buffer conflicting land uses. As important features, they give character and visual impact to the landscape, which should be taken into consideration in the design of general public planning and in private project layout. The slopes themselves are high in open space potential, particularly since they are typically related to water features and woodlands.

There are a large number of rivers and streams throughout the region and many bridges across them. Many of these bridges are narrow and have little or no shoulder making it difficult for the bicyclist or walker to cross without getting into traffic.

In addition to bridges, which cause dangerous road narrowing for bicyclist and pedestrians, the areas steep slopes can also create narrow roads and road areas in the region. Again, in these areas of steep slopes many times there is little or no shoulder forcing the bicyclist and pedestrian out in the car travel lanes. This situation is not only unsafe for these travelers but causes frustration for motorist if they have to slow down for oncoming traffic to pass the bike and foot travelers safely. With the steep slopes there are also many curves in the roads. These curves can make passing bicyclists especially difficult and sometimes the motorists may have to wait what seems like a very long time, which also breeds animosity from the motorists towards the bicyclist. Many motorist will decide not to wait and they try to squeeze passed sometimes forcing the bicyclist off the road. This is not only very dangerous but also creates animosity from the bicyclist towards the motorists. Lastly, the curvy roads in the mountain areas are dangerous because many times the motorists does not know there is a bike in their lane while coming around a curve until they are on top of the bicyclist.

Existing Bicycle Facilities

In the 1994 report *Selecting Roadway Design Treatments to Accommodate Bicyclists,* the Federal Highway Administration classified bicyclists in three categories to assist in the design of facilities:

Group A - Advanced Bicyclist: experienced riders who can operate under most traffic conditions. Experienced bicyclists are best served by direct access to destinations usually via the existing street and highway systems, the opportunity to operate at maximum speed with minimum delays, and sufficient operating space on the roadway or shoulder to reduce the need for either the bicyclist or the motor vehicle operator to change position when passing.

Group B - Basic Bicyclist: casual or new adult and teenage riders who are less confident of their ability to operate in traffic without provisions for bicycles. The basic bicyclist prefers comfortable access to destinations, preferably by a direct route, using either low-speed, low traffic-volume streets or designated bicycle facilities and well-defined separation of bicycles and motor vehicles on arterial and collector streets or separated bike paths.

Group C - Children: pre-teen riders whose roadway use is initially monitored by adults. They prefer access to key destinations surrounding residential areas, including schools, recreation facilities, shopping, residential streets with low motor vehicle speed limits and volumes, and well-defined separation of bicycles and motor vehicles along streets or separated bike paths.

Typically, bicycle facilities include:

Paved Shoulders: Commonly associated with *Class III Bikeways,* paved roadway shoulders are clearance or safety areas along a roadway. These are typically found along rural roadways where bicycle travel is common. Shoulders may be designated as bicycle facilities by signing and marking them for preferential use.

Wide Curb Lanes: Commonly associated with *Class III Bikeways,* wide curb lanes are traffic lanes greater than twelve (12) feet wide. These lanes provide greater room for maneuvering, increasing the lateral distance between motorists and bicyclists. In many cases where there is a wide curb lane, motorists will not need to change lanes to pass a bicyclist.

Bicycle Lanes: Commonly referred to as *Class II Bikeway,* bicycle lanes are designated sections of a roadway that are signed, striped, and marked exclusively for bicycle use. Bicycle lanes are typically found in large urban areas where

significant bicycle demand is desired or expected on arterial streets and roadways.

Bicycle Paths: Commonly referred to as *Class I Bikeway,* bicycle paths are off-street facilities used exclusively by bicycles. They are located within the right-of-way of parallel roadways, are ideal for less experienced bicyclists and provide enjoyable recreational opportunities as well as desirable commuter routes.

Shared Use (Multi-Use) Path: Commonly referred to as *Class I Bikeway,* a shared use paths is a multipurpose facility, which is physically separated from motorized vehicular traffic by an open space or barrier. Shared use paths can provide recreational opportunities, or in some cases, can serve as a direct commute route if cross flow by motor vehicles is minimized.

Bicycle Parking: Bicycle Parking is a dedicated area specifically suited for storing and locking a bicycle. Bicycle parking areas are usually required by large city Land Development Code.

GDOT State Bicycle Routes

There are two GDOT State Bicycle Routes that travel through the region, State Route 35 – March to the Sea and State Route 90 – Mountain Crossing. Designation as State Bike Routes means that as road improvements occur, signage designating them as bike route will be installed and bike lanes and other facilities will be added in areas as needed for safe bicycle travel.

State Route 35 – March to the Sea

State Bike Route 35 - March to the Sea only serves Whitfield County in the North Georgia. It enters Whitfield County from the north on US 41 & 76 and exits on Lower Mill Creek Road (see below chart for full directions). The whole segment in the region is 11.7 miles in length. The only facilities put into place to date in the region are short segments of bike lanes (1/4 mile on each side of the road) and a few signs at Exit 341 in Tunnel Hill. These facilities were put into place when improvements were made to that interchange. These facilities do not connect to any other facilities and likely get used very little.

State Route 35 – March to the Sea Corridor Descriptions in the North Georgia Planning Area

County	Facility	Distance	Reference Point	Direction	Community
Whitfield	US41/76/GA3	1.7	GA201 Intersects to left	Continue straight	Tunnel Hill
Whitfield	US41/76/GA3	2.7	GA 201 Intersects to right	Turn right	
Whitfield	GA201	2.1	Utility Rd. (CR343/678)	Turn left	Mt. Vernon
Whitfield	Utility Rd. (CR343)	0.2	Rattlesnake Rd. (CR355) bears to left	Continue straight	
Whitfield	Utility Rd. (CR343)	0.7	Utility Road bears to right (CR343)	Bear right	
Whitfield	Utility Rd. (CR343)	2.2	Old Morris Rd. bears to left (CR349)	Bear left	
Whitfield	Old Morris Rd. (CR349)	2.0	Mill Creek Rd./Mountain Crossing Route	Continue straight	
Whitfield (1)	Lower Mill Creek Rd. (CR348)	0.1	Walker County Line	Continue straight	

Source: GDOT

State Route 90 – Mountain Crossing

State Bike Route 90 – Mountain Crossing serves Whitfield, Murray, and Gilmer Counties. This route enters Whitfield County on Lower Mill Creek Road on the same stretch of road that is part of the State Bike Route 35 - March to the Sea route. From there, the route travels secondary roads to Ga. Hwy. 41 and to Ga. Hwy. 52. Once the Mountain Crossing route joins Ga. Hwy. 52 it stays on or near Ga. Hwy. 52 until it leaves the region in Dawson County (see following chart for full directions). This segment of the route is 66.3 miles in length.

The only bike facilities put in place on the State routes in the region to date is a 3.2 mile stretch of bike lanes and signage on either side of Ga. Hwy. 52. These bike lanes start a few miles southeast of the Cities of Ellijay and East Ellijay. This area is well known for apple orchards and there are many shops and restaurants centering around the apple industry. Currently, these facilities are not getting much use despite the beautiful surroundings and popular destination. This is due to a couple of reasons. First, the 3.2-mile stretch is not completely contiguous. These facilities were added with road improvements in the area and were not specifically implemented for the biking facilities. There are short segments without bike lanes and a couple of narrow bridges to cross without bike lanes that make it difficult and sometimes unsafe for the average rider. Ga. Hwy. 52 in this area is a four or five-lane highway and the cars can travel fast. Additionally, these bike lanes begin and end without any connection to other secondary roads or other bike facilities. Ga. Hwy. 52 is not conducive to bicyclists before or after these lanes end.

The part of this route currently getting the most use by bicyclists is Ga. Hwy. 52 as it leaves the western portion of Chatsworth and goes over Fort Mountain into Gilmer County. Even though this stretch does not have any bike facilities, many experienced riders like the challenge of the climb, the incredibly beautiful scenery, and relatively low car traffic counts. It should be noted that the sharp turns of the road still make this segment fairly dangerous for bike/car conflicts. However, this segment continues to gain popularity partially due to this stretch being the first mountain stage of the Tour de Georgia bike race.

State Route 90 – Mountain Crossing Corridor Descriptions in the North Georgia Planning Area

County	Facility	Distance	Reference Point	Direction	Community
Whitfield (1)	Lower Mill Creek Rd. (CR348)	0.1	Mill Creek Rd. (CR349)	Turn right	
Whitfield	Mill Creek Rd. (CR349)	2.0	Rattlesnake Rd. (CR355) bears right	Continue straight	
Whitfield	Mill Creek Rd. (CR349)	3.7	CR349 bears left	Bear left	
Whitfield	Bradberry Hill Rd. (CR349)	0.4	Sam Love Rd.	Turn left	

Whitfield	Sam Lowe Rd. (CR349)	0.9	Old Lafayette Rd. (CR318)	Turn right	
Whitfield	Old Lafayette Rd. (CR318)	0.1	US41	Turn right	
Whitfield	US41	1.6	CR362 (Tibbs Road)	Turn right	
Whitfield	CR362 (Tibbs Rd.)	0.8	CR532 (Walnut Avenue)	Bear right	
Whitfield	CR532 (College Dr./Holiday Ave.)	1.5	GA52	Turn left	
Whitfield	CR532 (Walnut Ave.)	0.1	I-75	Cross over I-75	
Whitfield	GA532 (Walnut Ave.)	1.8	US41 (Thornton Ave.)	Turn left	
Whitfield	US41 (Thornton Ave.)	0.5	CR759/760 (Morris St./Murray Ave.)	Turn right	Dalton
Whitfield	CR759/760 (Morris St./Murray Ave.)	2.3	GA52	Continue straight	
Whitfield	Airport Rd. (CR554)	0.9	Tibbs Bridge Rd. (CR69) bears to left	Turn left	
Whitfield	Tibbs Bridge Rd. (CR69)	2.5	Keith Mill Rd. (CR676)	Turn right	
Whitfield	Keith Mill Rd. (CR676)	0.2	Tibbs Bridge Rd. (CR100) bears to left	Bear left	
Whitfield	Tibbs Bridge Rd. (CR100)	2.0	Murray County line	Continue straight	
Murray	Tibbs Bridge Rd. (CR109)	0.4	Tibbs Bridge Rd. (CR106) bears to left	Bear left	
Murray	Tibbs Bridge Rd. (CR106)	2.5	GA225	Turn left	
Murray	GA225	0.3	GA52 Alternate	Turn right	Spring Place
Murray	GA52 Alternate	3.1	US76/411/GA52	Continue straight	Chatsworth
Murray	GA52	12.1	Gilmer County line	Continue straight	
Gilmer	GA52	13.1	GA52 turns left	Turn left	
Gilmer	GA52	1.3	US76	Cross under US76	Ellijay
Gilmer	GA52	3.4	Lower Cartecay Rd. (CR101) bears right	Bear right	
Gilmer	Lower Cartecay Rd. (CR101)	2.1	Lower Cartecay Rd. (CR105) bears left	Bear left	
Gilmer	Lower Cartecay Rd. (CR105)	0.3	Lower Cartecay Rd. (CR105) bears right	Continue straight	
Gilmer	Lower Cartecay Rd. (CR105)	0.8	GA52	Turn right	
Gilmer	GA52	6.0	Dawson County line	Continue straight	

Source: GDOT

Some of the other rural secondary roads, which are part of this route are adequate for biking without the need of bike lanes and other facilities. However, it is reported by many avid bikers that signage would be helpful. Without the bike lanes and other facilities on the State Highway sections and without much signage, very few are currently using long stretches of these routes because they are "State Bike Routes."

Most residents do not know the State Bike Route network exists. Those who use bicycles for transportation outside the city areas are confined to the local street network and secondary streets. These bicyclists rely heavily on the existing roadway network to get where they need to go. Throughout North Georgia, avid bikers have a well-developed network of city, county and state roadways that can be used by them for transportation and recreation. Many roadways carry car volume levels so low that they are ideal for bicycling. In addition, some roads have wider travel lanes, making it easy to accommodate bicyclists. Many county roads, however, are not paved or poorly paved, and too narrow making bicycling difficult.

General Existing Bicycling Conditions and Considerations

Paved local roads with low volumes of vehicular traffic (less than 2,000 vehicles per day) are natural bikeways. Because these roads are often winding, narrow, and tree-lined, they are suitable for only low-speed local vehicular traffic, rendering them ideal for bicycling. It is important that pavement be maintained in good condition.

Arterial roadways in the rural North Georgia area and in most areas pose safety concerns and, in many cases, act as barriers to bicycle transportation. The function of arterial roadways is to move traffic between communities and activity centers and to provide connections to expressways. There is thus a conflict between the need to move high volumes of traffic at high

speeds and bicyclists' desire to travel along these roadways. Typically, significant community, retail, commercial, and industrial facilities are located along arterials to take advantage of visibility and connectivity. Many times on arterials average biker gets uncomfortable being out in the heavy traffic so the bikers will ride on the sidewalks. This is not only a hazard to pedestrians but also to themselves, because cars do not see them well as they turn into the businesses along these arterial streets.

Recreational Trails and Greenways

Recreational trails such as hiking trails do not make for very good transportation alternatives to the car. Usually these trails are not very straight and travel through rugged territory. They are mostly designed for recreational purposes. Paved "greenways" can sometimes be considered a transportation alternative if they are fairly straight, paved, and connect places people want to travel too. They can be used for both biking and walking purposes. These greenways are good at making connections to other biking and walking facilities, especially in urban areas where it may not be appropriate for bikers and walkers to be on certain roads.

Greenways

There are really no paved greenways that could make for transportation alternatives in the North Georgia area. There are a few paved loops in the parks and around schools in the cities in Dalton and some of the other cities. These paved loops were built for and are used strictly for exercise and recreation. Near the City of Ellijay in Gilmer County there is a paved greenway in its River Park along the Coosawattee River, which is approximately 1.5 miles in length. However, currently this trail is used strictly for recreation and exercise. There are plans to extend the trail to connect to downtown Ellijay and possibly East Ellijay using a bridge across the Coosawattee River. This project has recently been awarded GDOT Transportation Enhancement (TE) funds.

Regional Trails

Unpaved hiking trails are in abundance in the five-county North Georgia planning area. There are some in every county but usually in the steep-sloped remote forested areas of the Chattahoochee National Forest. None of them could realistically be used for commuting from one place to other since they are strictly used for recreation.

Lack of Facilities and Rumble Strips

As noted, the lack of bicycle facilities is a defining characteristic of the North Georgia planning area's transportation network. Paved shoulders, wide curb lanes, bicycle lanes and paths, and bicycle parking facilities are not available. Furthermore, roads that have rumble strips (especially wide ones) along the road make it extremely difficult for bicycle traffic. Bicyclers must either go out into the busy fast-moving traffic or are forced to the far outside portion of the shoulder which can be unsafe due of all the gravel and other debris in that part of the road. Luckily for the bicycle traveler, rumble strips are being used less and less. This plan strongly encourages discontinuing the use of rumble strips on roadways or using the narrow strips that are now being installed.

Attitudes

As previously mentioned, attitudes will need to change for the North Georgia area to become bike and pedestrian friendly. This problem has been recognized during advisory and public meetings, especially concerning attitudes that many motorists have toward bicyclists. In many places throughout the North Georgia area, roadways used by motorist also function as important bicycle routes. The region's roads have not been designed with bicyclists in mind, resulting in a number of functional issues. Numerous public comments were heard about the lack of courtesy between people using the same roadway, whether they are on bicycle or car.

Intersections

Intersections are one of the primary collision points for bicyclist and pedestrians. Generally, the larger the intersection, the more complicated it is for bicyclists to cross. On-coming vehicles from multiple directions make it difficult for motorists to see bicyclists. Many bicyclist and motorist are confused about how bicyclist should travel through intersections, especially how they should make left turns. Many people believe bicyclist should dismount their bikes and walk through crosswalks like pedestrians, or try to cross and turn from the far right so they can stay out of traffic. Since bicycles are considered a vehicle according to Georgia Code, they should take left turns like a car – its more predictable than hopping on the sidewalk, which perpetuates he confusion among road users as to whether bikes belong on the road or sidewalk. Turning left from the left lane (like a car) is safer than turning left from the right side of the road where you can be hit by right-turning or through traffic. Safety can be further increased when the cyclists signals their turn and is wearing highly visible clothing, or uses head-lights and tail lights. There are many examples of multiple lane turning situations throughout North Georgia, principally within the larger cities. Again, education of both the automobile driver and the bicyclist will help alleviate accident potential in these circumstances.

Pavement Condition

Potholes, broken and fractured pavement, steep drop-offs at the pavement's edge, and debris (including road kill) are obstructions and hazards for bicyclists. Beyond causing an unpleasant ride, pavement surface is a major safety issue. For example, gaps between pavement slabs or overlay faults that run parallel to the direction of travel can trap a bicycle wheel and cause a fall,

and holes and bumps can cause bicyclists to swerve into the path of motor vehicle traffic while attempting to avoid these hazards. Residents in almost every county complained of poor pavement condition along county roadways. Rural North Georgia counties and communities do not currently have hazard identification programs. While the responsibility for maintaining State highways is the State's, maintenance of local roads and streets falls on the city and county governments.

Lack of other Bicycle Parking Facilities

There are very few bike racks in the North Georgia area including at the schools. Bicyclists visiting stores, restaurants, places of employment, and community facilities are largely left to their own devices to temporarily store their bicycles.

The lack of bicycle parking facilities is a result of many factors, including a perceived lack of need and a view on the part of some that bicycle riding is a low priority in their overall transportation policies.

Lack of Signage

An attractive and effective system of signage encourages bicycling by promoting destinations and directing traffic to them. It is also an effective educational tool for both motorist and bicyclist. When applied consistently, signage can link communities and provide coherent visual indicators to direct bicyclists.

Throughout the region, there is a lack of bike signage. Both at advisory committee meetings and public meetings there were many complaints that the region needs at least "Share the Road" signage but other signage is needed as well. Directional graphics, interpretive signage and cautionary/regulatory signs are important ingredients in the bicycling experience.

Local Bike and Pedestrian Plans

For the most part there is a lack of bike and pedestrian plans for the North Georgia region. Some of the larger cities like Dalton and Jasper are starting to investigate enhancing bike and pedestrian modes of transportation. However, not all of the counties have bike and pedestrian plans. The following is a list by county of the bike and pedestrian planning in the region.

Whitfield County

Whitfield County has actively been planning bike and pedestrian modes of transportation since 2003. This planning was accelerated even more when the area was designated a metropolitan area after the 2000 US Census. As part of being designated a metropolitan area, the City of Dalton and Whitfield County are required to do comprehensive transportation planning and studies, which include bike and pedestrian planning.

2030 Long Range Transportation Plan for the Dalton – Whitfield County Metropolitan Planning Organization

This plan is currently being developed through the recently formed Metropolitan (Transportation) Planning Organization (MPO). This Long Range Transportation Plan (LRTP) is for the City of Dalton and Whitfield County Urban Area. The plan outlines goals, objectives, policies, and improvements that are needed to maintain a safe and efficient multimodal transportation system for the movement of people and goods throughout the area. This plan is being development in concert with the North Georgia Bicycle and Pedestrian Plan. The goals, objectives, and strategies of this plan are being incorporated into the bicycle and pedestrian section of their Long Range Plan. Furthermore, the recommended bike and pedestrian routes and facilities of this plan were developed and approved through the local MPO. These routes and facilities should be the same as those which will be approved in the Long Range Plan.

One of the strengths of the LRTP is that it is going through tremendous public and planning process. Several different committees have been developed to guide the plan and many well-attended public meetings have already been held. This study is also using a large amount of current existing data for 2003 (the base year) such as population, employment, school enrollment, land use, and traffic volumes to develop a travel demand model for forecasting traffic on various road system alternatives for the year 2030. These models are also being used to help select bike and pedestrian routes. Bike and pedestrian improvements and facilities will be added as roads improvement and upgrades are made for the motorist. In this way it may take awhile (at least 25 years) to develop an inner-connected bicycle and pedestrian system that is usable for the public.

Two previous studies, which contributed to the LRTP were the Whitfield County/City of Dalton Multimodal Transportation Study by Greenhorne & O'Mara, Inc., completed in September 2003, and the City of Dalton Multimodal Transportation Study prepared by Tunnell-Spangler-Walsh & Associates, completed January 2003. Many of the recommendations from these two studies were incorporated into the LRTP. These two studies were the first to identify current deficiencies in bike and pedestrian facilities for the area. It did so while realizing the strong need for these types of facilities due to the rapidly increasing Hispanic and Latinos populations being imported to the area for the region's low skill labor force needs. The studies identified specific bike and pedestrian routes and the type of facilities to be used on these routes, which were used as a foundation for the bike and pedestrian routes in the LRTP. As a result of these studies thirty "Share the Road" signs have already been installed it the City of Dalton.

Pickens County

Pickens County has become more interested in transportation planning due to rapid population growth of the area during the 1990s, which is expected to continue over the coming decades. Based on the recommendations of their Comprehensive Plan, Pickens County and Georgia DOT jointly agreed to develop a long-range transportation plan for the County.

Pickens County Transportation Study

The study was recently completed by Greenhorne & O'Mara, Inc. in January, 2005. The Transportation Plan identifies potential multimodal transportation improvements through the year 2030. Highways, railroads, transit, airport, as well as bicycles and pedestrian needs were all treated in the study. The study will guide area improvements of GDOT, Pickens County, and other local jurisdictions in implementing future transportation improvement projects.

The plan includes a comprehensive bicycle and pedestrian section, which describes specific routes, identifies the type of facilities needed, and gives cost estimates for those improvements. The study includes a wealth of supporting data of existing conditions and suggests improvement until the year 2030. In addition to suggested bike routes along roads and sidewalks, this plan identifies three multi-use paths to link together bike and pedestrian facilities. All of the recommended bike and pedestrian improvements of this plan have been incorporated into the North Georgia Bike and Pedestrian Plan. One additional route has been added by the North Georgia Bike and Pedestrian Plan, which was suggested at PAC and public meetings for this plan.

Fannin County

When the GDOT State Bike Routes were released to the public, none of the bike routes passed through Fannin County. Several individuals and organization felt that it was imperative for Fannin County's tourism future to be included in these state bike routes. Working with the Fannin County Board of Commissioners, they drafted a plan for proposed routes that would connect the county to the state bike route system. These proposed routes are the Blue Ridge Pedestrian and Bike Way and Tri-City Pedestrian and Bike Loop.

Blue Ridge Pedestrian and Bike Way

This route was developed to link Fannin County with the GDOT State Bike Route 90 - Mountain Crossing. It proposes to connect to the Mountain Crossing Route in Ellijay and travel north through Fannin County and the City of Blue Ridge before re-connecting with the Mountain Crossing Route in Lumpkin County. The proposed route consists of a series of bike lanes, bike paths, and sidewalks. The plan consists of some rational for the project, route descriptions, and a map. This plan was submitted to GDOT in December of 2000.

A strength of the plan is that it links the City of Blue Ridge and Fannin County with the GDOT State Bike Route system as intended. A weakness of the plan is that it does not specify the types of bike facilities that should be installed at various segments along the route.

Tri-City Pedestrian and Bike Loop

This plan consists of a letter submitted to GDOT proposing to tie the three cities of Fannin County (Blue Ridge, McCaysville, and Morganton) to each other via a loop route. This route would in turn connect to the proposed Blue Ridge Pedestrian and Bike Way, which would

connect to GDOT State Bike Route 90 - Mountain Crossing. It has also been reported that connections are also proposed to Tennessee (Ocoee Whitewater Center) and North Carolina (via 60 Spur).

Strengths are that this plan also connects the rest of the cities of Fannin County to the GDOT State Bike Route system. The proposed route follows State Highway Routes and would require bike facilities (widened shoulders/bike lanes) along the entire route.

Transportation Enhancement (TE) Grants

Many counties and cities in the region have applied for GDOT Transportation Enhancement (TE) grants for bike and pedestrian facilities and some have been funded. The following chart is a list of those projects by county and the status of those projects. Projects that have not been funded have been listed to show these communities are planning these bicycle and pedestrian improvements as they obtain funding.

TRANSPORTATION ENHANCEMENT (TE) GRANTS FOR NORTH GEORGIA			
Location	**Summary**	**Date**	**Status**
Chatsworth/ Murray County	This paved bike trail will link Chatsworth to a Murray County park and the Cohutta-Chattahoochee Scenic Byway.	2001	TE Grant was approved but money was not utilized.
Pickens County	Proposed sidewalk improvements in the City of Nelson.	Submitted November 2003	Funded
City of Ellijay (Gilmer County)	Sidewalk Improvements linking downtown Ellijay to the Gilmer County Park.	Submitted November 2003	Funded
Gilmer County	Proposed extension of existing paved greenway and other sidewalks and trails to connect the Gilmer County Park recreation facilities with City of Ellijay sidewalk system and some Gilmer County schools. Project includes a bike/pedestrian bridge across the Coosawattee River.	Submitted November 2003	Funded
Fannin County	Proposed sidewalk and downtown improvements in the City of Blue Ridge.	Submitted November 2003	Funded
City of Jasper (Pickens County)	The proposed project includes adding bike lanes along two routes. One extends from downtown Jasper to Cove Park in Pickens County. The other loops through the northern part of the City of Jasper.	Submitted 1999 and 2000	Unfunded
Whitfield County	Proposed paved bike lane along the Cohutta-Chattahoochee Scenic Byway connecting the Cohutta Fishery to Prater's Mill.	Submitted November 2003	Unfunded
Pickens County	Proposed sidewalk improvements throughout unincorporated Tate. Part of a plan that would also provide a paved greenway to the Pickens County High School from Tate.	Submitted November 2003	Unfunded

Source: North Georgia RDC

CHAPTER FIVE - RECOMMENDATIONS

This chapter describes bike and pedestrian route recommendations for the five counties of North Georgia. These recommendations fulfill a number of the plan objectives and strategies summarized by the PAC including: objective 2.1 to "Develop a system of bicycle routes that will connect the region's major urban centers to the State bicycle routes," and objective 2.2 to "Develop a system of bicycle and pedestrian facilities within local jurisdictions that will link residential areas with commercial areas, employment areas, educational centers, and cultural and recreational resources." The proposed route system in this plan is the first step in achieving these objectives.

Bike Routes

This section will identify bike routes for each county that connect to the State Bike Route system, link together the cities of the counties, and link residential areas with activity centers. All the information contained in this plan, as well as land use data and other information was used to determine routes. Local stakeholder and riders were also consulted as to the feasibility and ridability of the routes. Safety was a big factor in the development of the routes. Routes proposed on roads where there may currently be safety issues have bike facilities (wide shoulders or bike lanes) proposed along them. There are three types of bike routes proposed in this part of the plan. They are shared lane, bike lanes/shoulders, or multi-use paths. In the appendix is an extensive set of Design Guidelines, which should be used when planning facilities for these routes.

Shared Lane/Wide Curb Lane

Shared lane bike routes are routes where the bicyclist will have to ride in the travel lane with other vehicles. Motorists will have to go around the bicyclist as they approach the bicyclist. This type of situation is only being proposed on low traffic volumes roads where the amount of car/bike conflicts are at a minimum. Additionally, some segments of road are recommended as shared lanes where no on-street bicycle facilities are appropriate due to geometric or construction concerns. Many experienced riders like to ride in the travel lane whether or not there is a paved shoulder or other facilities present. There are fewer tire hazards in the travel lanes and the road surface is easier to travel than the many times second rate and/or angled surface asphalt of the road shoulder.

Wide curb lanes can also be used as an alternative to constructing bike lanes in urban areas if there is not enough room for a full fledged bike lane due to various right-of-way constraints. In situations where there are curbs, any additional width should be added to the outside curb lane to make it easier to share the road. For instance, if there is not room for a 5 foot bike lane, it may be possible to turn a 12 foot travel lane into a 14 foot travel lane. A vehicle can then sometimes pass a bicyclist in a wide curb lane without swerving into the next lane (depending on the size of the car, speed, etc.) which helps keep traffic moving, and it gives the bike a little more room to maneuver.

All shared lane or wide curb lane routes are proposed to have "Share the Road" or some other type of signage on them.

Bike Facilities

In this plan, bike routes proposed with bike facilities will eventually have either bike lanes or widened shoulders. Generally, it is recommended that a 5 foot bike lane be installed if curb and gutter is present such as in urban areas, and a 6.5 foot paved shoulder if no curb or gutter is present such as in rural areas. The American Association of State Highway and Transportation Officials (AASHTO) standards for bike lanes are 5 feet from the face of the curb to the white edge line if curb and gutter is present, or 4 feet from the face of the curb to the white edge line if there is no gutter pan. The reason for this is because where the gutter meets the roadway will cause a seam, which can be a hazard to the bicyclist. By requiring 5 feet, the bicyclist still has 3 feet clear to ride in, and a 2 foot clearance against the curb. If no gutter is present, there is no seam to create a hazard and the bike lane width can be reduced to 4 feet. Whether bike lanes or widened shoulders will be used needs to be determined by the county or city based on further study and planning. Some roads, especially in the cities, may not need to be widened but the lines repainted to include bike lanes. Some counties have indicated that these facilities will be added as improvements are made to the roadways. These facilities are being proposed on roads with higher traffic volumes where car/bike conflicts are high and the bicyclist can travel safer (if they choose) out of the traffic.

Multi-Use Paths

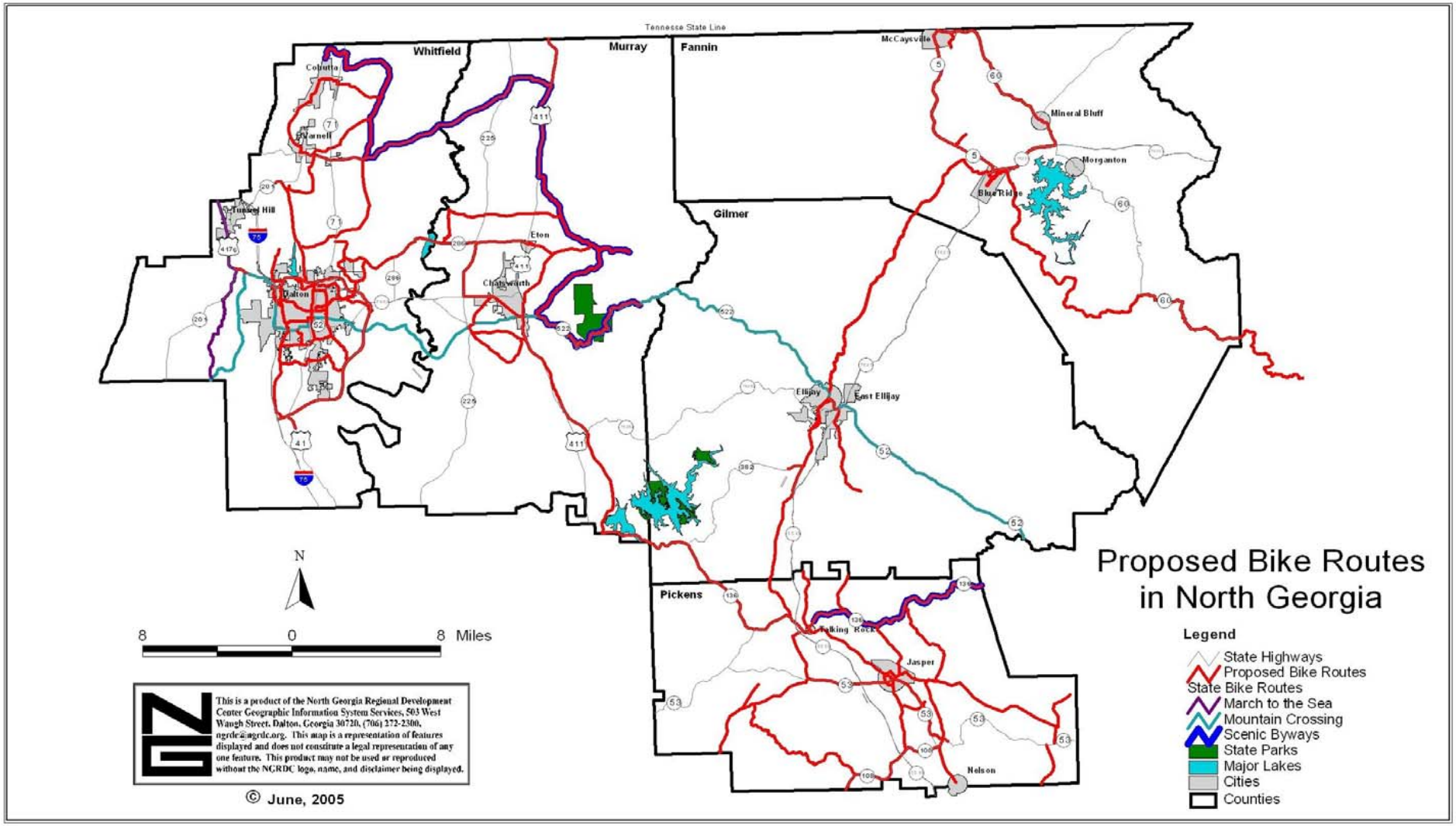
In these recommendations a multi-use path is physically separated from motorized vehicular traffic by an open space or barrier. Multi-use paths can provide recreational opportunities or, in some cases, can serve as a direct commute route if cross flow by motor vehicles is minimized. They are also useful in linking bike and pedestrian facilities together in areas where neither bike facilities nor sidewalks are feasible along the roadway. In North Georgia, these areas are generally caused by steep slopes. Multi-use paths are typically a minimum of 10 to 12 feet wide and are separated from the roadway.

Regional Bike Route System

The following map (Proposed Bike Routes in North Georgia) shows the proposed bike route system for the entire five county North Georgia area. The map also shows the GDOT State Bike Routes and the Scenic Byways routes and how the proposed routes connect to these existing systems. Scenic Byway routes are all proposed to be bike routes in this plan. This map does not show the types of bike route proposed. That type of detail is shown on the bike maps for each individual county.

Bike Route System by County

The following series of maps and tables describe the proposed bike routes for each individual county (Whitfield, Murray, Gilmer, Fannin, and Pickens Counties).


Tennessee State Line
Whitfield
Murray
Fannin
Gilmer
Pickens
Dalton
Chatsworth
Eton
Tunnel Hill
Varnell
Ellijay
East Ellijay
Mineral Bluff
Morganton
Blue Ridge
McCaysville
Jasper
Talking Rock
Nelson
N
8 0 8 Miles
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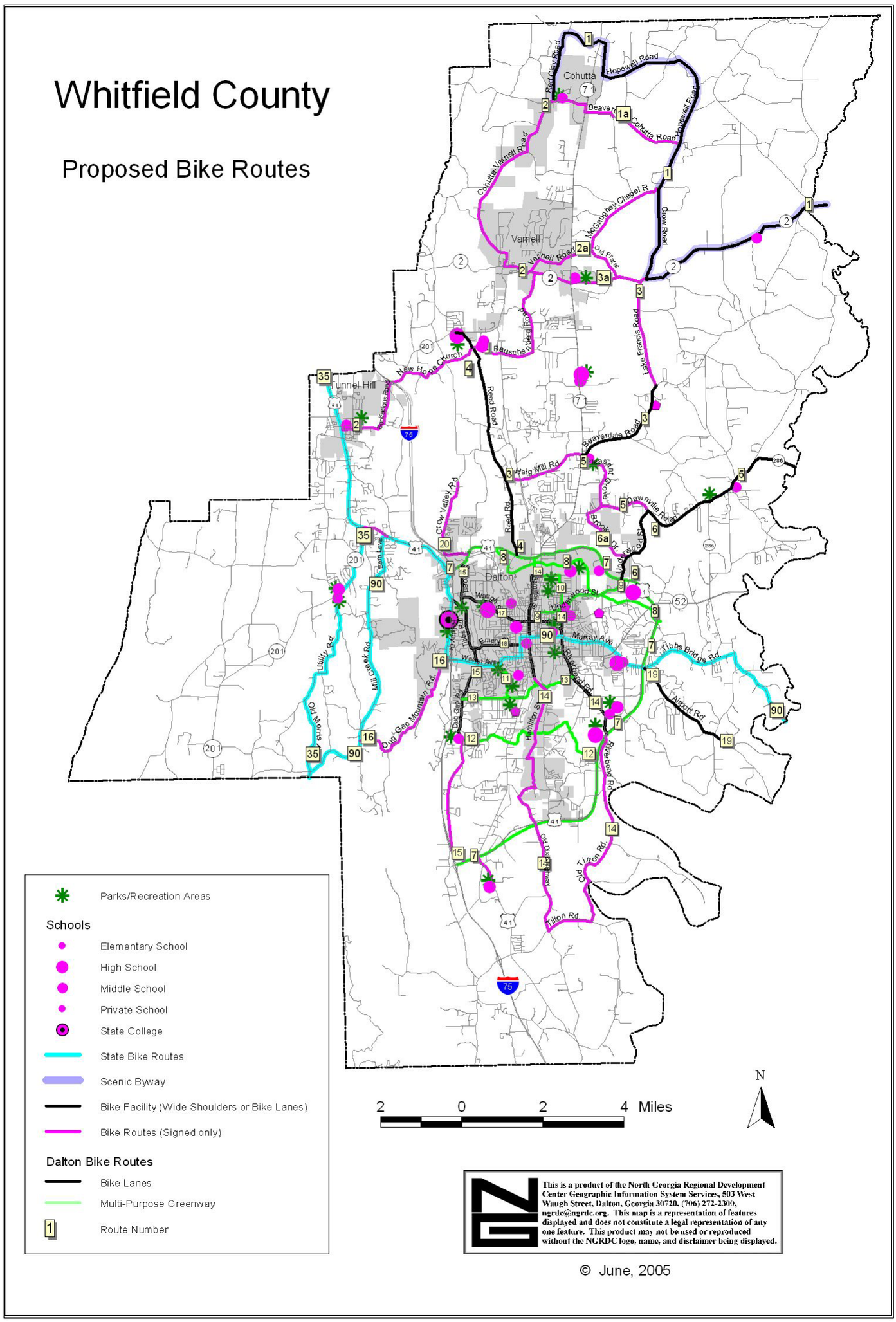
Proposed Bike Routes in North Georgia
Legend
State Highways
Proposed Bike Routes
State Bike Routes
March to the Sea
Mountain Crossing
Scenic Byways
State Parks
Major Lakes
Cities
Counties


Whitfield County
Proposed Bike Routes
Cohutta
Vamell
Tunnel Hill
Dalton
Hopewell Road
Cohutta Road
Vamell Road
Lake Francis Road
Reed Road
Beaverdale Road
Dawnville Road
Mill Creek Rd.
Dug Gap Mountain Rd.
Tibbs Bridge Rd.
Riverbend Rd.
Tilton Rd.
Parks/Recreation Areas
Schools
Elementary School
High School
Middle School
Private School
State College
State Bike Routes
Scenic Byway
Bike Facility (Wide Shoulders or Bike Lanes)
Bike Routes (Signed only)
Dalton Bike Routes
Bike Lanes
Multi-Purpose Greenway
Route Number
2 0 2 4 Miles
N
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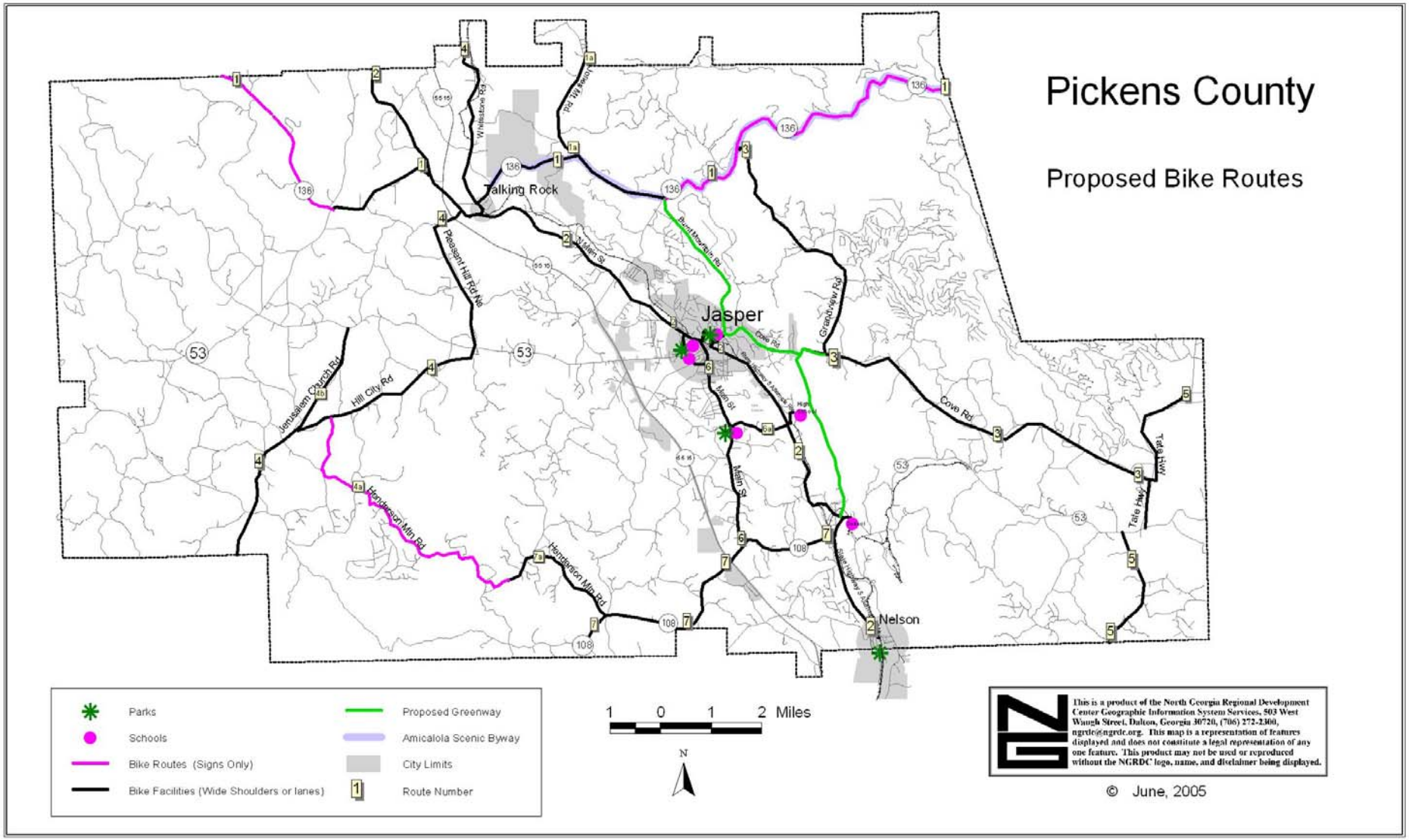
WHITFIELD COUNTY - PROPOSED BIKE ROUTES

Route #	Name	Termini From	*To*	Road Segments	Improvement	Comments
1	Cohutta/Beaverdale	Beaverdale-Cohutta Rd.	Beaverdale Community at Murray County Line	Red Clay Rd., Hopewell Rd. Crow Rd., GA Hwy 2	Install Bike Facilities	Designated as the Cohutta--Chattahoochee Scenic Byway
1A	Beaverdale -Cohutta Road	Hopewell Rd.	Red Clay Rd		Install "Share the Road Signs"	
2	Tunnel Hill/Varnell/Cohutta	US 41	Red Clay Rd.	Mountain View Dr.,New Hope Church Rd., Rouschenburg Rd.,Cohutta-Varnell Rd.	Install "Share the Road Signs"	
2A	Varnell to Hopewell Rd	GA 2	Hopewell Rd.	Varnell Rd, Mc Gauhey/Chapel Rd	Install "Share the Road Signs"	
3	Pleasant Grove/St Francis	Reed Road	McGauhey/Chapel Rd.	Haig Mill Rd.,Beaverdale Rd., Lake Francis Rd.,Prater's Mill Rd.	Install "Share the Road Signs" Lake Francis Road; install bike facilities on Beaverdale Road	
3A	Prater's Mill Rd. to Varnell	Prater's Mill Rd.	Varnell Rd.	GA 2	Install "Share the Road Signs"	
4	Reed Road Route	N. Dalton Bypass	New Hope Church Rd.	Reed Road	Install "Share the Road Signs"	
5	Dawnville/Pleasant Grove	County line	Pleasant Grove Elementary School/Park	Dawnville Rd.,Pleasant Grove Drove Dawnville Rd. from Underwood to County line.	Install "Share the Road Signs" Install bike facilities	
6	Dalton City to Pleasant Grove	Waugh St.	Dawnville Rd.	Underwood Rd.	Install "Share the Road Signs"	
6A	Brooker Drive	Underwood Rd	Dawnville Rd.	Brooker Drive	Install "Share the Road Signs"	
7	N. Dalton Bypass/S. Dalton Bypass Greenway	N. Dalton Bypass at N. Thornton	Connector 3 at I-75	Off Road along N. Dalton Bypass and S. Dalton Bypass	Construct and Landscape	For Bicyclists and Pedestrians
8	Mill Creek Greenway	N. Dalton Bypass near Hospital Access Dr.	N. Dalton Bypass near Melrose Dr.	Parallel to Mill Creek	Construct and Landscape	For Bicyclists and Pedestrians
9	Underwood Rd. Greenway	Bypass Greenway	Waugh Street	Parallel to Underwood Rd.	Construct and Landscape	For Bicyclists and Pedestrians
10	Fields Ave./Legion Rd. Greenway	Bypass Greenway	N. Ga. Fairgrounds, John Davis Park, E. Dalton	Runs along NS Railroad, Legion Dr., Fields Ave.	Construct and Landscape	For Bicyclists and Pedestrians

Route #	Name	Termini From	*To*	Road Segments	Improvement	Comments
11	Lake Shore Park Greenway	Walnut Ave.	Threadmill Rd.	Runs through Lake Shore Park	Construct and Landscape	For Bicyclists and Pedestrians
12	Drowning Bear Greenway	Dug Gap Rd.	Bypass Greenway	Parallel to Drowning Bear Creek	Construct and Landscape	For Bicyclists and Pedestrians
13	Tar Creek Greenway	Dug Gap Rd.	Riverbend Rd.	Runs along N. Side of Threadmill Rd., Abandoned Rail Spur, undeveloped land	Construct and Landscape	For Bicyclists and Pedestrians
14	Dalton to Tilton Loop	Hamilton St.at Springdale	Tilton Rd.at Five Springs Rd.	Springdale Rd., Legion Dr., Fields Ave., Riverbend Rd. Old Tilton Rd., Five Springs Rd., Hamilton St.	Install Bike facilities on northern part of loop from Dalton Bypass to Tar Creek Greenway. Install "Share the Road Signs on southern part of loop	
15	N. Dalton Bypass/Conn. 3	N. Dalton Bypass	Connector 3	Dug Gap Rd.,Tibbs Rd., Shugart Rd.	Install Bike facilities from US 41 to Drowning Bear Greenway. Install “Share the Road Signs” south of Greenway	
16	Dug Gap Mt. Rd.	Mill Creek Rd.	Mtn. Crossing Bike Route	Dug Gap Mtn. Rd.	Install "Share the Road Signs"	
17	Waugh Street	Shugart Rd.	Glenwood Drive	Waugh St.	Install bike facilities	
18	Emery Street	Tibbs Rd.	Thornton Street	Emery St.	Install bike facilities	
19	Airport Rd.	Bypass Greenway	Parker Rd.	Airport Rd.	Install "Share the Road Signs"	
20	Crow Valley Rd.	Bypass Greenway	North of Ridgefield Subdvn.	Willowdale Rd., Crow Valley Rd.	Install "Share the Road Signs"	


Pickens County
Proposed Bike Routes
Talking Rock
Jasper
Nelson
Parks
Schools
Bike Routes (Signs Only)
Bike Facilities (Wide Shoulders or lanes)
Proposed Greenway
Amicalola Scenic Byway
City Limits
Route Number
1 0 1 2 Miles
N
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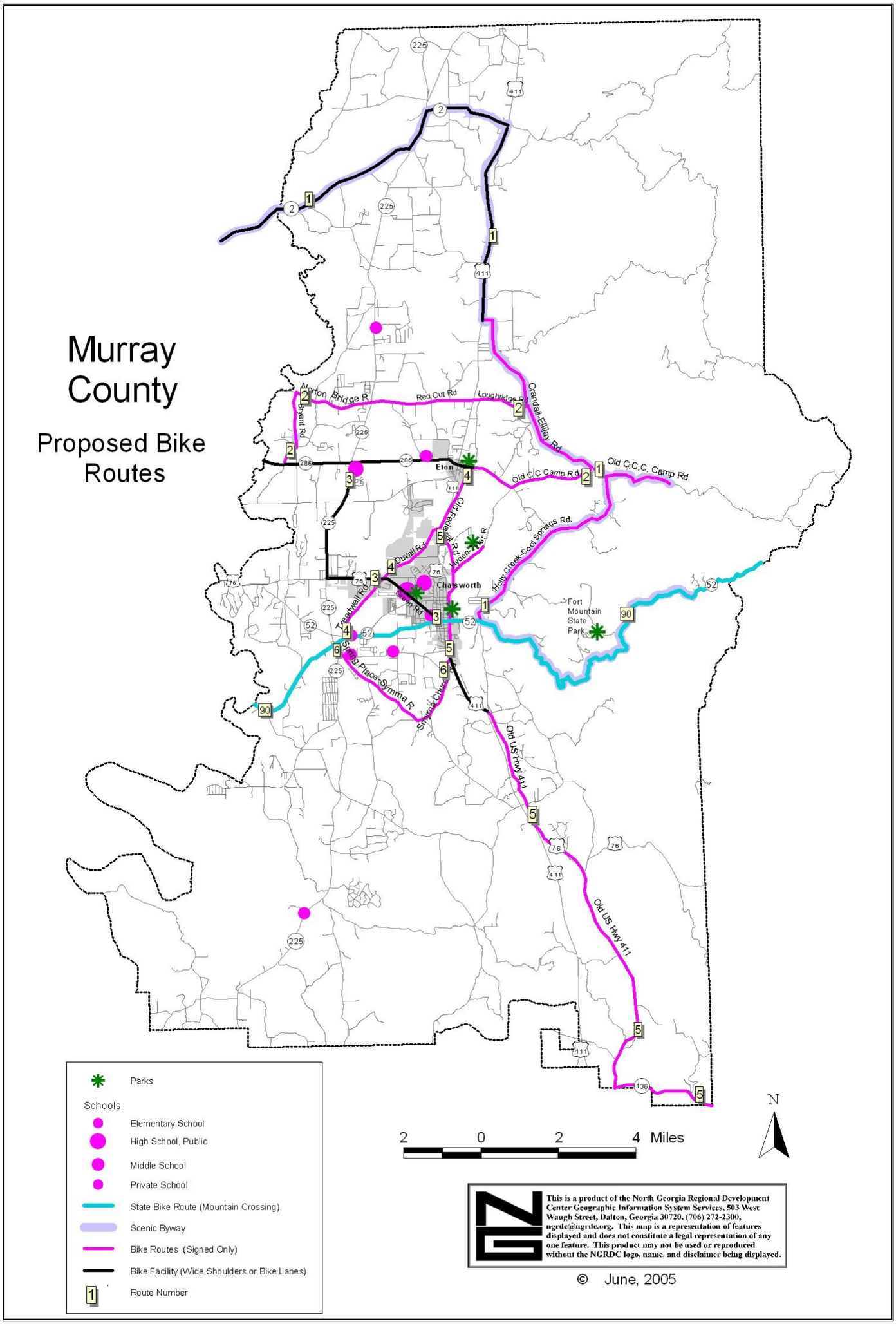
PICKENS COUNTY - PROPOSED BIKE ROUTES

Route	Name	Termini From	*To*	Road Segments	Improvement	Comments
1	State Route 136	Gilmer County Line	Dawson County Line	All State Route 136	Install Wide Shoulders east of SR 515, Only signs west of SR 515 to county line and SR 136 east of Burnt Mountain Rd to county line	Parts designated as the Amicalola Scenic Byway
1A	Jones Mountain Road	State Route 136	Gilmer County Line	Jones Mountain Road	Install Wide Shoulders and “Share the Road” Signage	
2	State Highway 5 Alternative	Cherokee County Line	Gilmer County Line	Alternative SR 5, Main Street (Jasper), Talking Rock Road	Install Wide Shoulders and Signage	
3	Cove/Grandview Road	Tate Highway	SR 136	Cove Road, Grandview Road	Install Wide Shoulders and Signage	
4	West County Route	Cherokee County Line	SR 136	Jerusalem Church Road, Hill City Road, Pleasant Hill Road NE	Install Wide Shoulders and Signage	
4a	Henderson Mountain Road	Hill City Road	Henderson Mountain Road	Henderson Mountain Road	Install "Share the Road Signs"	
4b	Jerusalem Church Road	Jerusalem Church Road at Hill City Road	SR 53	Jerusalem Church Road	Install Wide Shoulders and Signage	
5	Tate Highway	Cherokee County Line	Dawson County Line	Yellow Creek Road, SR 53, Tate Highway	Install Wide Shoulders and Signage	
6	Main Street	SR 108	Alternative State Hwy 5	Refuge Road, Main Street	Install Wide Shoulders and Signage	
6A	High School	Main Street	Pickens County High School	Camp Road	Install Wide Shoulders and Signage	
7	State Route 108	Cherokee County Line	Alternative State Hwy 5	State Route 108	Install Wide Shoulders and Signage	
	Burnt Mountain Greenway	Lumber Company Road	Camp Road	Adjacent to Burnt Mountain Road	Paved Construction and Landscape	For Bicyclists and Pedestrians
	Cove Road Greenway	Burnt Mountain Road	Grandview Road	Adjacent to Cove Road	Paved Construction and Landscape	For Bicyclists and Pedestrians
	Long Swamp Creek Greenway	Cove Road	SR 53	Along Long Swamp Creek	Not Paved (Bark Chip), Benches	For Bicyclists and Pedestrians


Murray County
Proposed Bike Routes
Parks
Schools
Elementary School
High School, Public
Middle School
Private School
State Bike Route (Mountain Crossing)
Scenic Byway
Bike Routes (Signed Only)
Bike Facility (Wide Shoulders or Bike Lanes)
Route Number
Eton
Chatsworth
Fort Mountain State Park
Old C.C.C. Camp Rd
Holly Creek-Cool Springs Rd.
Old US Hwy 411
Red Cut Rd
Crandall-Ellijay Rd
Duvall Rd
Treadwell Rd
Spring Place-Summit R
2 0 2 4 Miles
N
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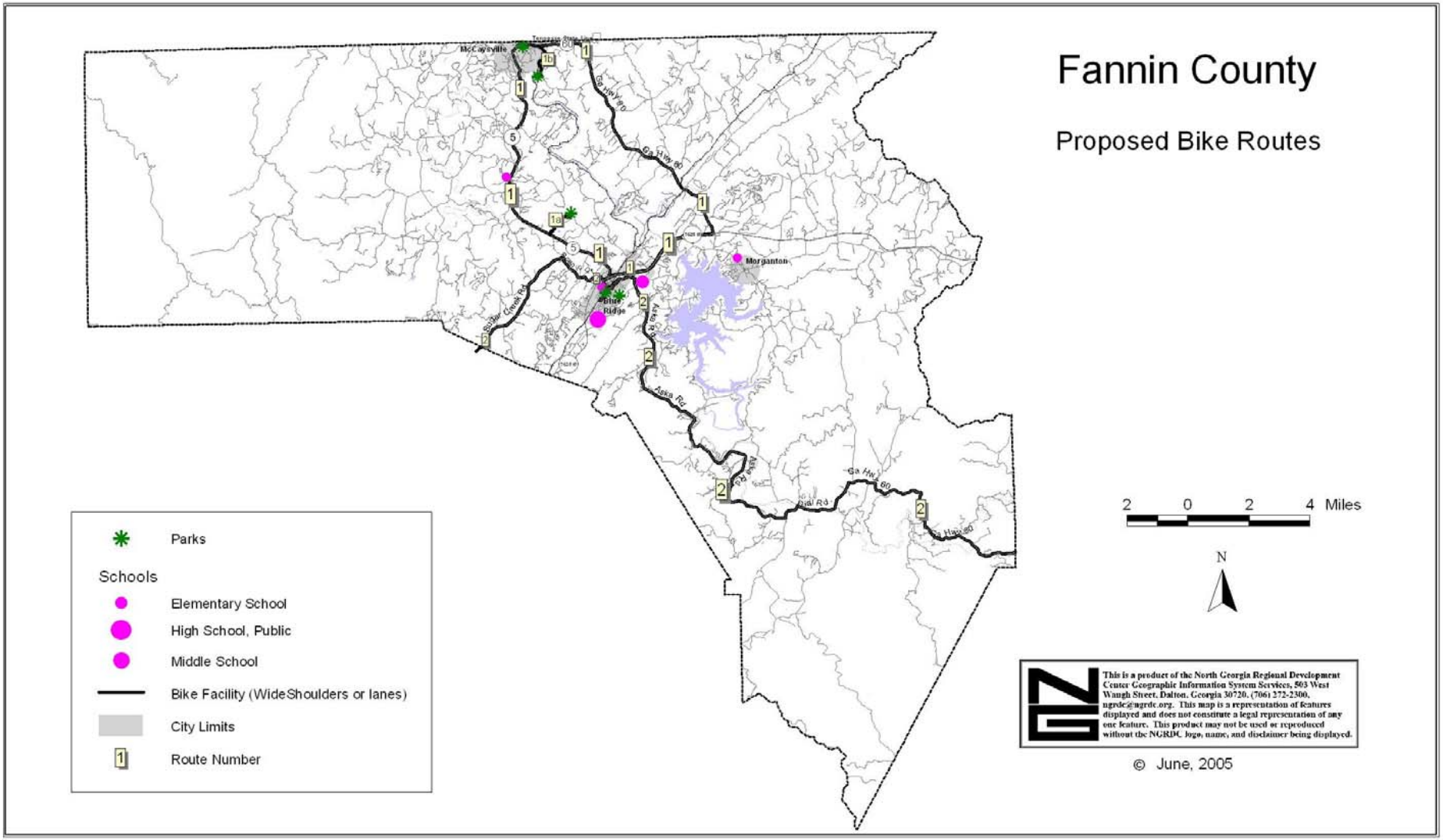
MURRAY COUNTY - PROPOSED BIKE ROUTES

Route	Name	Termini From	*To*	Road Segments	Improvement	Comments
1	Scenic Byway Bike Route	SR 52	Whitfield County Line	Holly Creek-Cool Springs Road, Old CCC Camp Road, Crandall-Ellijay Road, US 411, SR 2	Install "Share the Road Signs" from Gilmer County Line to U.S. 411. Install bike facilities on U.S. 411 and Ga. Hwy. 2.	Whole route designated as the Scenic Byway
2	State Route 286 Route	Crandall-Ellijay Road	Old CCC Camp Road	Loughridge Road, Red Cut Road, Norton Bridge Rd, Bryant Rd, SR 286, Old CCC Camp Road	Install "Share the Road Signs" from Start to SR 286 (Scenic Byway) and SR 296 to SR 225, Install Bike Facility (bike lane or wide shoulder) on SR 286 from SR 225 to Old Federal Rd, Signage only from Old Federal Rd east to end of route.	Part of route designated as the Scenic Byway
3	State Route 225 Route	SR 286	SR 52	SR 225, US 76, Green Road.	Install Bike Facility (bike lane or wide shoulder) and Signage	
4	Duvall Road Route	Old Federal Road in Eton	SR 52	Old Federal Road, Duvall Road, Treadwell Road	Install "Share the Road Signs"	
5	Old US Highway 411 Route	Gilmer County Line	North Chatsworth	SR 136, Old US Hwy 411, US 411, Old Federal Road	Install "Share the Road Signs" from Gilmer County Line to US 411, Install Bike Facility (bike lane or wide shoulder) on US 411, Signage only on Old Federal Road	
6	Spring Place Route	SR 52	US 411	Spring Place-Symrna Road, Smyrma Church	Install "Share the Road Signs"	


Fannin County
Proposed Bike Routes
McCaysville
Blue Ridge
Morganton
Parks
Schools
Elementary School
High School, Public
Middle School
Bike Facility (WideShoulders or lanes)
City Limits
Route Number
2 0 2 4 Miles
N
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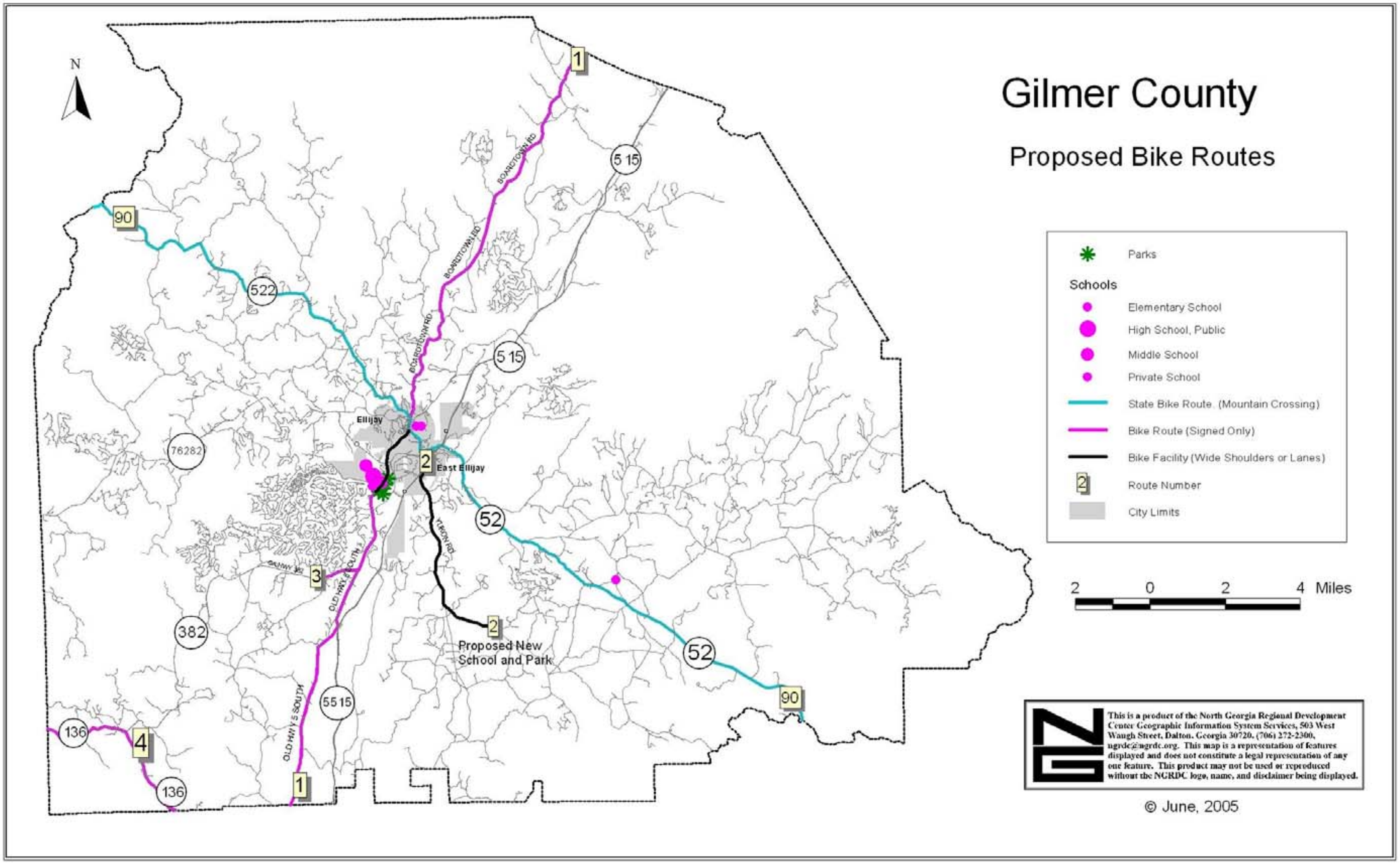
FANNIN COUNTY - PROPOSED BIKE ROUTES

Route	Name	Termini From	*To*	Road Segments	Improvement	Comments
1	Tri-City Pedestrian and Bike Loop	Blue Ridge	Blue Ridge	SR 5, SR 60, US 515	Install Bike Facility (bike lane or wide shoulder) and "Share the Road Signs".	Route concept developed locally and sent to GDOT
1a	McCaysville Park Extension	SR 60 in McCaysville	County Park	River Road	Install Bike Facility (bike lane or wide shoulder) and "Share the Road Signs".	
1b	Fannin County Park Extension	SR 5	County Park	Tom Boyd Road, Park Road	Install Bike Facility (bike lane or wide shoulder) and "Share the Road Signs".	
2	Blue Ridge Pedestrian and Bike Way	Gilmer County Line	Union County Line	Sugar Creek Road, Scenic Drive Rd, SR 5, Mountain St., W. Main St., E. Main St., E. First Street, Old Hwy 76, Aska Rd	Install Bike Facility (bike lane or wide shoulder) and "Share the Road Signs".	Route concept developed locally and sent to GDOT


Gilmer County
Proposed Bike Routes
Parks
Schools
Elementary School
High School, Public
Middle School
Private School
State Bike Route. (Mountain Crossing)
Bike Route (Signed Only)
Bike Facility (Wide Shoulders or Lanes)
Route Number
City Limits
2 0 2 4 Miles
Ellijay
East Ellijay
Proposed New School and Park
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GILMER COUNTY - PROPOSED BIKE ROUTES

Route	Name	Termini From	*To*	Road Segments	Improvement	Comments
1	Boardtown/Old Hwy 5 Route	Fannin County Line	Pickens County Line	Boardtown Road, Old Highway 5 South, SR 382	Install "Share the Road Signs".	
2	New School Route	Proposed School Complex	SR 52	Yukon Road	Install Bike Facility (bike lane or wide shoulder) and "Share the Road Signs".	
3	Ga. Hwy. 382 Route	Old Hwy. 5 South	Beaverdale Estates	State Route 382	Install “Share the Road Signs”.	
4	Ga. Hwy. 136 Route	Pickens County Line	Murray County Line	State Route 136	Install “Share the Road Signs”.	

Existing and Proposed Sidewalk Recommendations

Properly planned sidewalks are essential in providing pedestrian safety, mobility, and accessibility. Properly installed and maintained sidewalks can reduce the incidence of pedestrian collisions, injuries, and deaths. Sidewalks separate pedestrians from traffic and thus reduce incidences with vehicular traffic.

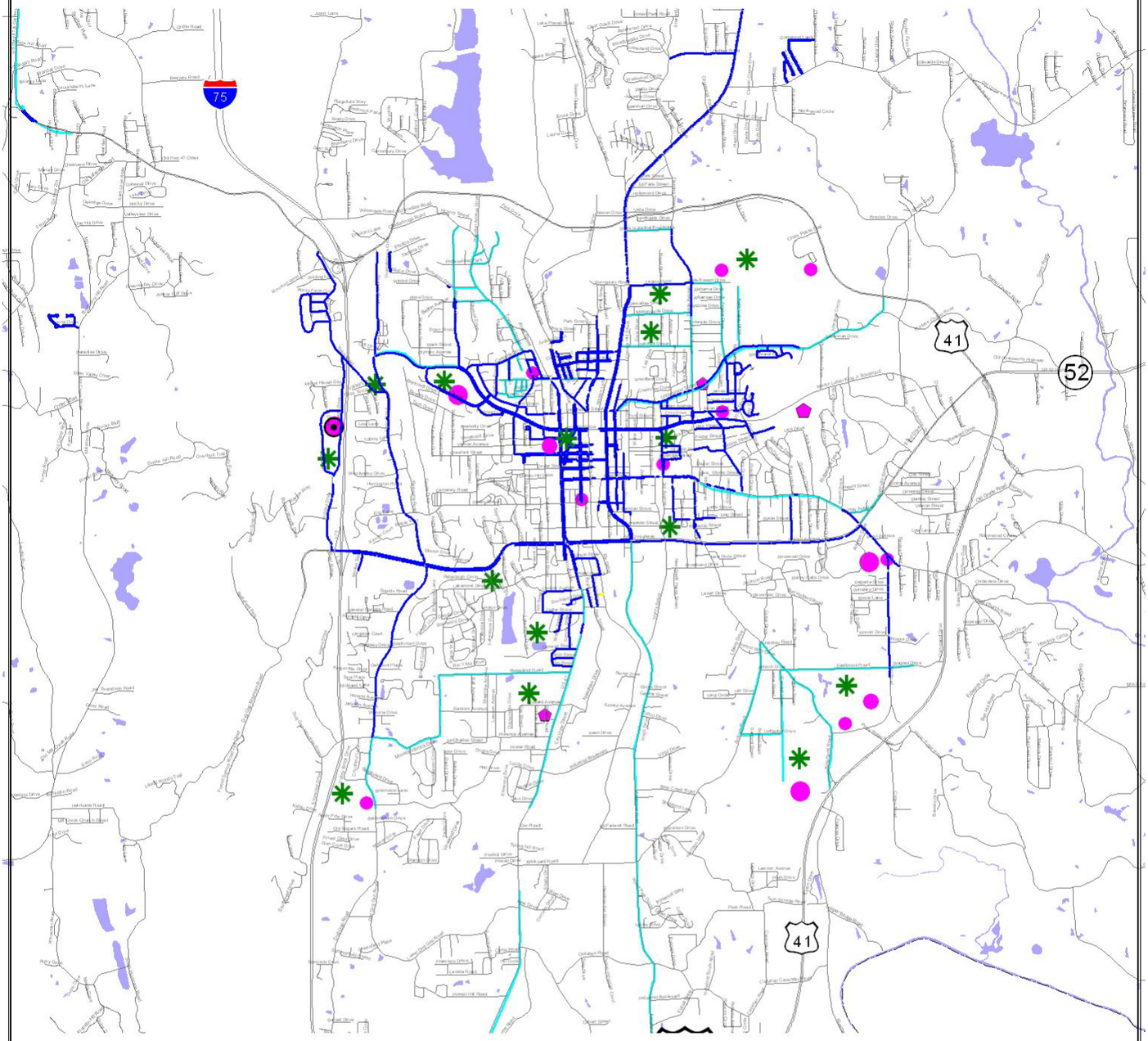
The American Association of State Highway and Transportation officials (AASHTO) states that, "Sidewalks used for pedestrian access to schools, parks, shopping areas, and transit stops and placed along all streets in commercial areas should be provided on both sides of the street. In residential areas, sidewalks are desirable on both sides of the street, but need to be provided on at least one side of all local streets".

Most sidewalk improvements should be made as roads are initially constructed or are rebuilt as part of a reconstruction project. For example, it is a policy of Georgia DOT to construct sidewalks on both sides of the roadway on urban widening projects. This plan further recommends that developers, when developing new subdivisions or commercial developments, especially within urban and urbanizing areas, should be required to install sidewalks as part of the new road development. If this were to occur, a substantial portion of the newly populated areas would be served at no public expense. Local governments would then only be required to build the connecting links between the new subdivisions and other activity centers.

The following maps show both existing sidewalks and proposed sidewalk additions for the larger communities in the region. Although there is an extensive system of sidewalks in several communities, many sidewalk sections are in disrepair and need to be rebuilt. This plan does not address such specific needs and each community will need to conduct an assessment of existing sidewalk conditions to address these needs.

The proposed sidewalk additions recommended in this plan are suggested as improvements that will expand and enhance pedestrian travel in the region. Generally, an assessment was made to identify major traffic generators such as schools, parks, shopping facilities, and major employment centers, and analyze their proximity to concentrated residential areas. Generally, people will walk a distance of a quarter to one/half mile to major destinations such as a school, park or shopping, if they can do so safely. An assessment was made in each community to determine if there were sidewalk deficiencies within a half mile radius of these major activity centers. If there was a lack of sidewalks within these areas, the plan recommends that sidewalks be installed as shown on the following maps. Further study and engineering will need to be done before installation, however, to determine the feasibility of the proposed sidewalk additions. This is mainly due to topographic conditions, right-of-way limitations and other factors that may make installation impractical.

Dalton Area Sidewalks



Parks/Recreation Areas

Schools

Elementary School

High School

Middle School

Private School

State College

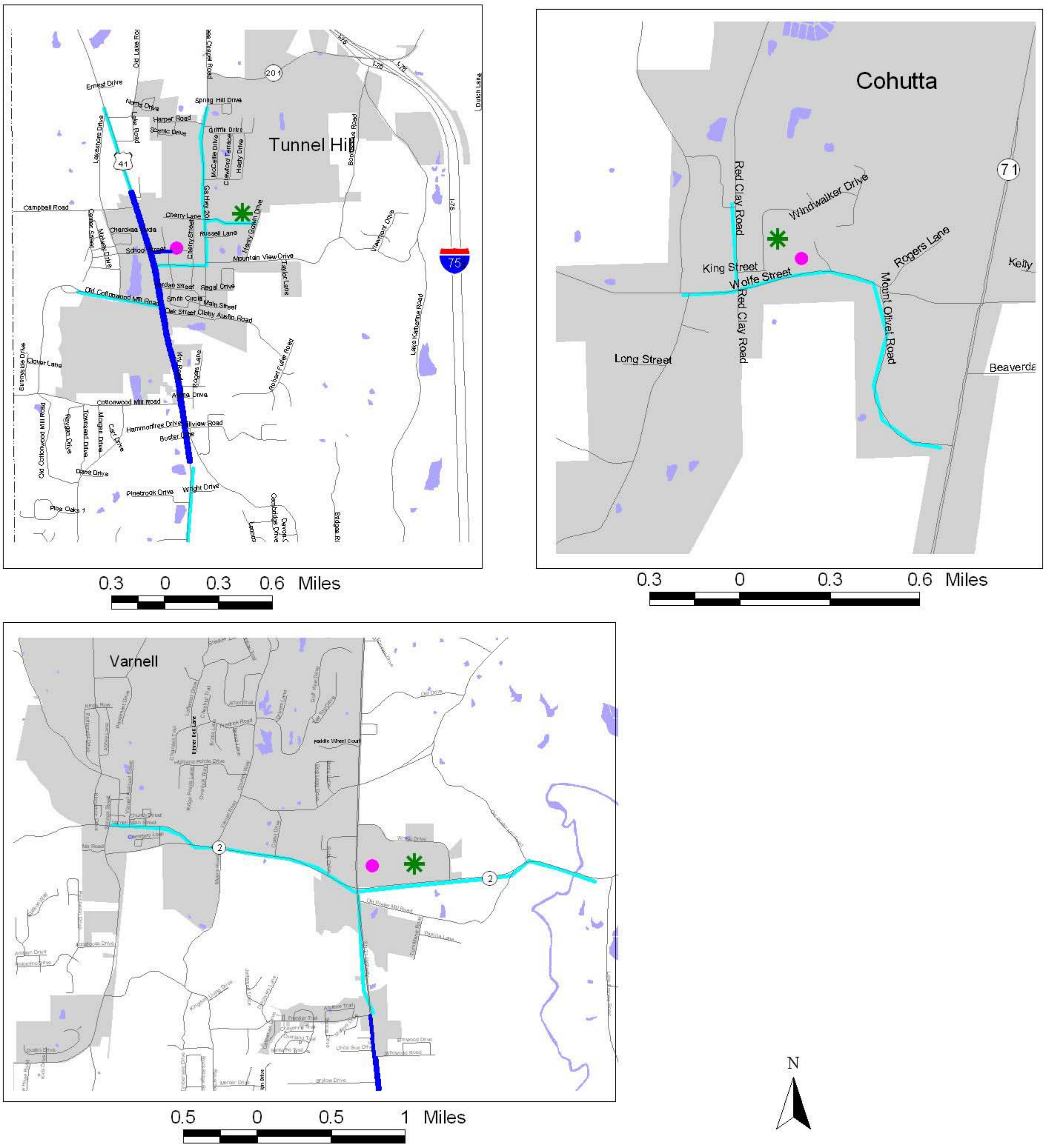
Existing Sidewalks

Proposed Sidewalks

3000 0 3000 6000 Feet

N

Existing and Proposed Sidewalks in Cohutta, Varnell, and Tunnel Hill



Parks/Recreation Areas	State College
Schools	Existing Sidewalks
Elementary School	Proposed Sidewalks
High School	
Middle School	
Private School	

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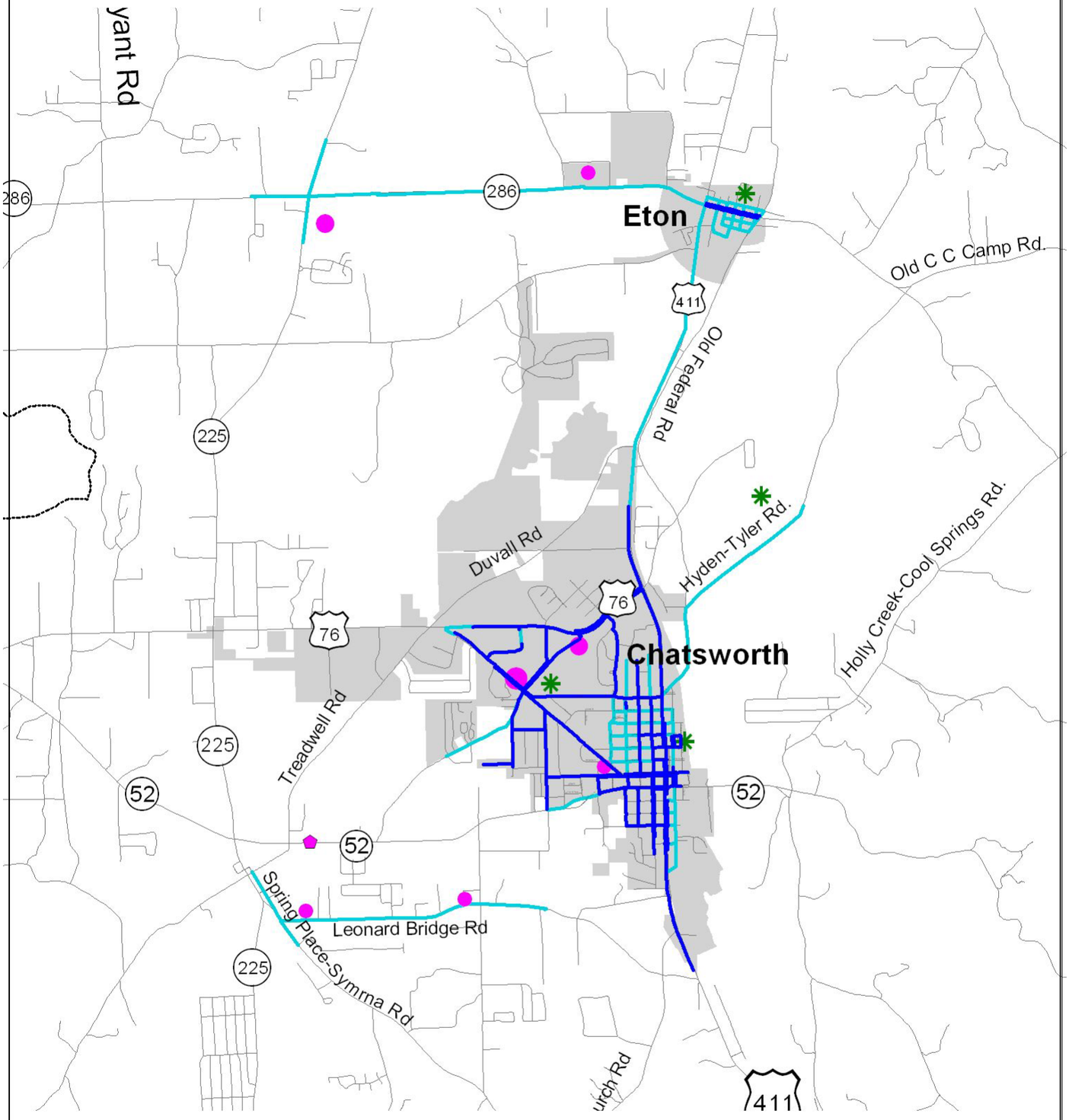
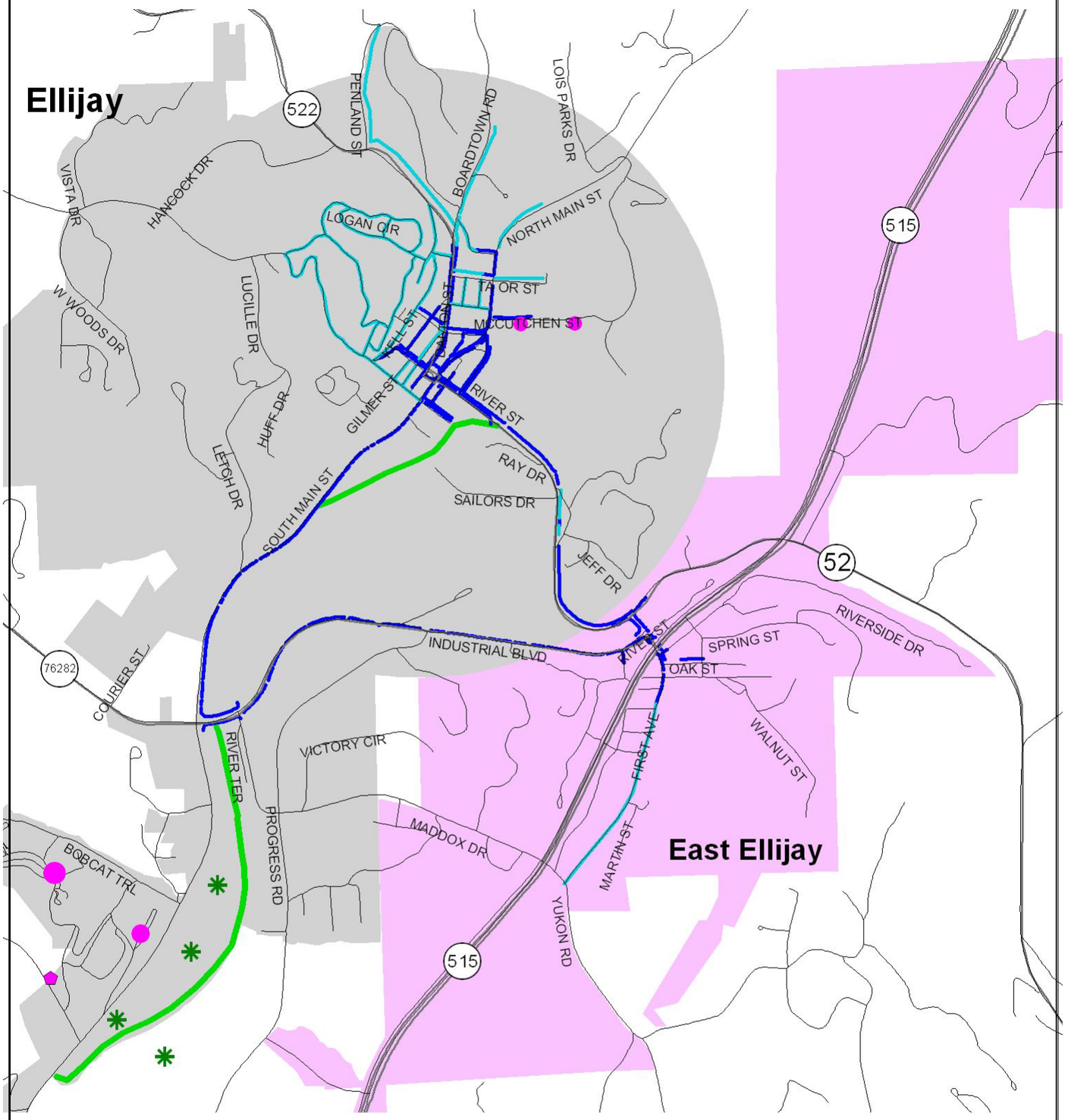
Chatsworth, Eton, Murray County
Existing and Proposed Sidewalks



Ellijay and East Ellijay, Gilmer County

Existing and Proposed Sidewalks



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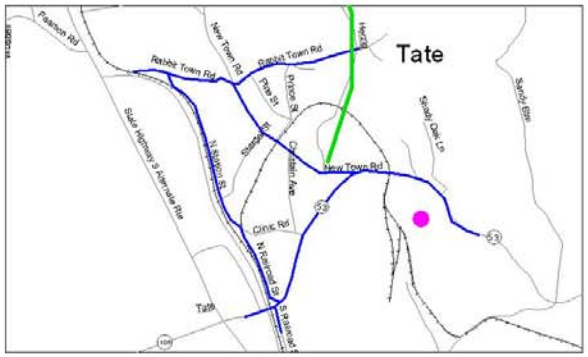
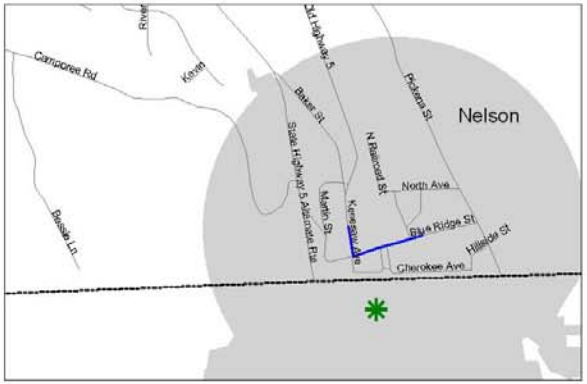
Existing and Proposed Sidewalks

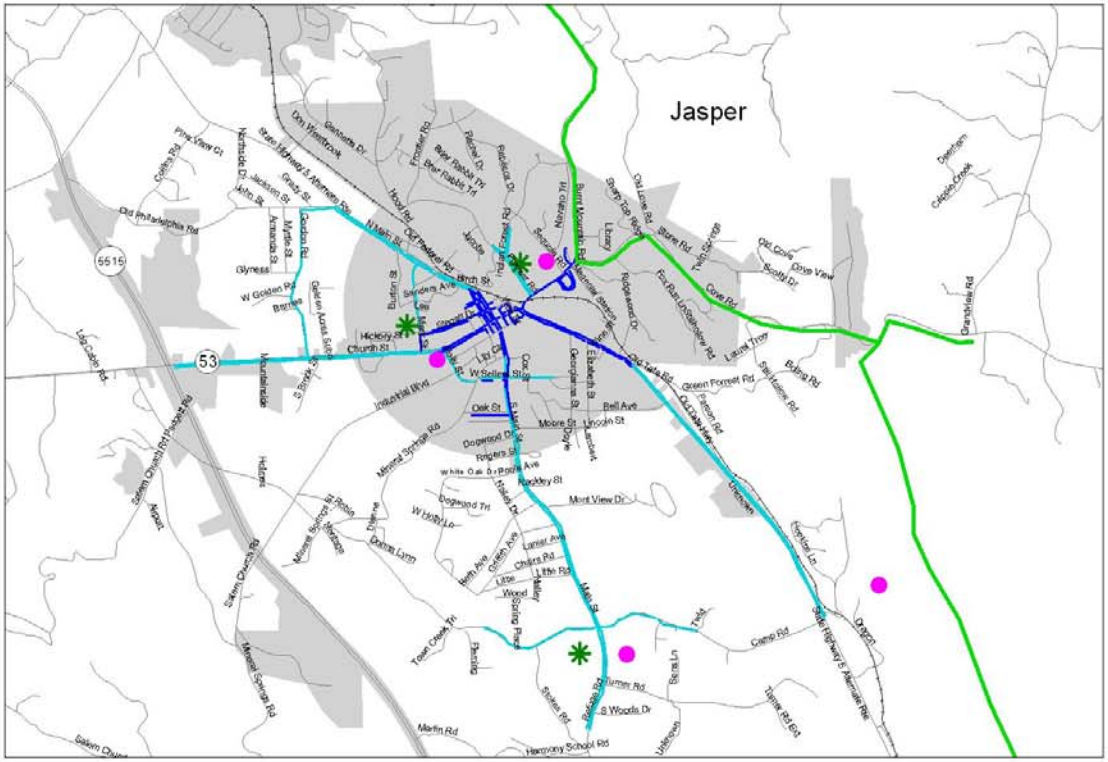
Pickens County



0.2 0 0.2 0.4 Miles



0.3 0 0.3 0.6 Miles



0.5 0 0.5 1 Miles

Parks
Schools
Existing Sidewalks
Proposed Sidewalks
Proposed Greenway
City Limits

N

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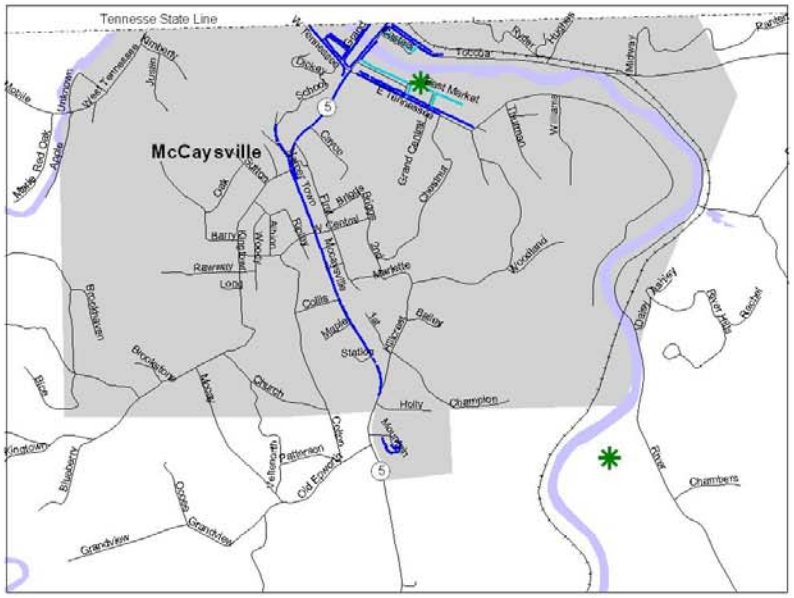
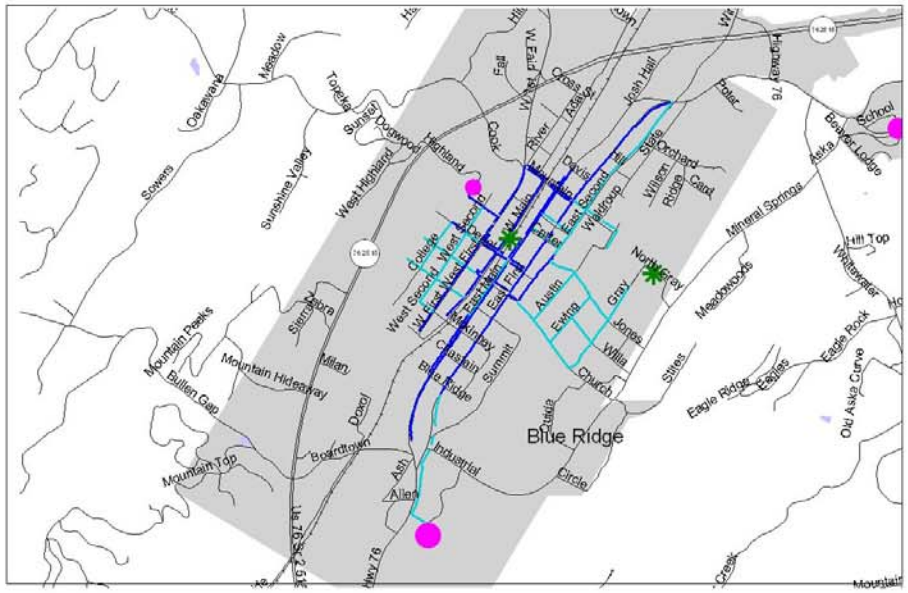
Existing and Proposed Sidewalks in McCaysville and Blue Ridge, Fannin County



0.3 0 0.3 0.6 Miles



0.3 0 0.3 0.6 Miles

- Parks
- Schools
  - Elementary School
  - High School, Public
  - Middle School
- Existing Sidewalks
- Proposed Sidewalks
- City Limits

N

CHAPTER SIX – IMPLEMENTATION

The implementation of the recommended bicycle and pedestrian systems, and encouragement of their use, is a responsibility that will be shared by all government agencies and jurisdictions in the region, as well as many community organizations. Implementation will rely not only upon the development of good facility plans, but commitment at each level of government to support funding for good bicycle and pedestrian projects. This will include support to raise new revenues for projects and programs. Whereas each agency has a different level of responsibility for building capital facilities, the implementation of public education, and encouragement of developing programs is a responsibility that needs to be shared among all agencies including the North Georgia RDC.

Local Cities and Counties

Because the development of bicycle and pedestrian projects and programs occurs mainly at the city and county levels, local jurisdictions hold the greatest share of responsibility for implementing bicycle and pedestrian networks recommended in this plan. Aside from several key state segments, the region's non-motorized travel system consists almost entirely of local pedestrian and bicycle improvements. Therefore, the implementation of the system is highly dependent upon cities and counties to adopt the plan and to program projects into local capital improvement programs. Law enforcement agencies within city and county governments have primary responsibility for implementing enforcement programs.

North Georgia Regional Development Center

The North Georgia RDC was tasked with the development of this plan and will be available to assist with it's implementation. The RDC works for the local governments and can help them incorporate the recommendations of this plan into the local government's long range planning and short term work programs. With continued funding, the RDC can also effectively implement safety and education strategies and work with governments to make local regulations more bicycle and pedestrian friendly.

State of Georgia Department of Transportation (GDOT)

This plan is being funded by GDOT and they have shown increased commitment to enhancing bicycle and pedestrian modes of transportation throughout the State. The State bike routes are a key to the recommended bike routes of this plan. Per one of the objectives, bike routes of this plan were developed to link to the State bike route system. It is very important for the implementation of this plan that these State bike routes be implemented. Furthermore, many state roadways and highways are identified in city sidewalks and county bike route recommendations being in need of bicycle and pedestrian development and improvements. When developing state transportation projects, the State of Georgia Department of Transportation will be a key player in developing regional bicycle and pedestrian systems.

Private Developers

Private developers are responsible for providing bicycle and pedestrian access in new developments. Their level of responsibility depends on each jurisdiction's codes and permitting requirements, which vary among municipalities. Developers are also responsible for providing supporting amenities at the workplace, such as bicycle parking, lockers, showers and changing rooms.

Non-Profit Organizations

A key element of this plan is the education of the general public and public officials about the important role biking and walking play in the region, and encouraging increased levels of biking and walking. Agencies such as the North Georgia Health District and local bicycle clubs and organizations can have a strong role in implementing these education and encouragement programs. Non-profit organizations and clubs also can work collaboratively with public agencies during the design and implementation of specific bicycle and pedestrian projects.

Funding

There are a variety of potential funding sources including local, state, regional, and federal funding programs that can be used to construct the proposed bicycle and pedestrian improvements. Many of the federal, state, and regional programs are competitive, and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits. Most of the funding for bicycle and pedestrian improvements has come from federal Transportation Enhancement (TE) grants. This will continue to be a major source of funding. However, for real strides to be made in improving bike and pedestrian travel in the region more local money will need to be put into projects.

Implementation Strategies

The previous chapter outlined suggested bike and pedestrian routes for each county. Chapter three on goals, objectives, and strategies also listed implementation or planning strategies that would help achieve the goal and objectives of the plan. The following table takes that a step further. For each implementation strategy, the following table identifies the agencies who would have some responsibility for its implementation, the expected time frame for activities to occur, and the potential funding sources that could be used for the strategy's implementation.

IMPLEMENTATION AGENDA

Goal 1: **Promote and encourage bicycling and pedestrian travel as viable forms of transportation, as healthy forms of exercise, and as a positive benefit to the environment and community.**

Objective	Implementation Strategy	SFY 2005	SFY 2006	SFY 2007	SFY 2008	SFY 2009	Responsibility	Funding Source
1.1. Establish a regional educational and marketing program that promotes the public health, economic development and environmental benefits of bicycling and walking.	A. Work with regional health organizations, school systems, local bicycle clubs and other agencies to develop and distribute written, graphic and other materials citing the benefits of bicycling and walking.	X	X	X	X	X	RDC, NGa Health District (NWGHD), local schools and clubs.	State, local govts
	B. Work with local governments, local bicycle clubs, and other agencies to develop and distribute written, graphic and other materials highlighting the rules of road regarding bike and pedestrian issues, safe walking and biking practices, and where to find out about existing routes and facilities. All educational materials need to be in multiple languages.	X	X	X	X	X	RDC, NGHD, state and local govts, local schools and clubs.	State, local govts
	C. Organize and promote regional and local events such as National Bike Month, Bike to Work Week, and Walk to School Day.	X	X	X	X	X	RDC, NGHD, state and local govts, local schools and clubs.	State, local govts

IMPLEMENTATION AGENDA

Goal 2: Provide a regional system of bicycling and pedestrian facilities that is safe, convenient and accessible for all users.

Objective	Implementation Strategy	SFY 2005	SFY 2006	SFY 2007	SFY 2008	SFY 2009	Responsibility	Funding Source
2.1. Develop a system of bicycle routes that will connect the region's major urban centers to the State bicycle routes.	A. Assist local governments with implementation of proposed routes contained in the Regional Bike and Pedestrian Facilities Plan.	X	X	X	X	X	RDC, GDOT, local govts.	State, local govts
	B. Once routes have been approved by local governments, install signs and publish regional maps and pamphlets indicating route locations.	X	X	X	X	X	State and local govts.	Federal, State, local govts
2.2. Develop a system of bicycle and pedestrian facilities within local jurisdictions that will link residential areas with commercial areas, employment areas, educational centers, and cultural and recreational resources.	A. Assist local governments with implementation of proposed bicycle routes and sidewalk facilities contained in the Regional Bike and Pedestrian Facilities Plan.	X	X	X	X	X	RDC, GDOT, local govts, local schools and clubs.	State, local govts
	B. Encourage and assist local governments in developing regulations requiring developers to install sidewalks along new streets that are developed in the region's urban areas.	X	X	X	X	X	RDC, local govts.	State, local govts
	C. Encourage and assist local governments in providing support facilities such as bicycle parking and storage, lighting, signing, pavement marking, benches and other rest areas to increase the utility and safety of the bicycle and pedestrian system.	X	X	X	X	X	RDC, state and local govts, local schools and clubs.	State, local govts
	D. Encourage and assist local governments in establishing maintenance standards and programs that ensure safe and usable bicycle and pedestrian facilities.	X	X	X	X	X	RDC, state and local govts, local clubs.	State, local govts

IMPLEMENTATION AGENDA

Objective	Implementation Strategy	SFY 2005	SFY 2006	SFY 2007	SFY 2008	SFY 2009	Responsibility	Funding Source
2.3. Support education, training and enforcement of regulations to ensure safe and proper use of the bicycle and pedestrian system.	A. Assist local organizations and bicycle and pedestrian interest groups to conduct regular training and safety education programs.	X	X	X	X	X	RDC, NGHD, local govts, local schools and clubs.	State, local govts
	B. Utilize organizations such as the League of American Bicyclists to conduct training sessions on bike safety to the public	X	X	X	X	X	RDC, NGHD, local govts, local schools and clubs.	State, local govts
	C. Educate local officials and enforcement officers on biking rules and safety issues.	X	X	X	X	X	RDC, local govts, local schools and clubs.	State, local govts
	D. Encourage local governments to install "Share the Road- It's the Law" signs on key routes in each county and communities.	X	X	X	X	X	RDC, local govts, local schools and clubs.	State, local govts

IMPLEMENTATION AGENDA

Goal 3: Promote coordinated and continuous bicycle and pedestrian planning and development at the regional and local levels.

Objective	Implementation Strategy	SFY 2005	SFY 2006	SFY 2007	SFY 2008	SFY 2009	Responsibility	Funding Source
3.1. Continually assess local bicycle and pedestrian needs, and establish new bike and pedestrian facilities where needed or desired.	A. Assist local governments in developing and /or revising local and regional plans as needed.	X	X	X	X	X	RDC, local govts.	Federal, state, local govts
	B. Coordinate the development of local bicycle and pedestrian plans to make maximum use of opportunities for joint development of facilities.	X	X	X	X	X	RDC, state and local govts,	Federal, state, local govts
3.2. Establish policies that require the incorporation of bicycle and pedestrian design elements in all transportation projects that are identified as part of a local or regional bicycle or pedestrian route.	A. Encourage and provide technical assistance to local governments for zoning, land use plans, subdivision regulations, roadway design changes, public transportation (bus service), and other similar areas to promote bicycle and pedestrian friendly development.	X	X	X	X	X	RDC, local govts.	Federal, state, local govts
3.3. Provide adequate funding for project development and maintaining high quality regional and local bicycle and pedestrian systems.	A. Identify federal and state grants and provide information to local governments.	X	X	X	X	X	RDC, state govt,	Federal, state, local govts
	B. Provide technical assistance to local governments concerning alternative financing mechanisms for bicycle and pedestrian facilities including local option sales tax programs, user fees for operations and maintenance of off-road facilities, and programs to encourage tax free contribution of funds and property.	X	X	X	X	X	RDC, state govt.	Federal, state, local govts
	C. Investigate the use of "user fees" to help pay for bike and pedestrian projects.	X	X	X	X	X	RDC, state and local govts.	Federal, state, local govts
	D. Encourage special events that raise money for bike and pedestrian projects.	X	X	X	X	X	RDC, state and local govts, local schools and clubs.	Federal, state, local govts

APPENDIX A – DESIGN GUIDELINES

The design practices and standards outlined in this appendix are intended to provide guidance to engineers, planners, designers, and others in integrating bicycle accommodations into the various projects that have the potential to affect bicycle travel in the North Georgia region. In the existing conditions chapters categories and types of facilities were introduced. This section will take that a step further and show illustrations and examples of these facilities. It will also present some basic guidelines to be followed throughout the North Georgia region. Application of these design guidelines, while suggestive only, would ensure consistency in facilities design in the region. Consistency not only provides cyclists with an assurance of the type and quality of bikeways that they will encounter, it encourages both cyclists and drivers to operate predictably with each other on public rights-of-way. Consistency and predictability encourage bicycle use, and are cornerstones of a safe multi-modal transportation infrastructure.

The guidelines in this document are based primarily on the national guidelines established by the American Association of State and & Highway Transportation Officials (AASHTO) in their 1999 *Guide for the Development of Bicycle Facilities*. The guidelines are also consistent with the 2001 Manual on Uniform Traffic Control Devices (MUTCD).

While the two nationally-recognized manuals provide a foundation, this document provides additional guidance on issues that are not addressed, or not addressed in depth, in those publications. Existing guidelines from other cities and states, along with other documents, were also consulted. Furthermore, the guidelines have been developed in response to the specific needs, objectives, and circumstances of the North Georgia region.

While comprehensive, the guidelines cannot cover every design issue that may be encountered. Where such issues are not covered, appropriate engineering principles and judgement must be applied in providing for the safety and convenience of bicyclists, pedestrians and motorists. Facility designers should also take into consideration the human and environmental factors that contribute, to or detract from, bicycling comfort and safety.

Related Planning Issues

Land Use

Like walking, the convenience of bicycling for travel is often determined by the pattern in which land is developed. Given the proper facilities, most people are willing to walk for about fifteen minutes, or one-half mile, for transportation trips (See Figure 1). This distance has become a benchmark planning principle for those designing walkable communities. In fifteen minutes, most cyclists can cover about two miles, making bicycles an even more versatile mode of travel.

Some land use patterns that encourage both bicycling and walking include:

- Development densities that allow people to live close to destinations such as schools and stores.

- Mixed-use zoning that allows commercial and residential land uses in the same area, along with standards that ensure compatible building design.
- Locating buildings close to the street, which can slow traffic and offers easier bicycle access.

Some common land development practices that discourage bicycle and pedestrian travel include:

- Segregated land uses that create long distances between destinations.
- Commercial properties set far back from the street with large parking lots in between. Such sites also typically include access and parking facilities for automobiles only.
- Large lots in residential areas that create greater distance between home and other destinations.

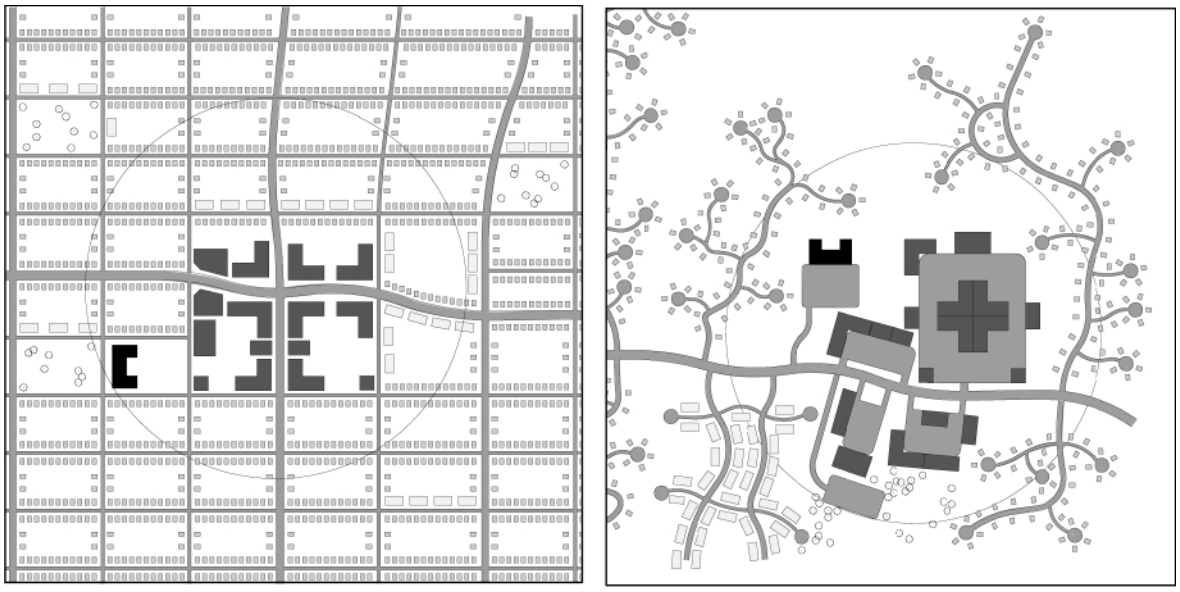


Figure 1: The illustration on the left shows a half-mile radius around the commercial center of a densely developed, mixed use area with a grid street network. The illustration on the right shows the same radius in a low-density area with segregated uses.

Roadway Network

In the decades following World War II, roadway network planning practices shifted from traditional urban patterns to more strictly hierarchical, non-grid road systems with cul de sacs and other such features. This approach tends to concentrate traffic on collectors and arterials, can result in single points of access to many destinations, and often requires significant out-of-direction travel. While indirect travel routes aren't always a major deterrent to drivers, they can result in considerable added travel time and inconvenience for cyclists.

An interconnected grid of streets offers many routes and points of access to destinations for cyclists, pedestrians and motorists. When retrofitting a non-grid network, off-street connector trails can sometimes provide the directness of route – to schools, shopping, or other destinations – that the street system doesn't offer. For example, providing a connector trail

from the end of a neighborhood cul de sac to a library can decrease parking demands at the library and reduce the vehicular load on nearby roadways.

Access Management (See Figure 2)

Urban collectors and arterials with commercial frontage are attractive to both bicyclists and drivers because they usually provide the best access to destinations, and the most direct routes through a community. Although traffic speeds and volumes on such roadways can discourage cyclists, it is the intersections, driveways and curb cuts where accidents are most likely to occur. Unlimited access creates many conflicts between cars entering or leaving the roadway, and cyclists riding along the roadway.

By limiting or consolidating driveways, and using other access management design tools such as curbed medians, both cyclists and drivers benefit:

- The number of conflict points is reduced
- Vehicles are redirected to intersections with appropriate traffic control devices
- Improved traffic flow can reduce the need for road widening, perhaps allowing part of the right-of-way to be reclaimed for bicycle facilities

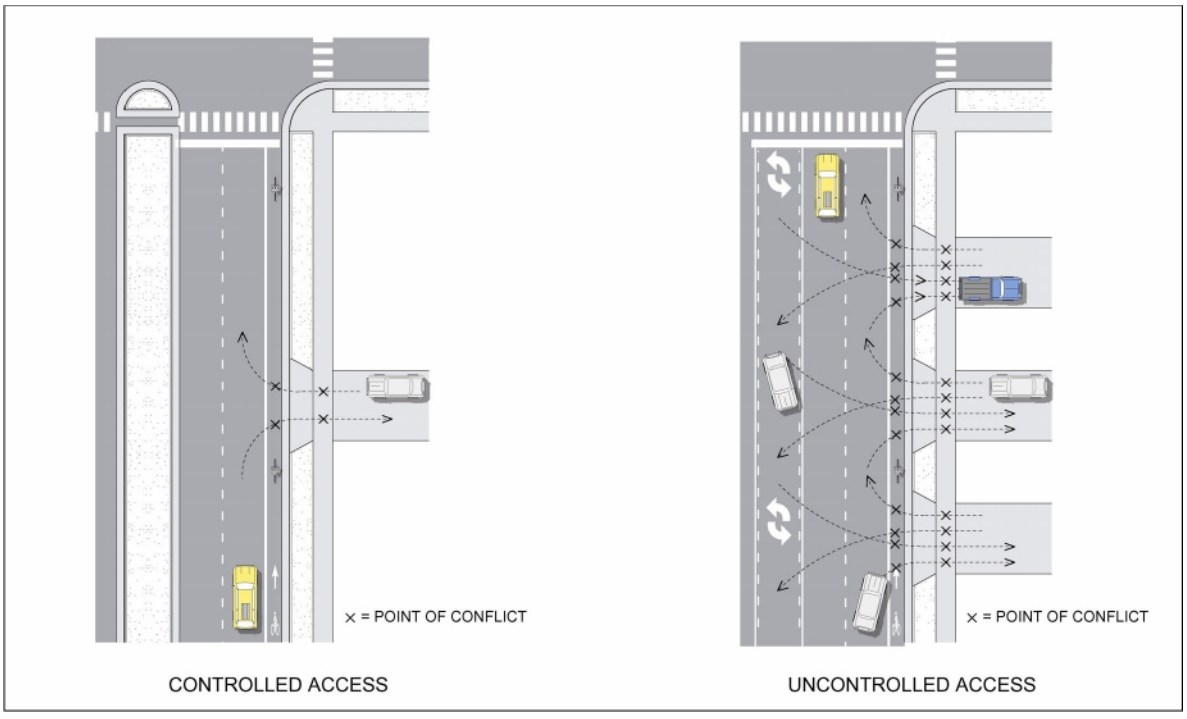


Figure 2: Access management reduces the number of conflict points between bicyclists, pedestrians and motorists

Any access management design should also consider the potential for negative impacts on both cyclists and pedestrians. For example, pedestrian crossing opportunities should not be reduced, and redirecting motor vehicle traffic should not significantly increase out-of-direction travel for pedestrians and cyclists.

Roadway Design Standards

The roadway design standards adopted by the various agencies in the North Georgia region should be amended to include cross-sections that incorporate the bicycle facilities recommended in this plan.

Section Two: Design Guidelines

Multi-Use Paths (Greenways)

Off-street paths are more popularly known as greenways. Greenways do not allow motor vehicle traffic but do permit a range of non-motorized travel, including bicycling, walking, running and in-line skating. Although typically built in an independent right-of way, park or easement, greenways are sometimes also located within road rights-of-way, separated from motor vehicle traffic by open space or a structural barrier.

Greenways primarily attract recreational users, but because they typically wind through a community and connect destinations, they also offer an excellent opportunity to function as non-motorized transportation routes. In fact, they can sometimes offer a more direct route to destinations that the roadway network. For children, or any cyclist uncomfortable with sharing the roads with cars, paths may be the preferred facility. And greenways are an excellent training ground for building the skills to ride on the road.

Greenways should not be provided in lieu of a street-based bikeway network. Transportation cyclists desire the same directness of route and access that drivers do, which requires the use of streets. A community-wide bicycle infrastructure should provide both on and off-street facilities.

One of the factors in prioritizing greenway development projects should be whether or not the project has the potential to perform a transportation function, in addition to recreation and other objectives. Greenways intended to perform a transportation function should be designed to maximize connectivity and access to destinations.

Another appropriate application of the design guidelines for paths is for an overland bicycle connector, as shown in Figure 3. A bicycle connector is short distance, off-street, and provides direct access to a destination, or linkage between on-street bikeways, which would otherwise require an out-of-direction street-based route.

General Design Principles

Design practices that encourage the use of paths for bicycle transportation include:

- Providing frequent access points from the street network. This practice minimizes out-of-direction travel to enter or exit the path.
- Directional signs that direct users to and from the path.
- Minimal at-grade roadway crossings.
- Terminating the path at points with safe access from the street system, such as at a controlled intersection or at the end of a dead-end street.
- Terminating the path at streets that include on-street bicycle facilities.

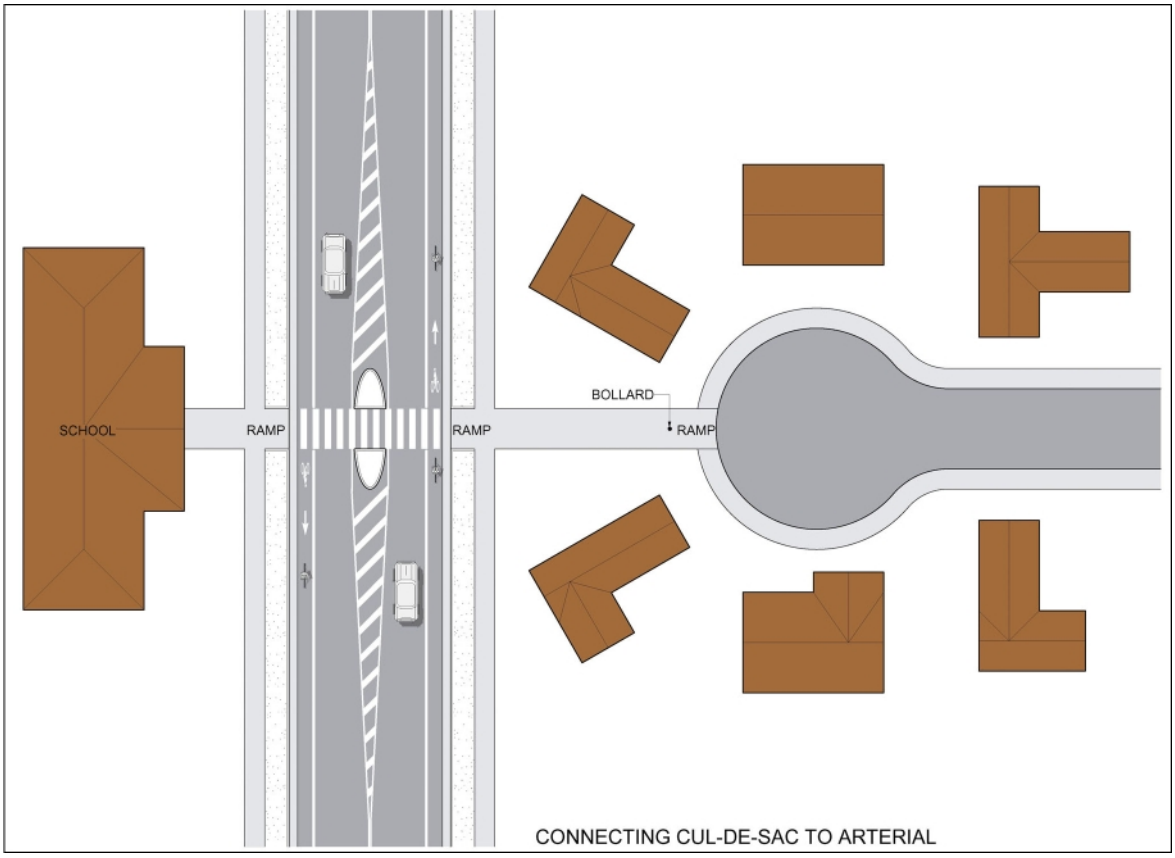


Figure 3: Overland connector paths can create direct linkages between destinations that would otherwise require out-of-direction travel on streets.

Because paths accommodate pedestrians as well as bicyclists, they must meet all ADA design standards.

One-way paths tend to be used as two-ways facilities, particularly by pedestrians, and should generally be avoided.

Paths Parallel to Roadways

Paths immediately adjacent to roadways have the potential to create a number of conflicts. They can create a situation in which bicyclists are traveling against the flow of nearby traffic, which is contrary to the rules of the road. This problem is exacerbated at driveways and entrances, where exiting drivers are often only looking in one direction for on-coming traffic. Furthermore, the presence of a parallel path tends to create an expectation among drivers that all bicyclists should use the path instead of the street. But many transportation cyclists prefer the connectivity and access the street provides, and will continue to use a street even if a parallel path exists.

However, a greenway parallel to a roadway can be an appropriate design approach under the following conditions:

- The adjacent road has traffic speeds and volumes that are incompatible with bicycle use.

- The path connects at one or both ends to other paths outside the road right-of-way, or to high quality on-street bike/pedestrian facilities.

- Expected path users include a high percentage of children or other novice or recreational riders.

- The path will be at least five feet from the edge of roadway pavement or include a structural barrier, such as a "jersey wall", between the path and road.

- Cross-streets are few and grade separated crossings are maximized.

The presence of a path should not be used to justify the exclusion of bicycle facilities on, or to restrict bicycle use of, the adjacent roadway.

Design Guidelines for Paths (See Figure 4)

Width and Clearance

Width

Ten feet is the standard pavement width for a two-way multi-use path. Path width should be increased to twelve feet where high use is anticipated, such as dense urban areas. Eight-foot wide paths are not recommended except in circumstances with severe physical constraints and where long-term use is expected to be low.

Lateral Clearance

Stable, two-foot shoulders with a cross-slope of no greater than 1:6 should be provided on all paths. Physical barriers and trees should not encroach into the shoulder area.

Overhead Clearance

Although eight feet is adequate clearance from overhead obstructions for bicyclists, ten-foot clearance is usually necessary in order to accommodate maintenance and emergency vehicles.

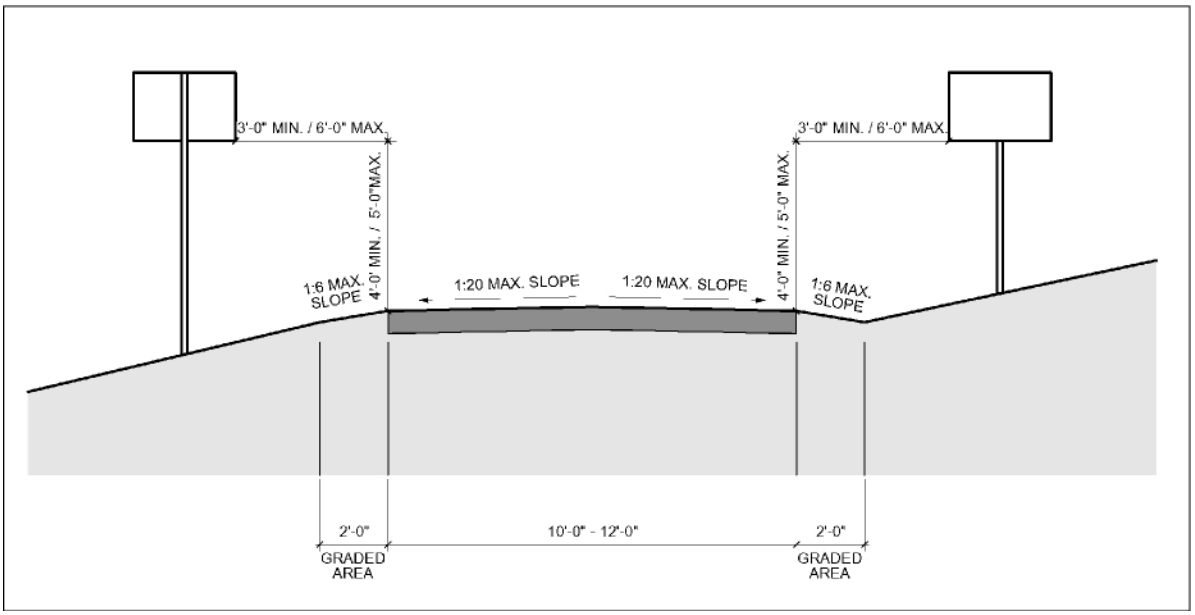


Figure 4: Clearance and slope standards for paths.

Design Speed, Slopes & Radii Design Speed

AASHTO recommends a design speed of 20 MPH for paths, which is the speed at which some faster cyclists may be riding. However, it is important to remember that paths are used by bicyclists with very different skill levels, as well as by pedestrians and other slower users. In addition, most greenway projects include objectives such as preserving the natural terrain and landscape features. Accordingly, paths shouldn't be designed with the intent of maximizing speed.

Running & Cross Slopes

The federal Architectural & Transportation Barriers Compliance Board's 1999 *Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas* includes recommended ADA standards for paths.

The document recommends the following:

- The maximum running slope of paths should be 1:20
- Slopes of up to 1:12 should be permitted for distances up to 200 feet, 1:10 for up to thirty feet, and 1:8 for up to ten feet.
- The cross slope of a path should not exceed 1:20.

To help bicyclists maintain balance, paths should be banked low, up to 1:20, on the inside of a curve.

Curve Radii

At 20 MPH, the minimum recommended radius on curves is one hundred feet, along with adequate stopping sight distances. When such a standard cannot be met, warning signs or supplemental pavement markings can alert path users to approaching conditions. Path widening at sharp curves can also improve safety.

Path/Roadway Intersections

Grade Separated Crossings

Grade separated path/street crossings should be provided wherever possible on a greenway, since most users expect continuous separation from motor vehicle traffic. At-grade crossings introduce conflicts between cars and bicycles, especially at high-speed, high volume points such as freeway interchanges. Grade separated crossings should not require bicyclists to travel significant distances out-of-direction, and should not require a steep or winding climb.

At-Grade Crossings

When a grade separated crossing cannot be provided, the best at-grade crossing has either light traffic, or is at a controlled intersection. All crossings should include appropriate pavement markings and signage. For intersections with signal controls and signal loop detectors, detectors should also be placed in the path.

At intersections or at mid-block crossings on wide streets, a curbed center median should be provided, as shown in Figure 5. The median will allow path users to cross half of the lanes and wait safely in the median refuge before crossing the second half of the roadway. A median should be at least six feet wide to provide clearance for the length of a bicycle; a ten-foot wide median will accommodate a bicycle with a trailer, or groups of bicyclists.

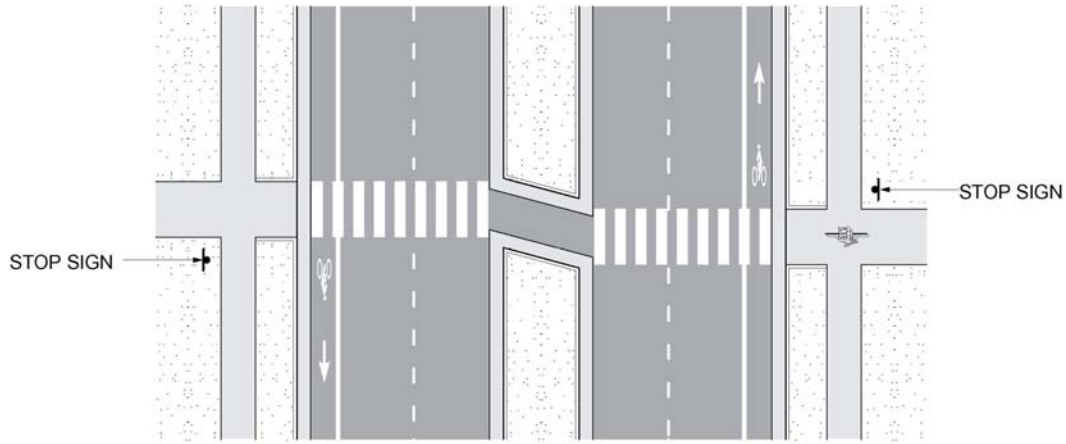


Figure 5: At-grade path crossing. Median refuge is angled toward oncoming traffic to provide better visibility for path users.

Railings, Fences & Barriers

Barrier treatments such as fences or railings are sometimes needed to provide separation between a path and a hazard - such as a steep slope, or to eliminate path user access - such as to a high-speed freeway. As shown in Figure 6, barriers can be as low as 42 inches in height. Where a cyclist's handlebars may come into contact with a nearby barrier, such as a bridge railing, a smooth rub rail should be located at a height of 36 inches. Openings in a barrier should not exceed six feet.

Barriers should be placed as far from the trail as possible. When barriers encroach into two-foot path shoulders, they reduce the usable width of the path. When such instances cannot be avoided, it is desirable to increase the overall pavement width of the path.

Motor Vehicle Barriers

Bollards are commonly used to restrict motor vehicle access to paths. Use of bollards should be carefully considered because they can create a significant hazard for bicyclists. The width between bollards should not be less than four feet, which is the narrowest width that can accommodate a bike trailer. Five feet is the preferred width.

Since most paths are two-way, a single, removable bollard should be placed in the center of the path. Bollards should never be placed in the path of travel of greenway users, such as in the middle of a travel lane, because users will be channelized to the center of the path, where head-on collisions may occur.

Bollards should be placed several feet back from an intersection. This allows the cyclist to negotiate the bollard before exiting, or after entering the trail, rather than when attention should be focused on roadway traffic.

An alternative to bollards is to split the entryway into two six-foot, one-way trails, separated by low landscaping, as shown in Figure 7. This design is safer for cyclists and more attractive than bollards. It also improves access for maintenance and emergency vehicles. Such vehicles can straddle and clear the landscaping without having to remove a bollard.

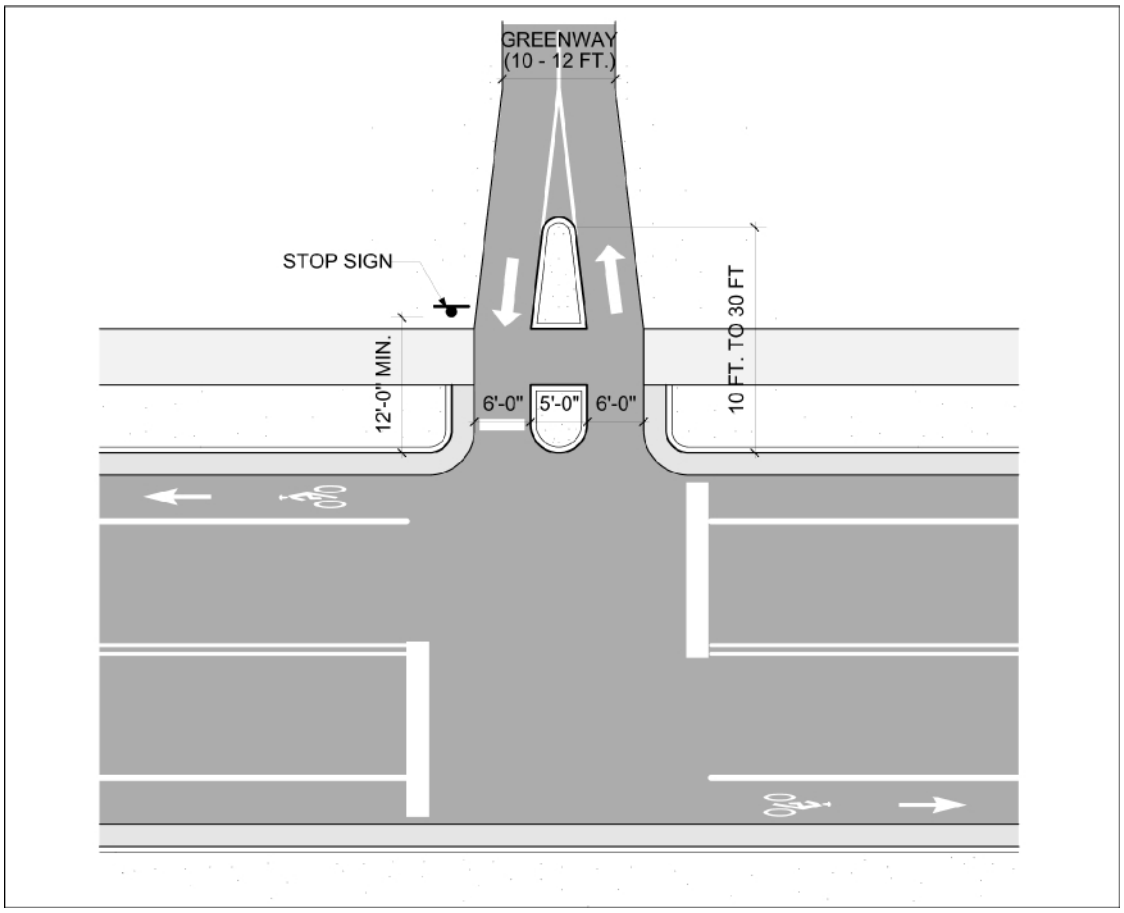


Figure 7: An alternative to bollards at path entrances

Bicycle Lanes

A bicycle lane is a portion of the roadway separated from conventional travel lanes with a stripe, and designated for exclusive or preferential use by bicyclists. They are one-way facilities placed on both sides of a street in order to carry bicyclists in the same direction as motor-vehicle traffic. Bike lanes also help to increase the total capacity of roadways by segregating users, and are the preferred facility for most urban arterials and collectors. In addition to lane striping, pavement markings and signage identify bike lanes.

Shouldered bike lanes also fall into the bike lane category. These are paved shoulders separated from travel lanes with a lane stripe, and are typical for rural-style roadways without curbs and gutters. Bicycle-related pavement markings are not typically used on shouldered bikeways, since they can also be used as a vehicle breakdown lane.

Where exclusive bus lanes exist, and pavement width precludes the striping of separate bike lanes, shared bus/bicycle lanes are a third bike lane type that can increase bicycle safety and comfort.

Width (See Figure 8)

When measured from the face of a curb or the edge of pavement, a bicycle lane or shouldered bikeway should be four to six feet wide. When a gutter pan is present, a bicycle lane should be measured from the gutter pan seam.

If possible, bike lanes and shoulders should be wider than the four-foot minimum when the following circumstances are present:

- On-street parking
- When travel lanes are less than ten feet wide
- High traffic volumes
- High traffic speeds
- High truck volumes
- Guard rails immediately adjacent to the bike lane
- Steep grades

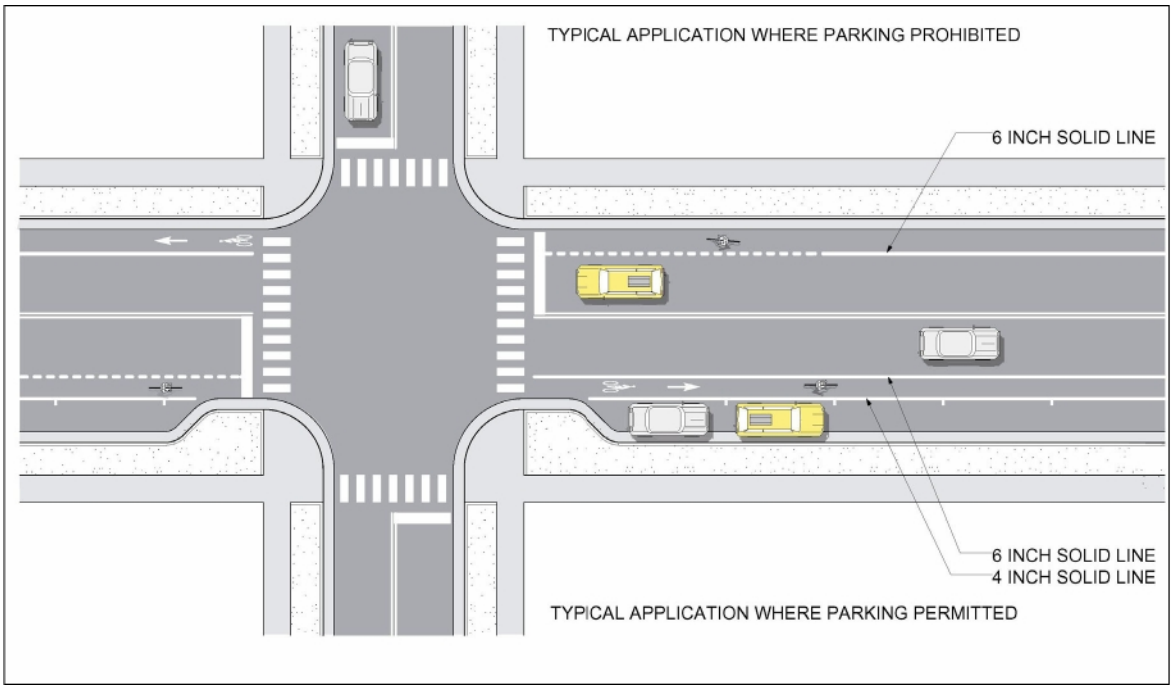


Figure 8: Typical bike lane details on streets with and without on-street parking. Note that the pedestrian bulbs at the intersection do not extend into bike lanes.

Considerations for Shouldered Bikeways

On streets without curbs, paved roadway shoulders provide space for bicyclists to travel separate from motor vehicle traffic. Shoulders also benefit motorists by offering improved sight distances and highway capacity, along with an area that can be used during breakdowns. Because they perform multiple functions, shoulders are not typically marked for the exclusive use of cyclists. If bicycle volumes are high, however, it may be desirable to mark and sign shoulder bikeway as bike lanes.

Bus/Bike Lanes (See Figure 9)

Where exclusive bus lanes exist, and pavement width precludes the striping of separate bike lanes, shared bus/bicycle lanes can reduces conflicts with cars and increases cyclist comfort. Care must be taken to ensure the appropriateness of this type of facility; bus/bike lanes with very high bus volumes can create significant conflicts with bikes.

Application Principles & Design Consideration

Where pavement width permits, a five-foot bike lane should be placed between the bus lane and other travel lanes. This placement eliminates the weave-and-merge conflicts common to a bus/bike lane. Buses will be passing bicycles on the right, but fewer merging and turning movements will reduce overall conflicts.

If pavement width is limited, it may be appropriate to re-evaluate the value of the dedicated bus lane. If bus service is infrequent and level of service can be reasonably maintained using conventional travel lanes, it may be advantageous to eliminate the bus lane and use that pavement width to re-stripe with bike lanes.

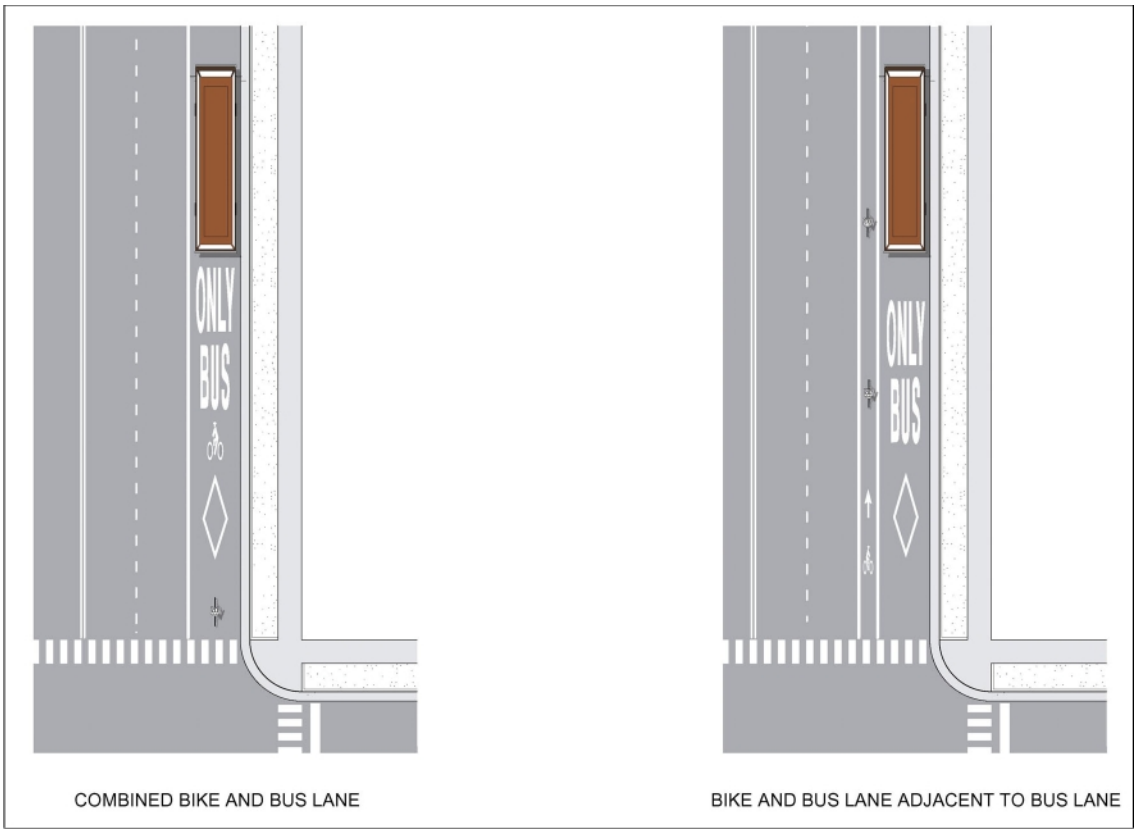


Figure 9: The diagram at left shows a combined bus/bike lane. The diagram at right shows a roadway with both a bus lane and a bike lane.

- If pavement width is limited and the dedicated bus lane is warranted, a shared bus/bike lane is the preferred solution, particularly where bus traffic volume is light or express. Such lanes should be 14 feet wide.

- In addition to roadway signage, signs directed at bicyclists may also be placed on the back of buses to reinforce the "pass on left" rule. Special care should be taken to educate bus drivers and cyclists as to the proper shared use of the lane (for example, an emphasis on the importance of the bus driver using turn signals when approaching or leaving a stop).

Other Considerations

Bicycle lanes should be separated from other travel lanes with a six-inch, single solid white line.

When on-street parking is present, a bike lane should always be placed between the parking lane and conventional travel lane; never between the curb and parking lane.

Bike lane widths exceeding six feet should generally be avoided, since they can be used for parking or conventional travel lanes.

On one-way streets, bike lanes should be on the right side of the roadway. It may be appropriate to consider locating the bike lane on the left side of the street when doing so offers significantly fewer conflicts - such as those caused by multiple intersections or dual right turn lanes.

Shared Roadways (Bike Routes)

On a shared roadway, bicyclists and motorists share the same travel lanes. Except in cases where wide outside lanes are provided, motorists will typically have to weave into the adjacent lane in order to safely pass a bicyclist. There are several design variations on shared roadways:

Wide Outside Lanes (WOLs)

On major collector and arterial streets, where severe physical constraints preclude bike lanes, wide outside lanes are a desirable alternative. WOLs should be 14 feet wide, excluding the gutter pan. If more than 14 feet is available, bike lanes should be considered.

Where on-street parking is present, parking spaces should be marked to encourage cars to park close to the curb.

Because they provide less operating space than bike lanes, and are not designated for exclusive bicycle use, some cyclists will be uncomfortable using WOLs. However, WOLs allow most motor vehicles to pass bicyclists without weaving into the adjacent lane, and provide a greater degree of comfort to cyclists than a typical 11 foot or 12 foot lane.

Local Streets

Local streets should be able to safely accommodate bicyclists without any special treatment. Where operating speeds are up to 25 MPH, and traffic volume is not greater than 3,000 ADT, most bicyclists can comfortably share the roadway with motor vehicles.

However, many local streets carry more traffic at greater speeds than they were designed for. Although such streets could be good candidates for bike lanes, traffic calming is usually the most appropriate strategy for increasing their bicycle suitability. Speed humps, pedestrian bulbs, and other traffic calming features can improve conditions for bicycling, and also address the underlying traffic problems that may be impacting the street. See Section 4.G for additional information.

Signed Shared Roadways (SSRs)

SSRs are roadways that have been identified as desirable routes for bicycle travel but which do not provide additional roadway width for bicyclists. Typically, such roadways are physically constrained and adding additional width is not feasible. However, all other conditions on such roadways should maximize optimal conditions for bicyclists.

SSRs can be applied on corridors with high bicycle demand or connectivity between destinations, where bike lanes or WOLs cannot be accommodated. SSRs may be the best solution for a roadway segment between two bike lane or WOL segments, or as a temporary facility until bike lanes or WOLs can be incorporated.

Design Considerations

The outside lanes on SSRs should be as wide as possible, and not less than twelve feet wide, exclusive of gutter pans.

Traffic signals should comply with the guidelines outlined in Section 3.H.

Storm grates, railroad crossings, pavement surface quality, bridges, and all other features should comply with the guidelines outlined in Section 4.

Intersection Design

Intersections are where most conflicts between all roadway users occur. By nature, intersections put one group of travelers in the path of others. Clearly, a bicyclist is at a disadvantage when confronted by a motor vehicle, and it is at intersections where guidance and well-designed accommodations for bicycles can increase safety for all roadway users.

Good intersection design gives those approaching an intersection a clear indication of the path that they are to follow, and who has the right-of-way. Such designs allow all users to behave predictably.

Like motorists, bicyclists must place themselves in the appropriate position at an intersection for whatever movement they wish to make. When bike lanes are not present, bicyclists must merge into the outermost conventional travel lane dedicated to their desired movement. When present, bike lanes are most often located for through-moving cyclists; turning cyclists may still need to merge into the appropriate conventional travel lane.

General Design Principles

As with all other roadway design features, bicycles should be treated like vehicles. Instances where cyclists are required to cross intersections like a pedestrian should be avoided.

Intersection design should create a path of cyclist travel that is direct, as similar to the path of motor vehicle travel as possible, and logical to both cyclists and drivers.

Free flowing intersection features, such a slip lanes, should be minimized. Slip lanes allow right-turning vehicles to bypass traffic signals, and encourage motorists to make higher-speed turns at a location where through-bicyclists are merging from the edge of the roadway to the through lane.

Except where severe physical constraints exist, bike lanes should continue to the stop bar/crosswalk. Bike lanes should not be marked through pedestrian crossings.

Intersections without Right Turn Lanes

At signalized or stop-controlled intersections on streets with bike lanes, but no exclusive right-turn lanes, the solid bike lane stripe should be replaced with a dashed line at least 50 feet prior to the stop bar/crosswalk. The dashed line allows cyclists to merge into the conventional travel lane for a left turn movement. The dashed line encourages right-turning motor vehicles to merge into the bike lane, rather than cut off through-traveling bicyclists with a quick right-turn movement.

Intersections with Exclusive Right-Turn Lanes

Exclusive right-turn lanes present an additional conflict between through-cyclists and right-turning motorists, and should only be used when warranted by a traffic study.

Where right turn lanes exist, the paths of cyclists and motorists should cross in advance of the intersection, and the intersection design should direct bicyclists to the left of the right-turn lane, as shown in Figure 10.

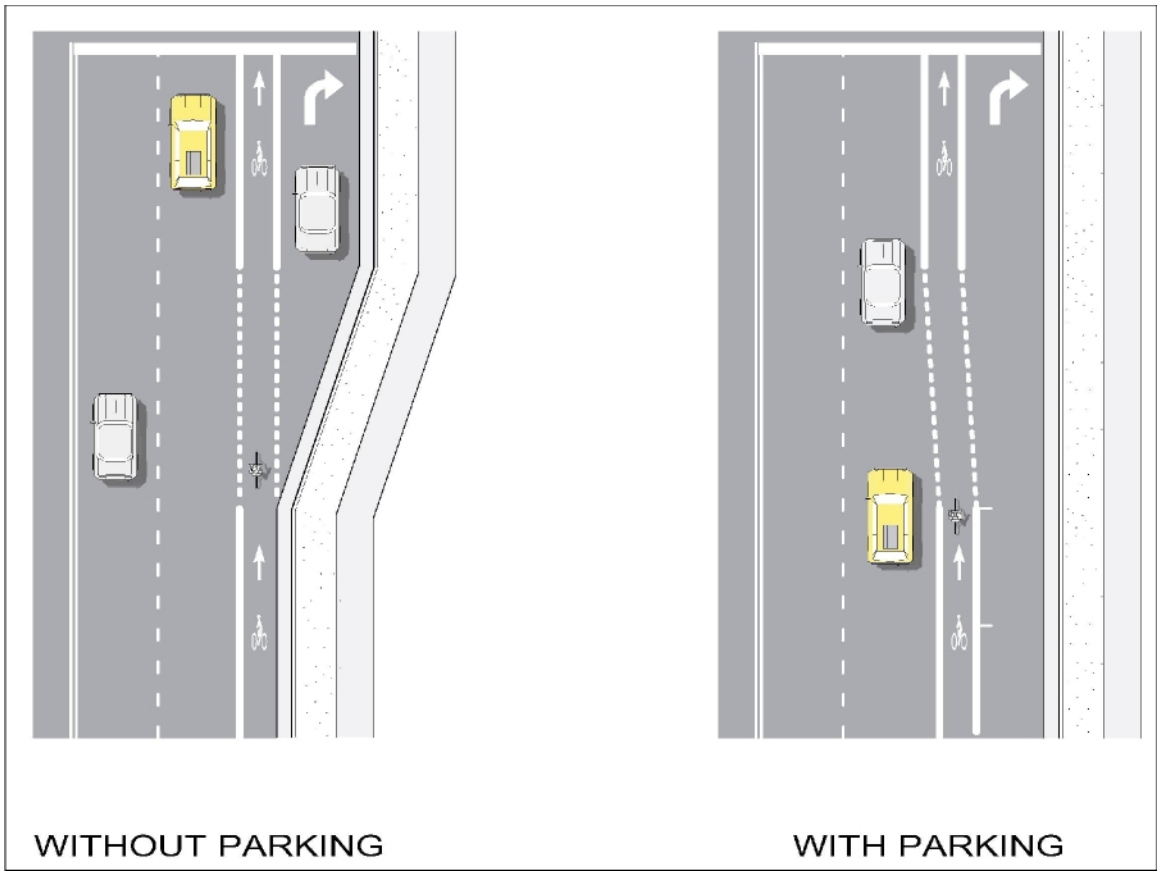


Figure 10: Bike lane markings at exclusive right turn lanes

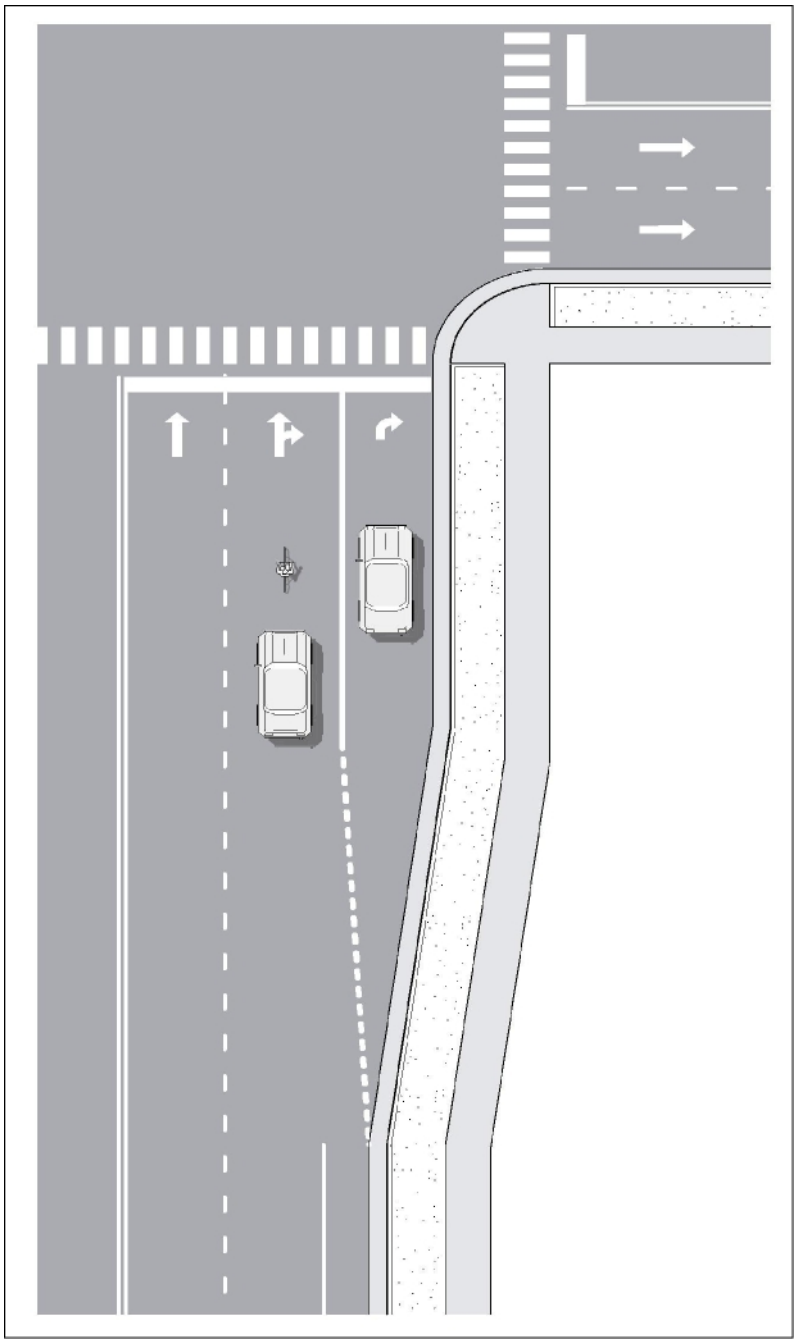
This strategy allows the conflict to occur in advance of the multiple conflicts that typically occur at the intersection itself. In addition, this approach maintains the rules of the road, since through-cyclists proceed to the left of right-turning motorists.

The bike lane stripe should be dashed across the area where motorists should cross the bike lane into the right-turn lane – generally at least 50 feet before the intersection. Solid bike lane markings should resume when the full width of the right-turn lane is achieved, and continue to the stop bar/crosswalk.

Where severe physical constraints are present, the bike lane can be dropped and the outermost through-lane can be widened to 14 feet for shared use.

If the major traffic movement at an intersection is to the right, it may be appropriate to include a right-turn bike lane to the right of the right-turn conventional lane.

Intersections with Dual Right-Turn Lanes



Intersections with a right-turn lane and a shared right/through lane present particular difficulties for bicyclists. There is no ideal place to locate a through-bike lane, and bicyclists must merge across one lane into the next, where drivers could be turning right or going straight. The use of dual right-turn lanes should be avoided where possible, and justified by a thorough traffic study.

When such intersections are unavoidable, bicyclist can be aided by dropping the bike lane, and by striping a dashed line between the edge of pavement where the bike lane ends, to the lane stripe between the two right-turn lanes. The right/through lane should be 14 feet wide. Signage alerting bicyclists to the approaching lane configuration is warranted. See Figure 11.

Figure 11: Bike lanes at dual right turn lanes.

T-Intersections

At T-intersections, left and right-turn bike lanes should be provided as shown in Figure 12. If physical constraints are present, bike lanes can be dropped, maintaining a 14 foot wide left-turn lane.

Bike lanes on the side across from the intersection should be striped through the intersection, except at crosswalks.

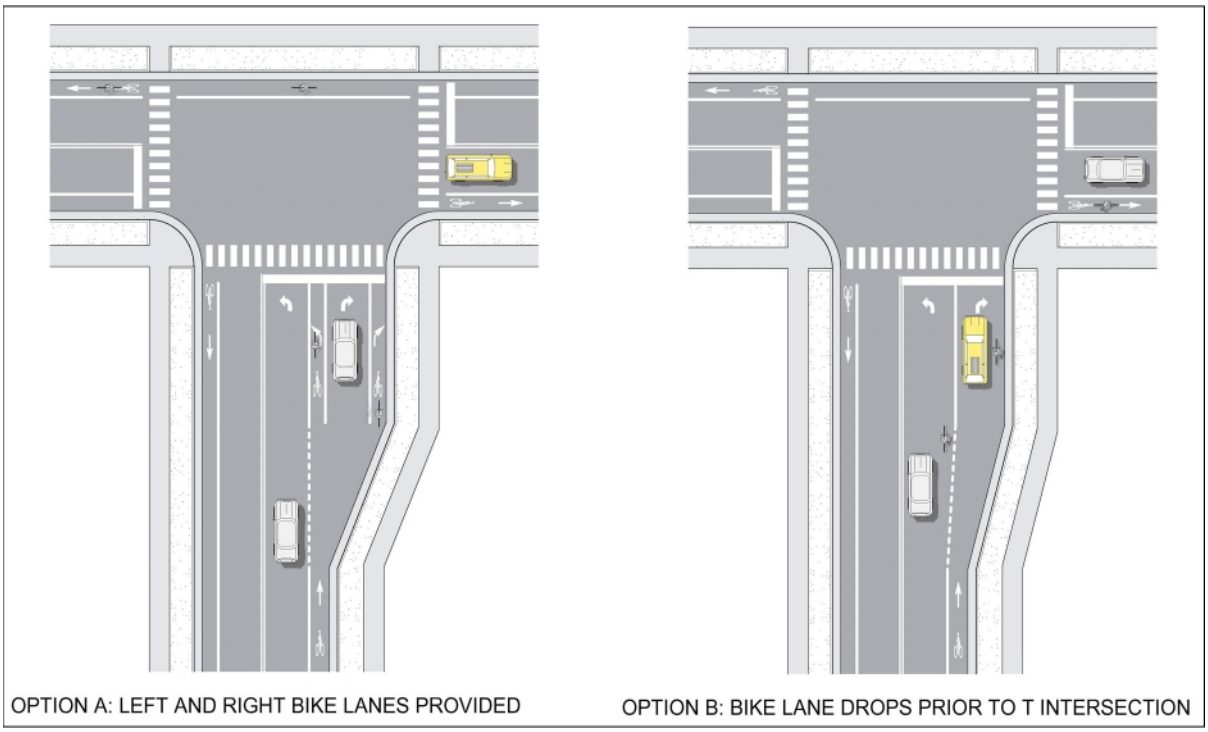


Figure 12: T-intersections. The diagram at right illustrates the preferred design with right and left-turn bike lanes; the diagram to the left shows a 14 foot shared left turn lane, for locations where physical constraints are present.

Complex Intersections

Intersections with offset lanes, skewed streets, or multiple streets entering from different angles can increase unpredictability and create visibility problems and confusion for all users.

Where possible, such intersections should be realigned with simple right-angle intersections. It may be possible to redesign the intersection so that only two roads cross at a given point. Such intersections may also be good candidates for a roundabout.

Where complex intersections cannot be avoided, bike lanes can be defined with dashed lines through long undefined areas. This helps to ensure that motorists do not inadvertently encroach into the flow of bicycle travel.

Interchanges

High-speed, free-flowing freeway or interstate-style interchanges can present a major barrier to bicycle travel. Cyclists must perform weaving, merging, or crossing maneuvers with motor vehicles, while traveling at a much slower speed. Specific problems at entrance and exit ramps include the following:

- The acute angle of motor vehicles approaching from behind creates visibility problems.
- Motorists are usually accelerating, which increases the speed differential with bicyclists.
- Motorists are usually focused on merging movements.
- Motorists may be exiting from a high-speed, bicycle-restricted roadway and may not be expecting to encounter bicyclists.

To increase safety and comfort, the designs illustrated in Figures 13 and 14 result in nearly-rightangle crossings that minimize the distance across ramps that a bicyclist must traverse, improve sight distances, and are located where a driver's attention isn't yet entirely focused on merging with traffic.

Some urban arterials are also designed with interchange-style intersections. These facilities may be appropriate for bicycle facilities, so in addition to designing safe routes to cross such roadways, bike facilities must be provided in order to safely enter and exit the roadway.

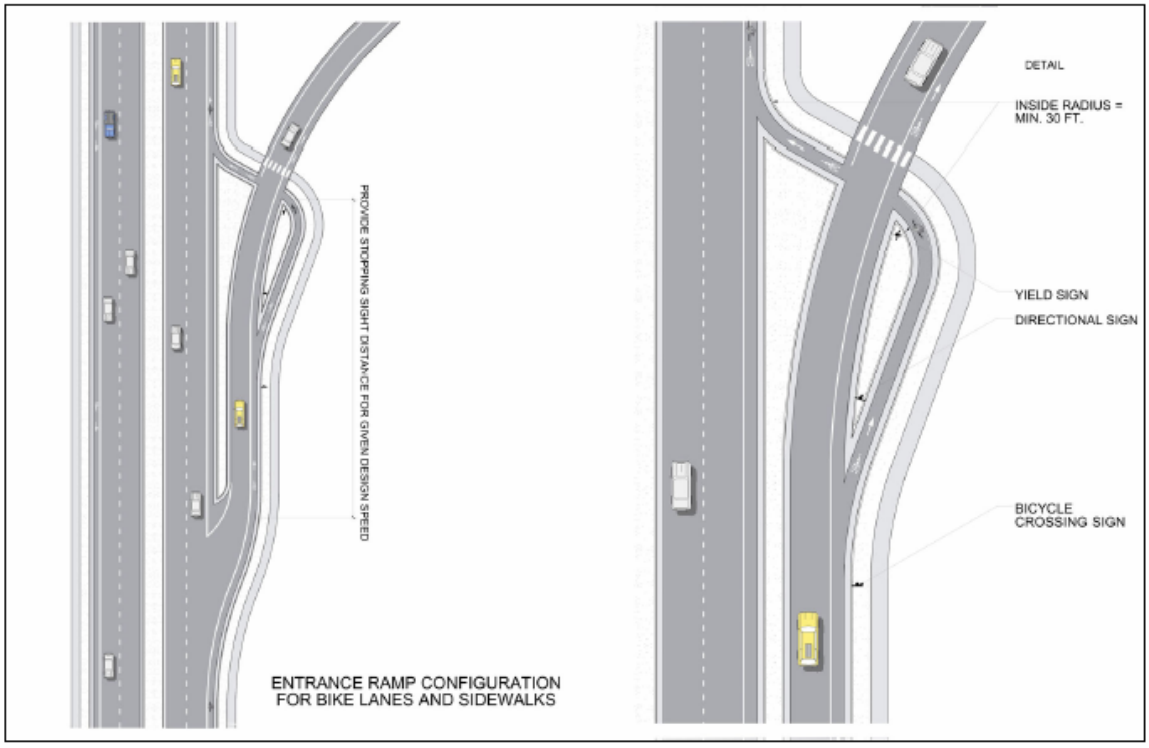


Figure 13: **Bike lanes through interchange entrance ramps. The illustration to the right shows signage details. Source: Oregon Bicycle & Pedestrian Plan**

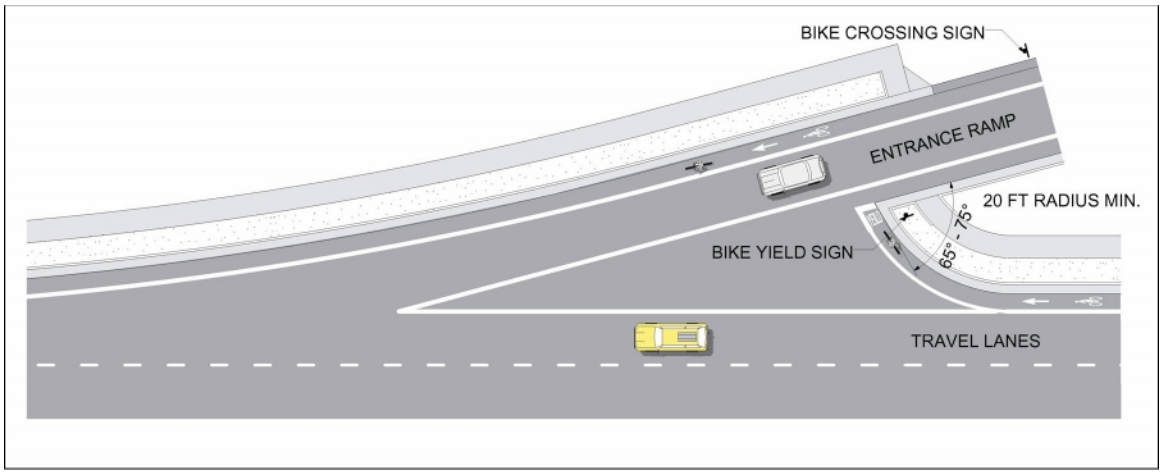


Figure 14: Bike lane through a right lane merge lane. Source: Oregon Bicycle & Pedestrian Plan

Signal Timing

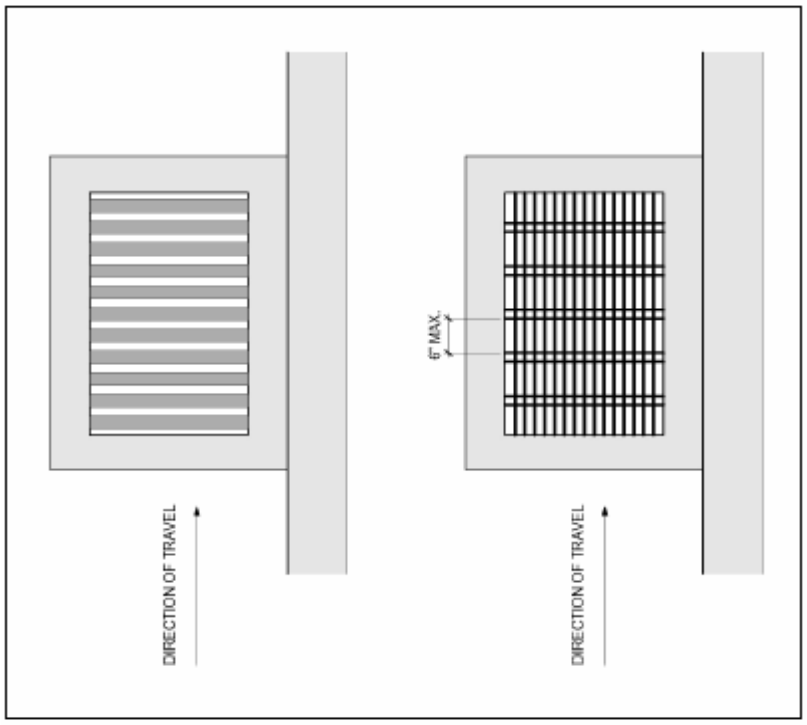
Bicyclists are required to follow all of the rules of the road, including those related to traffic signals. Traffic signals that do not take into consideration the needs of cyclists become barriers to bicycle travel. Particularly during off-peak periods, a law-abiding bicyclist may wait indefinitely at a traffic light before a motor vehicle appears to trip the signal detector.

Traffic signal clearance intervals should be timed to provide bicyclists with sufficient time to react, accelerate, and proceed through an intersection on the clearance interval. Normally, a bicyclist can travel through an intersection under the same signal phasing arrangement as motor vehicles. However, special consideration of bicyclist needs may be necessary at multi-lane crossings and acute angle intersections, which take longer to cross. The clearance interval should take into consideration a bicyclist's speed of 6-8 MPH, and a perception/reaction/braking time of 2.5 seconds.

Section Four – Special Condition and Other Design Considerations

Storm Grates

Storm grates can be among bicyclists' most serious hazards. Grates with slots parallel to the flow of traffic, or with a gap between the frame and the grate, can trap the front wheel of a bicycle, and result in serious injury to a cyclist and his bike. Equally problematic are grates that are not raised when a roadway is resurfaced, leaving them significantly lower than the surrounding pavement. Exacerbating the problem is that grates are hard to see at night and, because they extend into the normal path of bicycle travel, they are often unavoidable. Regardless of whether or not the roadway has been identified for bicycle facilities, storm grates on all streets should be bicycle-safe and hydraulically efficient, as shown in Figure 17. Where hazardous grates exist, a priority should be made of replacing all of them, placing a priority on those streets that have been identified for bicycle facilities. When replacement is not immediately possible, steel cross straps or bars can be welded to an existing grate, spaced not less than six inches on center. When resurfacing any street, regardless of whether or not it has been identified for bicycle facilities, grate height should be raised to be flush with the new pavement surface. If this is not possible, pavement should taper into the grate so that an abrupt edge is not present.



Smoothness of Surface

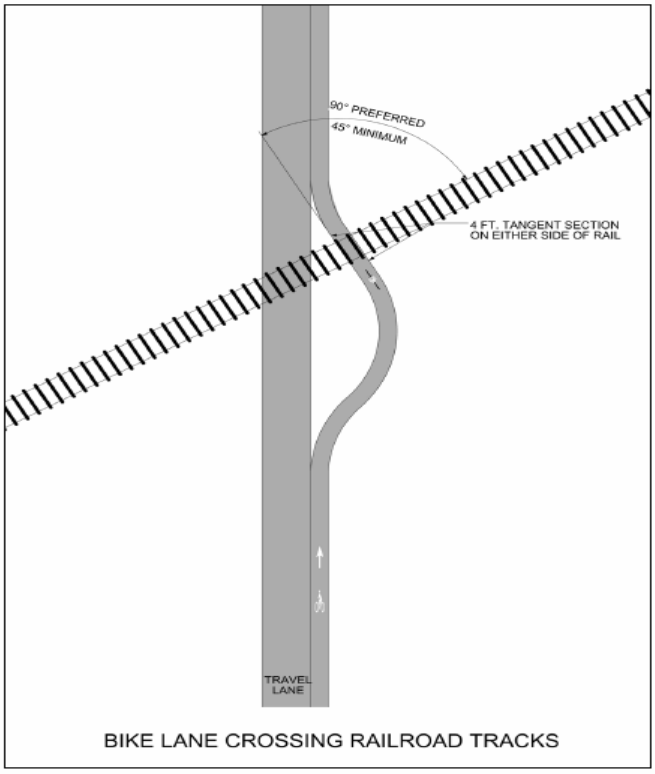
The roadway surface and the top of the rails should be at the same height. Broad, rubberized, railway crossing mats or concrete panels are more stable than asphalt at crossings. Over time, asphalt is likely to migrate upward and develop a ridge next to the rails. Heavy timbers are not long-lived and can be slippery when wet.

Railroad Crossings

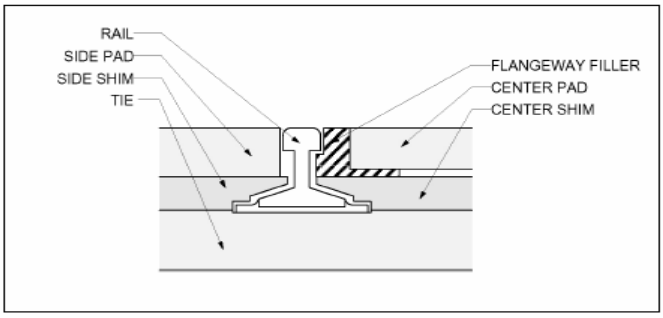
Railroad crossings can present a significant hazard to bicyclists if not properly designed. The channel between the flange and pavement can catch a bicycle tire and throw the cyclist. Minimizing bicycle hazards involves consideration of three design issues: angle of crossings, flangeway width, and surface smoothness.

Angle of Crossing

Bikeways should cross railroad tracks as close to a right angle as possible, as shown in following figure. No bikeway should cross a railroad track at less than fortyfive degrees. If right-of-way width permits, the crossing angle can be improved by realigning the bicycle facility as it approaches the tracks. Pavement striping and markings should orient the cyclist to the safest crossing angle.



BIKE LANE CROSSING RAILROAD TRACKS



Flangeway Width

The open area between the rail itself and the adjoining pavement should be as narrow as possible. Rubberized or concrete flangeway fillers can be installed to minimize the gap, as shown in the previous figure.

Signs

Advance warning signs and pavement markings should be installed in advance of a railroad crossing, in accordance with the MUTCD.

Rumble Strips

Due to bicycle tire size and suspension (usually the lack thereof), bicycling on rumble strips is extremely unpleasant and can be dangerous. The use of rumble strips is discouraged in this plan. However, at the very least rumble strips should not be placed in a bicycle lane. On shouldered bike lanes, rumble strips should not be placed within at least the right-most four feet of the paved shoulder. On bikeways with wide outside lanes, rumble strips should be located beyond the edge stripe.

Roadway Bridges

Roadway bridges often present major obstacles to bicycle travel, due to high traffic volumes and speed, narrow lanes, open grate decking, wide expansion joints, or other hazards. Like motorists, bicyclists are dependant on bridges as the key connectors across barriers such as waterways or interstate highways. Safe accommodation of bicyclists on bridges is critical in maintaining the continuity of a bikeway network.

Bicycle-safe decking and expansion joints should be used on all bridge decks. The width of new bridges should equal the width of the approaching roadways, including bike lanes, shoulders, gutter pans, and sidewalks. Because traffic speeds sometimes increase on long bridges, it may be appropriate to widen bike lanes to six feet on bridges in order to increase cyclist comfort.

Even in cases where approaching roadways do not have bicycle facilities, the design of new bridges should assume that bicycles will be present, and include enough width to stripe for bike lanes immediately or in the future.

Construction Zones

Like motor vehicles, bicycle movement should be maintained through construction zones. Temporary lane restrictions, detours, and other traffic control measures instituted during construction should be designed to accommodate non-motorized travelers whenever possible, especially on routes where these modes are normally encountered.

General Principles

Bike lanes should be maintained through construction zones if possible. If physical constraints preclude bike lanes and the disruption occurs over a short distance, or on low-volume rural roads, bicyclists should be routed to share a conventional travel lane. On longer projects, a temporary bicycle lane or wide outside lane should be provided.

In urban areas, bicyclists should not be directed onto sidewalks, unless no reasonable alternative exists.

If the construction work is on a designated bikeway where no temporary accommodation can be provided, a reasonable detour should be identified and signed.

Specific Design Considerations

- Metal plates have a surface that is very slick for bicycle wheels, and not easily seen at night or in the rain. If metal plates are used in construction zones, they should have a vertical edge no thicker than one inch. Plates thicker than one inch should have an asphalt lip to minimize hazards to bicycles.

- The placement of advance construction signs should obstruct neither the bicyclist's nor the pedestrian's path of travel.

- Information regarding construction and route changes should be communicated to the public through the local media and official websites. Project managers should also notify and consult with affected groups, such as university officials, neighborhood groups, or bike clubs.

TRAFFIC CALMING

Traffic calming involves the introduction of physical elements into the streetscape that encourage appropriate motor vehicle speeds and can also, if desired, encourage through-motorists to select a different route. Traffic calming is used to improve neighborhood livability by reducing negative impacts of traffic, and to enhance the environment for non-motorized travel modes. Typically, traffic calming devices are installed on local and collector streets.

Speed humps, pedestrian bulbs, chokers, neckdowns, chicanes, and traffic circles are among the types of devices installed for traffic calming purposes. Although most of these devices are of benefit to

bicyclists, care must be taken to ensure that the specifics of their design and application do not create new bicycle safety problems.

Speed Humps

Speed humps should generally be constructed with a longitudinal length of 14-22 feet, with a crown height of 3-4 inches. When used in a series, humps should be placed 300 to 600 feet apart.

Curbed Medians

Curbed medians with refuges provide safety for bicyclists and pedestrians crossing multi-lane roadways. Medians designed for bicycle crossings should be no less than six feet wide; a tenfoot-wide median will accommodate a bicycle with a trailer or multiple bicyclists, and should be the standard for trail crossings.
See Figure 5.

If a refuge is intended for bicycle use it should be placed on alignment with the bicycle path of travel on either side of the intersection.

The refuge should be either ramped, or flush with the roadway surface.

Pedestrian Bulbs, Chokers, Chicanes & Neckdowns

Pedestrian bulbs and some other traffic calming devices decrease curb-to-curb width in order to slow traffic, as shown in Figure 8. The design of these features should not require bicyclists to weave into adjacent traffic, or force drivers to "squeeze" bicyclists while driving through the intersection. The following guidelines will ensure that traffic will be slowed without creating safety problems for cyclists.

- On low volume, low speed streets without a centerline stripe, no special pedestrian bulb design considerations are generally necessary.

- At bulbs when bike lanes are present, the conventional travel lane should not be less than ten feet wide and the bike lane should be not less than four feet wide.

- On streets with a centerline stripe, the ped bulb should be placed so that twelve-foot outside lanes are maintained, or 14', if WOLs are present.

DESIGN PRACTICES TO BE AVOIDED

Sidewalk Bikeways

Through an ordinance or other measure, adult and older youth bicyclists should be discouraged from riding on sidewalks. Sidewalks are generally poorly suited to bicycle travel for the following reasons:

- Sidewalks put bicyclists in conflict with pedestrians. Bicyclists are typically traveling much faster than pedestrians, and the speed differential creates great potential for crashes.

- There are vertical and horizontal conflicts with utility poles, signposts, driveway ramps, benches, and other street furniture and obstructions.

- Sidewalk bicyclists are unexpected. At best, motorists are looking for slow-moving pedestrians when they cross a sidewalk, not fast-moving cyclists.

- Sidewalk bicyclists are unpredictable. Because sidewalks are not designed for bicycle travel, it can be difficult to anticipate what movement a cyclist might make, and for a motorist to react with adequate time.

- Sidewalk bicyclists place themselves in an awkward position at intersections, where they cannot safely follow the vehicular rules of the road, but often do not follow the rules of pedestrian travel either. This circumstance creates confusion for all other roadway users.

All roadway users are safer when bicycles are considered vehicles, and when bicycle facilities are designed accordingly.

(Parents may want to allow their young children to bicycle on sidewalks under the following conditions:
- The sidewalks are on low-volume, low-speed, streets.
- Typical roadway drivers are alert to neighborhood activities along the street.
- Children are bicycling at speeds comparable to an adult walking travel speed.
- Children are wearing helmets and have been taught fundamental bicycling rules and skills.)

Pavement Reflectors

Pavement reflectors or other raised markings located at the edge of outside lanes can deflect a bicycle wheel, causing a cyclist to lose control. If reflectors are necessary on roadways with bike lanes or shoulders, they should be installed on the motorist's side of the stripe, and have a beveled front edge. Pavement reflectors used between travel lanes should be dropped fifty feet in advance of intersections, where bicyclists may be merging left into the appropriate lane for their movement.

Continuous Right Turn Lanes

Continuous right turn lanes are very difficult for through-cyclists to navigate. Riding against the curb places them in conflict with right-turning motor vehicles, and riding in the outmost through lane puts them in conflict with cars merging in and out of the right-turn lane.

The best solution is to eliminate the continuous right-turn lane, consolidate access and create well-defined intersections, with the bike lane to the left of right turning cars, as shown in Figure 21.

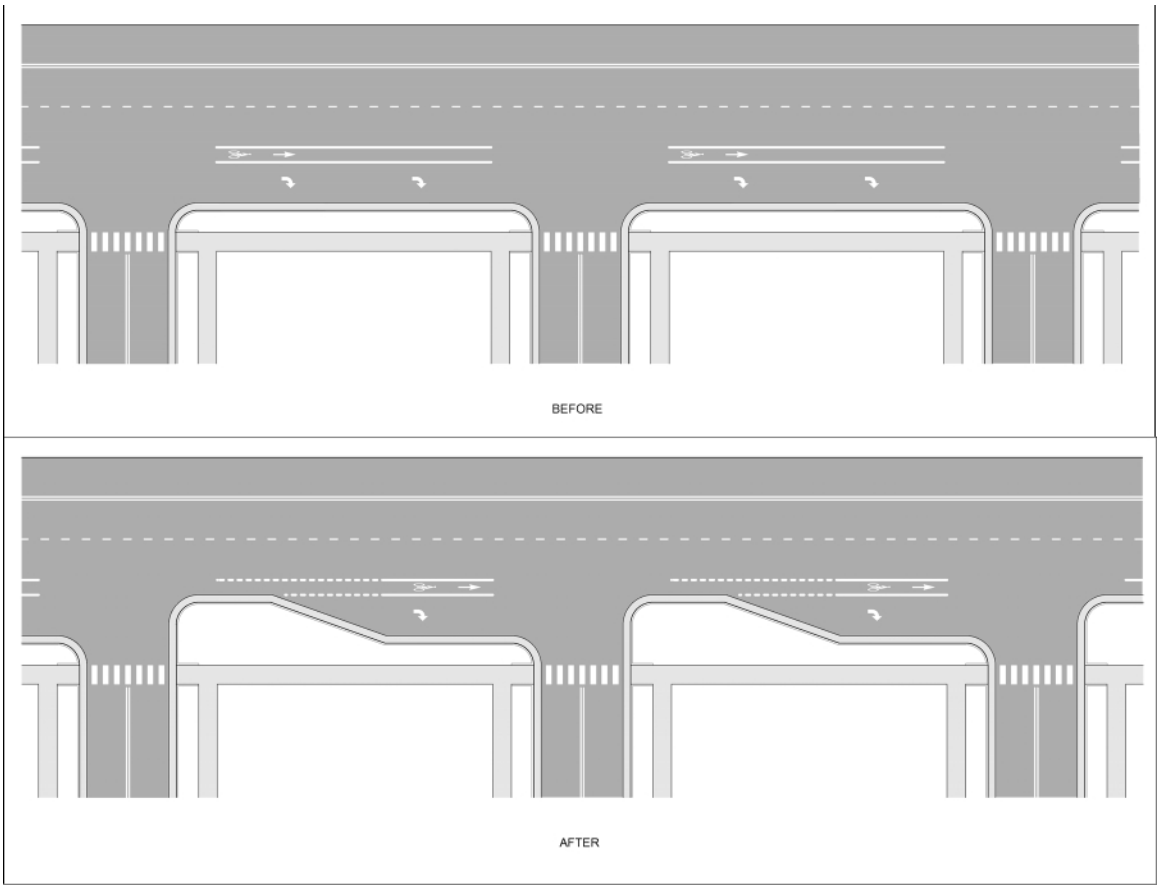


Figure 21: The design shown at top results in continuous merging conflicts. The design shown below manages access to intersections and increases safety.

Gravel Driveways & Alleys

Gravel driveways or alleys can create a serious surface hazard for bicyclists, causing them to lose control of their bikes. To keep loose gravel from spilling onto connecting roadways, all gravel entranceways should be required to be paved back fifteen feet, as shown in Figure 22.

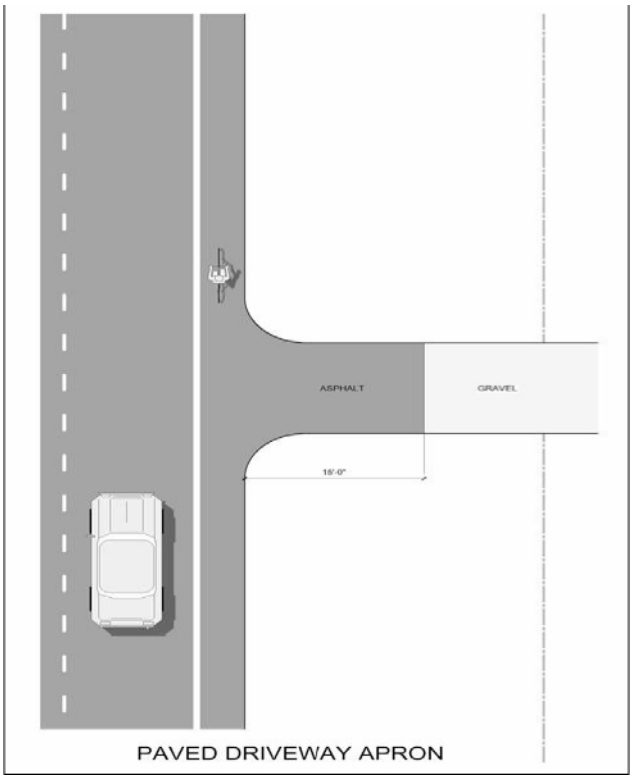


Figure 22: A paved apron at driveways and alleys keeps gravel from spilling onto the bikeway

SECTION FIVE: SIGNS & MARKINGS

GENERAL PRINCIPLES

Well-designed roadways usually require little signage, because other design elements make it easy for users to understand where they should be and how they should operate. In fact, an overabundance of warning and regulatory signs may indicate a failure to address more fundamental design problems. The attention of cyclists, pedestrians, and drivers should be on the road and other users, not on signs along the road. Oversigning is ineffective and can degrade the signs' usefulness to users. Too many signs are distracting, a visual blight, and a maintenance burden.

The Manual on Uniform Traffic Control Devices (MUTCD), published in June 2001, provide fairly thorough guidance on bikeway signage, sign placement, and pavement markings. Signs are illustrated in Figure 23. The guidelines detailed in this section are intended to refine some of the standards in the MUTCD manual.

Signs directed at bicyclists are smaller versions of standard roadway signs. This is because bicyclists are usually traveling at speeds slower than motor vehicles, and are typically in closer physical proximity to the signs themselves.

In addition to bike-specific signage, standard roadway signs directed toward motorists also generally apply to bicyclists.

In some instances, the presence of bicycle facilities may warrant additional standard signage directed
toward motorists, such as at complex intersections, or on a street with both high bicycle traffic and substandard bicycle facilities.

The message conveyed on a sign should be easy to understand by all roadway users. The use of symbols is preferred over the use of text.

BIKEWAY SIGNAGE GUIDELINES

Off-Street Paths (Greenways)

When paths are adjacent to, or cross, roadways, signs should be located so as to be visible only to trail users; not to motorists.

Sign W11-1 should be placed on roadways in advance of where an off-street path crosses a roadway. Generally, it is not necessary to use this sign where on-street bike facilities cross other roadways.

Figure 23: Manual on Uniform Traffic Control Devices, June 2001. Bicycle facilities signage

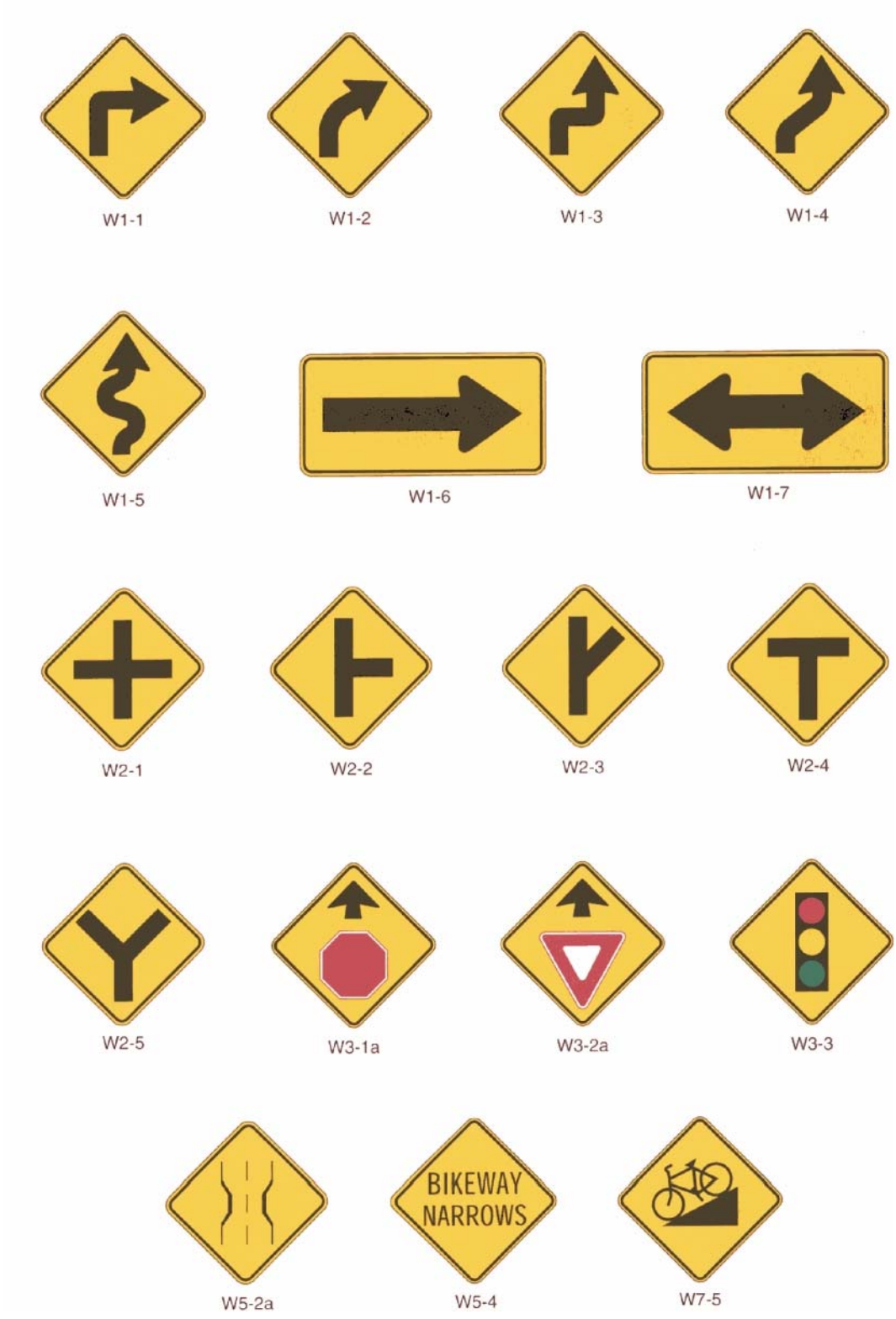


Figure 23 (cont.): Manual on Uniform Traffic Control Devices, June 2001. Bicycle facilities signage

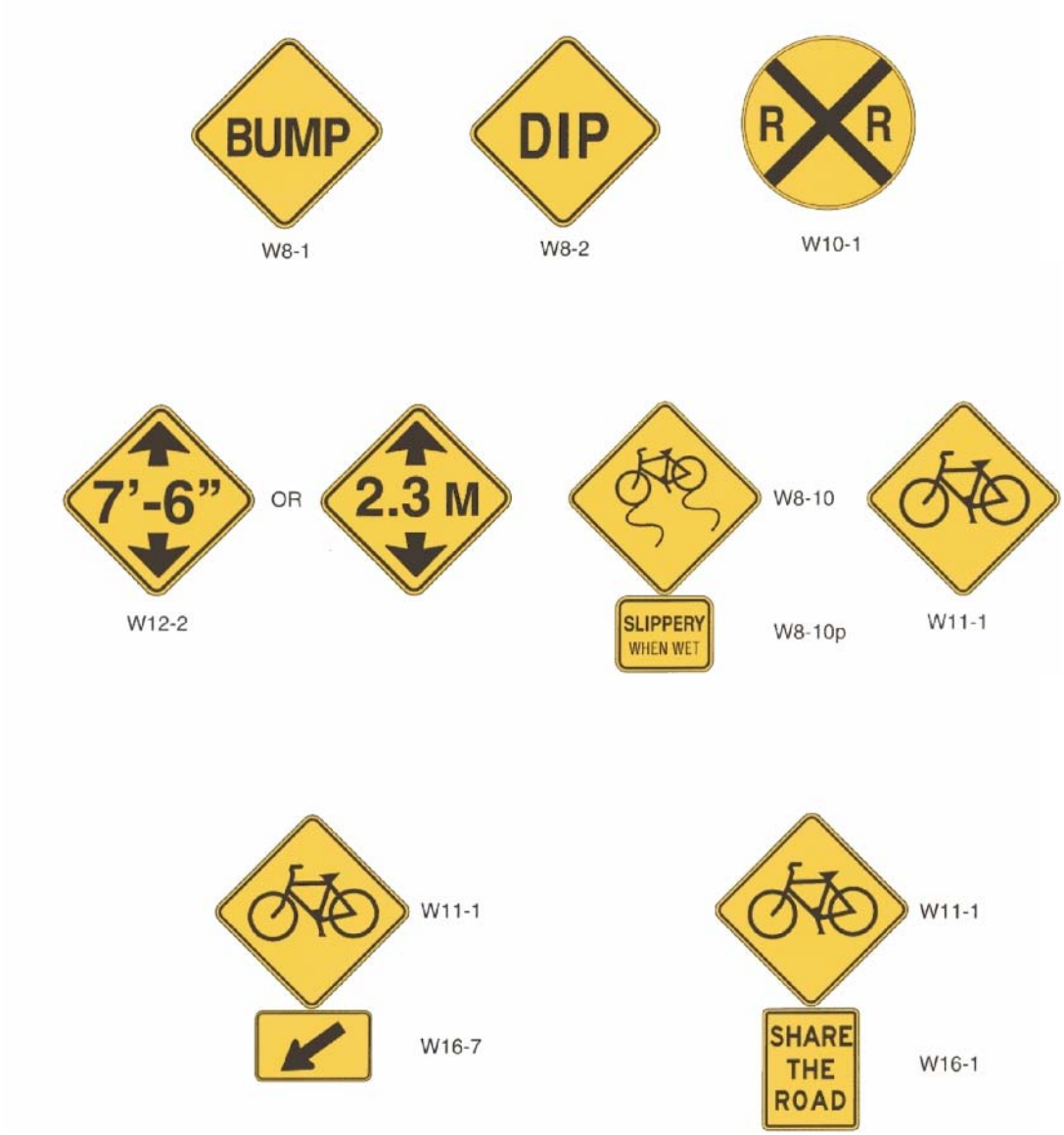


Figure 23 (cont.): Manual on Uniform Traffic Control Devices, June 2001. Bicycle facilities signage

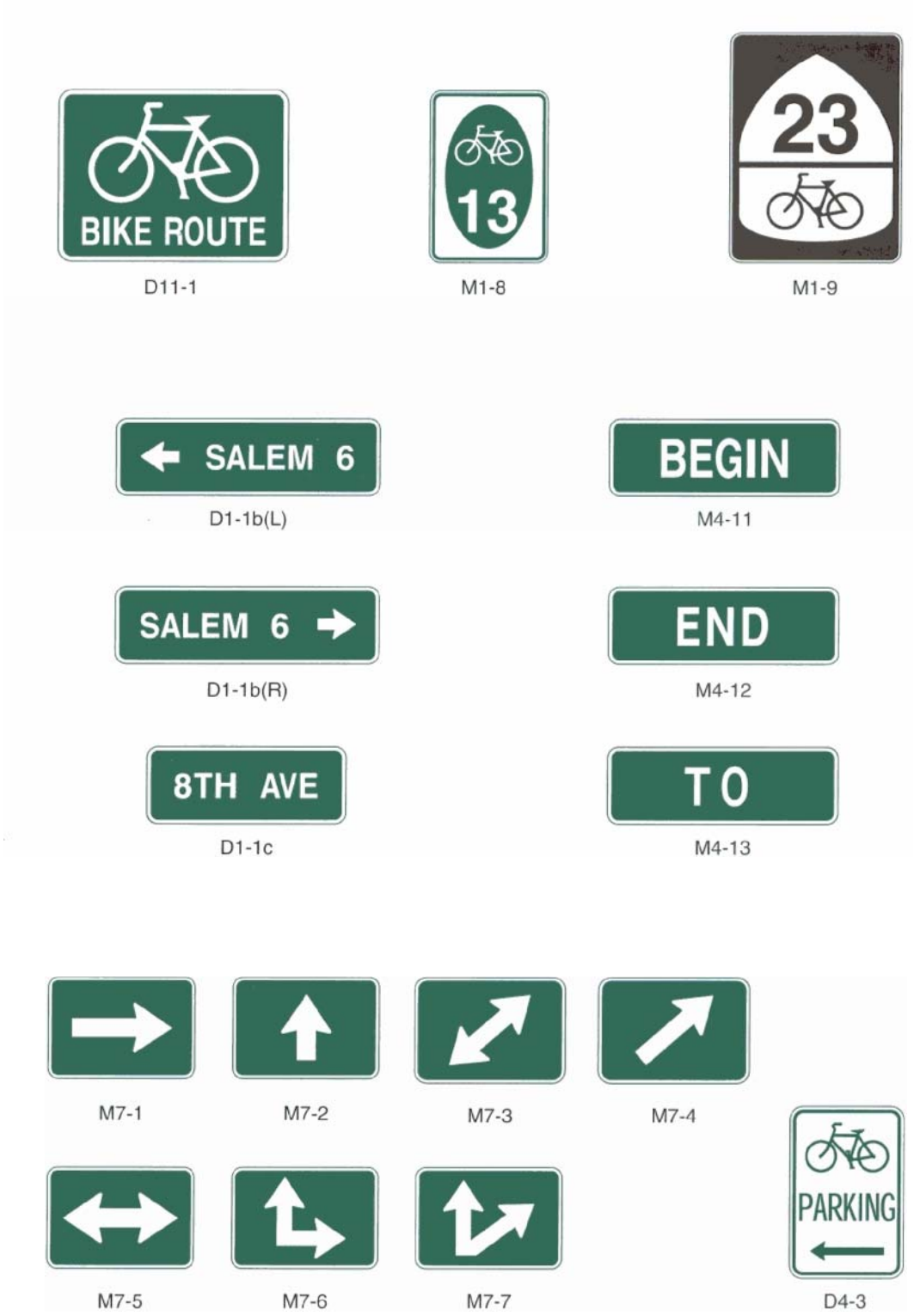


Figure 23 (cont.): Manual on Uniform Traffic Control Devices, June 2001. Bicycle facilities signage

Bicycle Lanes

Bike Lane Signage

"Right Lane/Bike Only" (R3-17) signs should be used sparingly in cases where clarity is needed.

Bicycle route signs (D11-1, M1-8, M1-9, and all supplemental plaques), should always include accompanying directional or bikeway identification information. Where bike lanes are present, such signs are only needed at major intersections and where the route changes streets.

Where bike lane segments are discontiguous, bike route signs should include information that directs bicyclists from one bike lane segment to another. For example, "Bike Route: XX Street Bikeway". Bike route signs should also be used to direct cyclists to a destination, i.e. "Bike Route: Aquarium".

"Bike Lane Ahead" (R3-16) signs should not be used. "Bike Lane Ends" (R3-16a) signs should only be used in conjunction with a "Share the Road" (W11-1/W16-1) sign.

In general, bike lane pavement markings should preclude the need for "No Parking" (R7-9 and R7-9a) signs. In areas where parking in bike lanes is a chronic problem, such signs may be appropriate.

Where right turn lanes are present, a "Begin Right Turn Lane/Yield to Bikes" (R4-4) sign should be placed at the beginning of the taper.

Bike Lane Striping & Markings

At bus stops, bike lanes should use dashed lines through the area that a bus is expected to cross into the bike lane to reach the curb.

A bicycle stencil and directional arrow should be placed after every major intersection, and at intervals of not greater than 1,000 feet. (AASHTO has determined that the diamond marking used for special use lanes, and recommended in the past for bike lanes, should no longer be used. General perception now associates diamonds with HOV lanes and other motor vehicle facilities; not bike lanes.)

Markings should be placed after every intersection where on-street parking is present.

Care should be taken to avoid placing markings in areas where frequent motor vehicle crossings will prematurely wear down the marking.

If on-street parking is present, the parking area should be defined with pavement markings, or a solid 4-inch white stripe, which encourages motorists to park near the curb.

Shared Roadways

On shared roadways, bicycle route signs (D11-1, M1-8, M1-9, and all supplemental plaques), should always include accompanying directional or bikeway identification information. Route signs should be placed at major intersections, where the route changes streets, and at intervals of not greater than 1,000 feet.

Bike route signs should also be used to direct cyclists to a destination, i.e. “Bike Route: Aquarium”.

Shared roadways that include an outside lane of 14 feet may be identified with a shared lane pavement marking, as shown in Figure 24. When such pavement markings are used, route signage interval standards for bike lanes, rather than for shared roads, should be applied.

If on-street parking is present, the parking area should be defined with pavement markings, or a solid 4-inch white stripe, which encourages motorists to park near the curb.

Figure 24: Pavement markings for wide outside lanes

SECTION SIX: ADDING BICYCLE FACILITIES TO EXISTING ROADS

One of the more challenging tasks of building a bicycle infrastructure is finding space for bikes on physically constrained existing roads. Such roadways are not typically candidates for widening, and bicycles, pedestrians, and motorists must compete for limited existing right-of-way.

There are a variety of strategies for incorporating bicycle facilities onto roadways when such constraints are present. Most of the improvements discussed in this section can be accomplished by re-striping or adding pavement within existing right-of-way widths.

See sections 8B, 8C, and 8D for additional information regarding repaving and construction.

PAVE THE SHOULDERS

On rural-style roadways without curbs and gutters, the width of the graded shoulders is often adequate to provide for bicycles. Such shoulders are unusable, however, if they are unpaved or paved with a bituminous surface that is too rough for bicycling.

By paving existing shoulders using the same pavement structural section as the travelway, shouldered bike lanes or wide outside lanes can be provided. In some cases, minor shoulder grading can provide still more new width for paving, further increasing safety and comfort for bicyclists.

REDUCE THE CONVENTIONAL TRAVEL LANE WIDTHS

By narrowing the width of existing conventional travel lanes, space can be reallocated for bike lanes or WOLs. In some instances, this can be accomplished without compromising typical 11 foot or 12 foot lane widths. In some instances, particularly on lower speed streets, it may be appropriate to consider reducing lane widths to less than 11 feet without significantly compromising safety or operation, and within the flexibility range of AASHTO guidelines.

Even when to-standard 14 foot WOLs cannot be provided within existing widths, it benefits cyclists for any “extra” width on a roadway to be allocated to the outside lanes. This ensures that bicyclists are provided with maximum available space, and minimizes the degree to which motorists must weave into the adjacent lane to pass a cyclist.

REDUCE THE NUMBER OF CONVENTIONAL LANES

On some roadways, transportation objectives may warrant the removal of a conventional travel lane, and reallocation of that width for bike lanes. A traffic study can determine whether lane reductions will result in an acceptable level of service for motor vehicles. Providing high quality bicycle facilities on some corridors may be worth a reduction in motor vehicle capacity.

On other streets, such as low volume four-lane roads, restriping with a center turn lane, two conventional travel lanes, and bike lanes can, in fact, improve traffic flow. "Road diet" is a term increasingly applied to such a strategy.

REDUCE ON-STREET PARKING

Reducing the parking lane width to seven feet can provide additional space for bicycles. When seven-foot parking lanes are used in conjunction with bike lanes, bike lanes should not be less than five feet wide.

In some instances, it may be appropriate to remove on-street parking from one side of a roadway. The width of one typical eight-foot parking lane can be reallocated to provide two bike lanes. Furthermore, roadway safety and capacity are generally improved for both bicyclists and motorists with the removal of on-street parking.

When some parking demand exists, it may be appropriate to permit parking in bike lanes during off-peak periods, at night, or only when demand is high, such as during services near a house of worship.

It is important to consider the impacts that parking removal may have on pedestrians and on traditional commercial streets. On-street parking provides a physical barrier between pedestrians and moving vehicles, and increases pedestrian comfort. Bike lanes provide a buffer too, but to a lesser degree. Most store-front businesses rely on street parking for their customers. Overall community goals should be taken into consideration when evaluating the appropriateness of removing parking lanes.

WIDEN THE ROADWAY

Most roadway widening projects are undertaken to increase motor vehicle capacity or as a streetscape improvement project. Such endeavors can present good opportunities to incorporate bicycle facilities.

Widening a roadway for the specific purpose of providing bicycle facilities may be feasible and warranted when the following conditions are present:

- It is a short segment between otherwise-to-standard bikeway facilities
- It is a corridor with high bicycle demand
- Widening the roadway is compatible with broader neighborhood goals and objectives
- It is necessary to correct a significant barrier to bicycle travel, or to correct a safety problem

SECTION SEVEN: BICYCLE PARKING GUIDELINES

Like motorists, bicyclists need secure, convenient facilities to store their vehicles when they reach any destination. The lack of adequate bicycle parking facilities and fear of theft are significant deterrents to bicycle riding.

Well-designed racks and lockers that are located close to building entrances increase overall parking capacity and encourage bicycle use. About ten bicycles can be accommodated in the space required to store a single motor vehicle. Because it is less land-intensive, providing parking for bicycles is an easy way to ease parking lot congestion and meet parking demand.

The guidelines in this section may be used as a foundation for the development of a bicycle parking ordinance.

The two categories of bicycle parking facilities are Short Term (bike racks), and Long Term (lockers, shelters, and rooms).

SHORT TERM PARKING FACILITIES

Bike racks serve short term parking needs. Racks must provide a means of securely locking a bicycle, and may be covered for protection from the weather. Racks do not provide a means to secure accessory bike components like lights, tools, or bags.

Substandard bike racks, located far from entrances and in isolated areas, do not get used. Bicyclists will pass them by for a signpost or other fixed object in a safer or more convenient location. In many cases, this practical reaction can result in damaged street trees and parked bikes that block the flow of pedestrian traffic.

General Design Principles (See Figure 25)

Bicycle racks should:

- accommodate high security U-type locks,
- permit the frame and at least one wheel to be locked,
- be covered in areas where bikes may be left for longer periods of time, and
- be securely anchored.

Each bicycle parking space should be at least six feet long by two feet wide. Like motorists, bicyclists need space to maneuver their vehicles into parking spaces. Accordingly, when full, a bike rack should have about five feet of clearance on at least three sides.

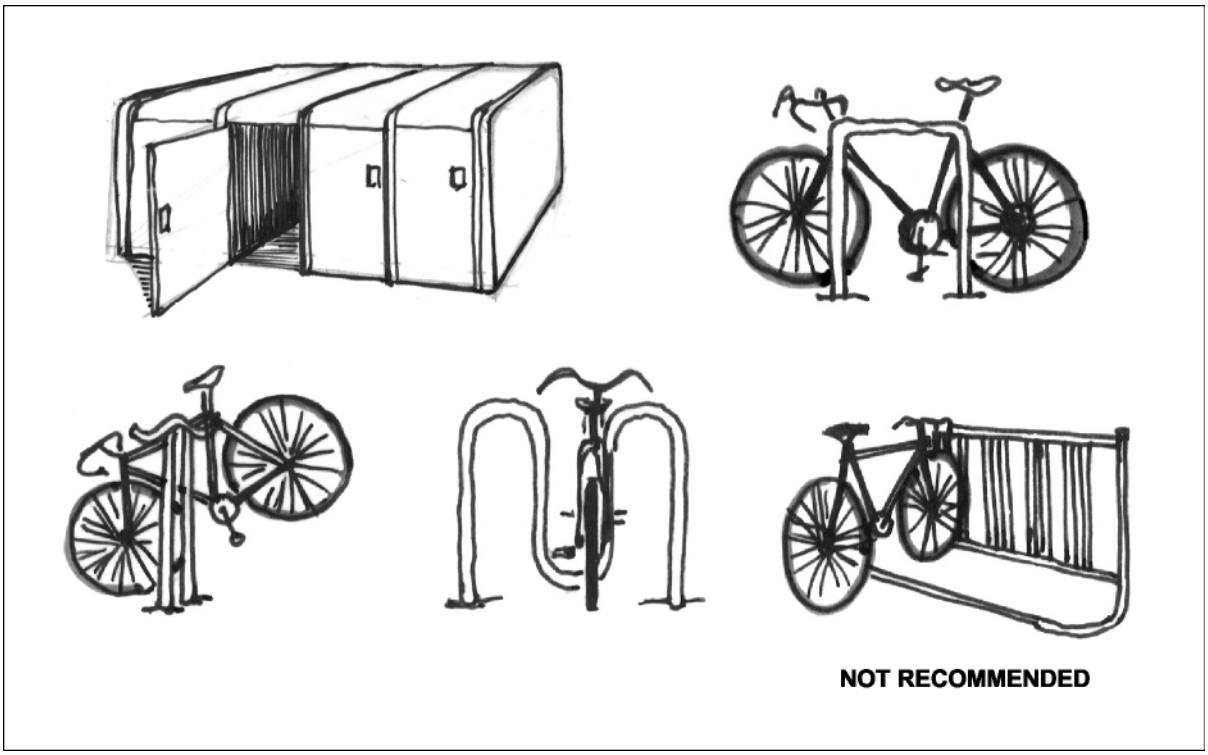


Figure 25: Several typical bike rack and locker designs. The older style rack of illustrated at the lower right corner does not permit a bike frame to be secured and is substandard.

Location

Racks should be installed in a well-lit location within fifty feet of the main entrance to a building, but not further from the entrance than the closest motor vehicle parking.

When there are many building entrances, multiple lower capacity racks should be distributed to serve all entrances. When installed in public rights-of-way, such as sidewalks, a full bike rack should not obstruct the flow of pedestrian traffic.

LONG TERM PARKING FACILITIES

A locker, caged shelter, or a room within a building can serve long term parking needs. These facilities are used at destinations where bicycles may be left unattended for several hours at a time, such as at park-n-ride lots, parking garages used by commuters, or universities. Long term parking provides complete security for bicycles and accessories, as well as protection from the weather.

General Design Principles

Commonly available bike lockers allow cyclists to secure a bicycle and accessories. Most public long-term bike parking is of this type.

Long term bike parking on campuses, at major employers, or in multi-family developments, may also be accommodated in a roofed area enclosed by a fence with a lockable gate, or in a lockable room.

SECTION EIGHT: MAINTENANCE

Like facilities for motor vehicles, bicycle facilities require routine maintenance. Automobiles have suspension systems and four wide, low-pressure tires. In contrast, bicyclists ride on two narrow, high-pressure tires, usually without the benefit of a suspension system. These factors make bicycles more vulnerable than most motor vehicles to poorly maintained roads.

Gravel, sticks, and other debris can easily deflect a bike tire, and potholes can bend a rim. Each of these situations presents a significant safety risk to cyclists. Other hazards, such as broken glass, easily puncture a bike tire.

SWEEPING

A regularly scheduled inspection and maintenance program helps to ensure that litter and other debris is regularly removed from bicycle facilities. It may be appropriate to increase the frequency of the existing street sweeping schedule for roadways that also have bicycle facilities.

It may be necessary to increase the frequency of sweeping in the fall, when leaves are likely to accumulate more quickly. This is especially important on greenway paths in forested areas.

Private landscaping and maintenance companies should not be permitted to blow grass clipping, trash or other debris in public rights of way. In addition to creating hazards for cyclists, this practice increases the overall maintenance burden on government agencies.

SURFACE REPAIRS

Bikeways should be routinely inspected for surface irregularities, potholes, ridges, cracks, and other surface problems. Government agencies should also be able to respond in a timely manner to reports from the public on specific hazards.

REPAVING

Repaving is a good opportunity to improve conditions for bicycling. Bike lanes can be added, shoulders widened, conventional lane widths can be adjusted, and surface hazards can be addressed.

Pavement overlays should extend across the entire roadway pavement width. In no instances should an overlay result in an abrupt edge or vertical ridge within the path of travel for cyclists.

Storm grates, manhole covers, and other such roadway features should be raised after repaving. The surface of such features should be not less than one-quarter inch from the pavement surface.

Repaving also presents a good opportunity to pave gravel driveways that connect to the roadway. Driveways should be paved back about fifteen feet from the edge of the roadway pavement to prevent gravel from spilling onto the roadway and shoulder. See Figure 22.

UTILITY CUTS

When utility cuts occur within a roadway, care should be taken to ensure that cut lines that are parallel to the flow of travel are located outside of the bikeway. This approach avoids an asphalt joint that can deflect a bicycle tire.

SPOT IMPROVEMENTS PROGRAM

While routine maintenance and regular inspections are essential to well-maintained bicycle facilities, bicyclists are often the first to be aware of any new hazard or other deficiency. A spot improvements program enables cyclists to quickly bring a problem to the attention of government representatives, and gives government the benefit of knowing about problems that arise between routine inspections.

It is important to the success of such a program that the government agency has the staff and funding available to respond to most routine maintenance problems.

Although paper forms should be available to those without internet access, a form on the government website can be the most efficient way to manage the program. Not only can an on-line maintenance request be immediately forwarded to the responsible agency, it also makes it easier to follow-up with the citizen who made the request.

APPENDIX B

Northwest Georgia Regional Bicycle/Pedestrian Plan Advisory Committee Meeting
Calhoun Depot March 9, 2004
1:30 – 3:30 p.m.

Minutes

Attendance:

Tim Jones	City of Cartersville
Peggy Moore	Coosa Valley Cycling Assn.
Joey Davidson	Rome-Floyd MPO
Butch Sanders	City of Dalton
William Dean Clemmer	Coosa Valley RDC
Dick Barnes	Murray County
Buddy Harrison	Polk School District
Joe W. Davis	Murray County Schools
Norman Pope	Pickens County
Leamon Scott	Georgia DCA
Karen V. Rhodes	Chatt.Hamilton W. GA Trans. Plng. Org.
Houston Suggs	Bartow County Parks & Recreation
Joe Anderson	PIC GRITS
Jerry Sanford	City of Chatsworth
Doug Cabe	Limestone Valley RC&D
Billy Nicholson	CVCA
Matt Claypool	Fannin County
Mark Henson	Fannin County
Gail Woodall	Pickens County Board of Education
Alan Little	Bike Pedestrian
Brad Jones	JJG
Brett Buchanan	Paulding County Dept. of Transportation
Diane Smith	NWGA Public Health
William Moll	Georgia Bikes NW GA Board Member
Jennifer Morrer	North Georgia Health District
Al Hoyle	City of Ellijay
Eddie Peterson	City of Calhoun
Shane Adams	Dalton High School, Dalton Area Bicycle Club
George Pullen	Rome
Kathie Disney	Summerville
Larry Vanden Bosch	North Georgia Regional Development Center
Karl Kreis	North Georgia Regional Development Center
David Kenemer	Coosa Valley Regional Development Center
Ken Weatherman	Professor of Physical Education Floyd
W.P. (Bill) Marshall	Economic Developer GEDA

I. Introductions — Larry Vanden Bosch

The meeting was called to order by Larry Vanden Bosch, he welcomed those present. Mr. Vanden Bosch then asked everyone to introduce themselves and identify the organization they represent.

II. Explanation of Study Purpose — Larry Vanden Bosch

Mr. Vanden Bosch outlined the purpose of the study. He stated that both North Georgia RDC and Coosa Valley RDC were under contract with GDOT to produce a SDR 1 Regional Transportation Plan over the next eighteen months. Then he explained how the SDR 1 Regional Transportation Plan would be combined with all other region throughout the state to develop a new statewide Transportation Plan. Finally he thanked the Advisory Committee for their commitment to assist the study process.

III. Outline of Schedule — Larry Vanden Bosch

Mr. Vanden Bosch next presented the schedule of the Bike and Pedestrian Plan over the next eighteen months.

IV. Presentations of Current Inventory — Karl Kreis

Karl Kreis reported on North Georgia's existing Bicycle and Pedestrian Plans while the PAC reviewed the spreadsheet of existing bike and pedestrian plans for the region. He started by identifying the GDOT State Bicycle Routes by showing on the map where they traveled through the region. He also reported that Dalton/Whitfield County has developed two plans, one of which they are currently trying to implement. Fannin County has proposed two extensions to the GDOT State Bicycle Routes to include Fannin County and its Cities.

Lastly, he reported on several TE applications that were either funded or proposed. The only one currently funded is a bike trail in Murray County. Six others are currently pending and will find out whether they are funded in May.

David Kenemer

Next David Kenemer presented Coosa Valley's Inventory of Bicycle and Pedestrian Plans, which included: Statewide Bicycle Plan, Trails Plan for the Coosa Valley Area, Chattanooga Urban Area Bicycle Facilities Master Plan, and Cedartown Master Plan Community Enhancement and Transportation Study.

An Inventory of Bicycle and Pedestrian Maps were also presented, which included: Georgia Bicycle Map, Trails Plan for the Coosa Valley Area, Chattanooga Urban Area Bicycle Facilities, Cedartown Master Plan Map, Rome Trail System, City of Ringgold Pedestrian Facilities Master Plan.

V. Discussion of: Strengths, Weaknesses, Opportunities, and Concerns

Larry Vanden Bosch
Karl Kreis
David Kenemer
Dean Clemmer

The group was then divided into four subgroups each lead by a member of one of the RDC's. The subgroups discussed and debated their "Likes and Dislikes" about the current bike and pedestrian system.

VI. Formation of Needs List

Larry Vanden Bosch

The group was brought back together and discussed as a whole what was discussed in the subgroups. Through this discussion a "Needs List" was created. After all the topic we added to the "Needs List" the Advisory Committee members were giving four red dots and asked them by placement of the dots to assign preference to any of the specific need or needs on the list.

VII. Conclusion

Larry Vanden Bosch

As time was running short Mr. Vanden Bosch concluded the meeting.

Northwest Georgia Regional Bike and Pedestrian Plan
Planning Advisory Committee Meeting
February 23, 2005 Meeting
1:30 p.m.
NGRDC Offices, Dalton, GA

Attendees: Matt Claypool, Fannin County; Norman Pope, Pickens County Planning; Heather Porter, North Georgia Regional Health District; Bill Allen, North Georgia RDC; Karl Kreis, North Georgia RDC; Larry Vanden Bosch, North Georgia RDC.

Larry Vanden Bosch with North Georgia RDC opening the meeting and briefly updated attendees on the status of the plan. He reported that this meeting will focus on the implementation of the plan. He also bought to attention of the PAC members maps of recommended bicycle routes for each county, proposed sidewalk maps for each city, and a regional bike route map all of which were posted on the walls of the meeting room. Most PAC members reviewed each of the maps before the meeting started. Larry first decided to discuss the goals, objectives, and strategies for the plan, which were distributed before the meeting. He stated that the recommended changes which came out of the last PAC meeting were incorporated into this version of the goals, objectives, and strategies. He then reviewed the goals one at a time before discussing the maps. Comments were made by various PAC members about the maps and written goals, objectives, and strategies. Highlights of these comments are as follows.

Norman Pope reported that the area bicyclist in Pickens County are not in favor of bike lanes in the rural areas. Larry said that bike routes should at least have widened shoulders and Share the Road or some other signage. Bill Allen said that bike lanes are best in more urban areas to give both the bicyclist and motorist adequate room for travel. Norman also wanted to see State Route 136 to State Route 411 become a bicycle route because of its scenic value.

Norman stated that he would like to see developers required to install sidewalks in developments. Larry pointed out that this is currently in the plan. Larry reported that in the maps he added sidewalks within a 1/2 mile radius around each school. He said that even if there is not much development there now that there likely will be in the future. Larry also felt (and read) that people were not willing to walk any further than 1/2 mile to school.

Matt Claypool, Bill Allen, and Norman brought up the issue of safety while walking. Bill and Norman felt we need more crosswalks on the busy streets and Matt thought we needed more pedestrian bridges across highways. Larry said one way to make walking safer and a more appealing option is to look at mixing land uses and reducing the size of parking lots.

Karl Kreis asked about how walking and biking could be promoted. Heather Porter mentioned that their office is promoting walking in loops around local shopping centers and malls. She continued that people are feeling more comfortable walking in this setting. She also mentioned that Family Connection would be a good source to promote walking as exercise in the region. Heather also mentioned that Georgia-on-the-Move is a new program that has application for the region. She also stated that she would like to see a Walk-to-Work day in the region. Matt said programs like Walk-A-Thon are good at promoting walking.

Larry said the plan will encourage sidewalk improvements and repairs within the region. Bill Allen reported that multi-use trails are a good way to link biking and walking facilities.

Northwest Georgia Regional Bike and Pedestrian Plan
Second Public Hearing
March 24, 2005 at 6 p.m.
North Georgia RDC, Dalton, GA

Attendees: Hallie Schodowsky, Chatsworth Times; Joel Clyde Brothers, Murray County Resident; Sue Brothers, Murray County Resident; Joe Davis, City of Eton Schools; Karl Kreis, North Georgia RDC; Larry Vanden Bosch, North Georgia RDC; Heather Porter, North Georgia Regional Health District.

Larry Vanden Bosch with North Georgia RDC opening the hearing. He gave background to the RDC's involvement in the bike and pedestrian planning process. He explained that this was the second public hearing and that the first one was on the goals and objectives of the plan and this one was implementation strategies.

He started a powerpoint presentation on the bike and pedestrian plan. The presentation included background for the plan and some of the actions North Georgia would have to take to become a bicycle and pedestrian friendly region. This section included developing safe facilities, convenient access between residential areas and activity centers, education, infrastructure that encourages biking and walking, enforcement of traffic rules, and funding for effective implementation. Mr. Vanden Bosch also discussed the bicycle and pedestrian planning process and the results of the Planning Advisory Committee (PAC) meetings. He went over the goals, objectives, and implementation strategies with the attendees. He showed the existing conditions and bike facilities in the region. He finished by displaying and reviewing the bike routes and sidewalk recommendations both on a regional scale and county (bike) and city (sidewalk) level.

Most of the attendees were interested in Murray County. Joel Brothers of the City of Chatsworth in Murray County said he was interested in bicycling as a transportation mode for personal and business reasons. He said bicycling is his main form of transportation. He reported he was happy about this initiative and agreed with most of the routes and recommendation. He did say that some of the roads listed as Murray County bike routes are currently dangerous to travel without adding facilities but said he uses many of these routes become they are the best ways for him to get around. He continued by relating stories of motorist forcing him off the road and feels education and planning is important to combating these situations. He was also happy with the amount of roads being designated as bike routes in Murray and Whitfield counties. He was pleased that a multi-use path being proposed on the by-pass (US 76 and 41) in Whitfield County. He said he finds it very difficult to bicycle this by-pass.

Sue Brothers of the City of Chatsworth in Murray County said there needs to be a sidewalk from the City of Chatsworth to the City of Eton on State Route 411. She said she sees people walking that route everyday on her way to work and she feels it is very dangerous for these individuals without these sidewalks. Larry said that he would investigate adding that segment to the plan.

NGRDC JOINT REGIONAL BIKE AND PEDESTRIAN PLAN
ADVISORY COMMITTEE

The Joint Regional Bike and Pedestrian Plan Advisory Committee members are elected officials, other city and county officials, citizens, bicycle dealers, bike and pedestrian advocates, school officials, and public health officials. This committee will formulate goals, objectives, and strategies for expanding and enhancing biking and pedestrian activities in the region. The North Georgia RDC Bike and Pedestrian Planning Advisory Committee members will work in conjunction with the Bike and Pedestrian Planning Advisory Committee members from Coosa Valley RDC to formulate a 15 county Regional Bike and Pedestrian Plan for the Georgia Department of Transportation.

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Staff Liaison: Larry Vanden Bosch, Director, Community and Economic Development Services

Northwest Georgia Regional Bike and Pedestrian Plan
Planning Advisory Committee Meeting
April 21, 2004 Meeting
1:30 p.m.
Calhoun Depot, Calhoun, GA

Attendees: Dick Barnes, Murray County; Philip Pugliese, Chattanooga Bicycle Task Force; Peggy Moore, Coosa Valley Cycling Association; David Howerin, Coosa Valley RDC; Karen Wetherington, NWGA PH; Leslie Nelson, USDA-NRCS Rolling Hills RC&D; Joe Davis, Murray County Schools; Billy Nicholson, CVCA; Bill Moll, Bike Georgia; Karl Kreis, North Ga RDC; Gail Woodall, Pickens County BOE; Matt Claypool, Fannin County; Tim Jones, City of Cartersville; Kathleen Disney, Chattooga County; George Pullen, City of Rome; Ken Weatherman, Floyd College; Larry Vanden Bosch, North Ga RDC; David Kenemer, Coosa Valley RDC.

Larry Vanden Bosch with North Georgia RDC opening the meeting. Minutes from the meeting on March 9, 2004 were reviewed and no changes were suggested. He than moved discussion to the Likes/Dislikes List and the Needs List (see attached). There were no suggested changes to either list.

Discussion turned to the draft Goals and Objectives, which were distributed before the meeting to the PAC members for review. Larry explained that staff took the needs list which was developed through the last PAC meeting and converted the needs into goals, objectives, and strategies depending on where the need fit best. He continued, that on the draft goals and objective list, the last column showed the numbered need that either the goal, objective, or strategy was based on (see draft Goals and Objectives). On the list were three goals that were reviewed with the PAC.

Goal 1: Provide a regional system of bicycling and pedestrian facilities that is safe, convenient and accessible for all users.

Larry asked if a goal of this plan should be to link urban centers throughout the region. Many agreed but some added this should be done more through use of secondary roads than State highways which is currently being done by the designations of state bike routes. Many agreed that maybe we should try to connect urban centers to the current state bike routes as stated in objective 1.1. A comment was made to also have strategies 1.1(b) under objective 1.2, as well as, objective 1.1. This strategy deals with the use of abandon rail tracks. Objective 1.2 is linking residential areas to different services (like commercial center). A comment was made to use utility easements for trails, other disagreed. Many agreed that urban center should be required to have sidewalks and especially new subdivisions.

As far as safe routes to school - strategy 1.2b: all agreed that special provisions need to be made to get children to school in mountainous regions. They thought that schools and residential areas need to be linked by greenways or something away from the roads. Here many thought it is necessary to have an urban/rural distinction when deciding alternatives to get children safely to school. Many agreed that communities should be required to provide safe routes to school. Larry stated this could be done through proper planning. He also reported that federal funds should become available for safe routes to school (Safe TE 21).

Objective 1.3 (safety): A member said that training could be provided by the League of American Bicyclists. Others thought that police officers needed training on biking rules.

Goal 2: **Promote and encourage bicycling and pedestrian travel as viable forms of transportation, as healthy forms of exercise, and as a positive benefit to the environment.**

An idea was introduced by a PAC member to develop organizations for walking like walking clubs. Some reported that there are no current walking clubs but many people walk in malls but are not organized. Under strategy 2.1(c) the question arose who should promote local and regional events. Someone said that health district often promote events.

Goal 3: Promote coordinated and continuous bicycle and pedestrian planning and development at the regional and local levels.

Larry reported that there is a lack of bike and pedestrian planning at the local level. Some thought there needed to be pressure from local advocacy groups to get local officials to do bike and pedestrian planning. One member wanted another strategy added to objective 3.1 to include bike and pedestrian planning into all comprehensive planning. All seemed to agreed, if it is not part of comprehensive planning than it is not likely going to happen. Larry responded by stating that DCA has already added a section on bike and pedestrian planning to the transportation element of the minimum planning standards. One member reported that there needs to be more GDOT staff in the region promoting bike and pedestrian planning. Others thought GDOT could get the RDC's to fill these roles. Under objective 3.2 a member said that all transportation projects are suppose to include bike and pedestrian elements so that does not needed to be stated. Under strategy 3.2(a) a member said it should be expand to include bus service and possible other areas into bike and pedestrian planning. Under the funding objective 3.3, someone mentioned the idea of user fees. Some agreed this could be done but also events to raise money should also be done. Many reported that there needs to be incentives for local governments for bike and pedestrian planning. They thought this could be money or this could be awards from state agencies for quality planning and projects.

Larry informed the PAC that a public meeting needs to do done soon to get input on the goals and objectives. It was decided it should be conducted in mid to late May. Many thought it should to be promoted well in newspaper, radio, and flyers in bike shops.

Northwest Georgia Regional Bike and Pedestrian Plan
First Public Hearing
June 1, 2004 at 6 p.m.
North Georgia RDC, Dalton, GA

Attendees: Janet Cochran, Dalton CVB; Karl Kreis, North Ga RDC; Larry Vanden Bosch, North Ga RDC; Gennie Dasinger; John Paul Bledsoe, Whitfield County; Ruth Gordon, Dalton Area Bike Club (DABC); Mike Furgerson, DABC; Jeannette Alexander, DABC; Scott Carroll, DABC; Alan Little, DABC; Shane Adams, DABC; James S. Tankowitz, DABC; Kellie McBee, DABC; Don Wright, DABC; Rodney Kendrick; Ross Fox, Dalton Bicycles; Bradley Arnold, Whitfield County; Margaret Zeisig.

Larry Vanden Bosch with North Georgia RDC opening the hearing. He gave background to the RDC's involvement in the bike and pedestrian planning process. He then began discussing the results of the Planning Advisory Committee (PAC) meetings. He referred everyone to the draft Goals and Objectives, which were distributed before the meeting for the attendees to review. Larry explained that a needs list which was developed through the PAC meetings and were converted into goals, objectives, and strategies depending on where the need fit best. On the list were three goals that were reviewed with the PAC.

Larry explained that the first goal states, "(to) Provide a regional system of bicycling and pedestrian facilities that is safe, convenient and accessible for all users." Objectives to accomplish this goal are to develop a system of bicycle routes that will connect the region's major urban centers to the State bicycle routes; develop a system of bicycle and pedestrian facilities within local jurisdictions that will link residential areas with commercial areas, employment areas, educational centers, and cultural and recreational resources; and support the enforcement and training of regulations that ensure safety, operation and proper use of the bicycle and pedestrian system. The second goal states, "(to) Promote and encourage bicycling and pedestrian travel as viable forms of transportation, as healthy forms of exercise, and as a positive benefit to the environment." Thus far the objective to accomplish this goal are to establish a regional educational and marketing program that promotes the public health, economic development and environmental benefits of bicycling and walking. The third goal is "(to) Promote coordinated and continuous bicycle and pedestrian planning and development at the regional and local levels." The objectives for this goal are to encourage and provide assistance to local governments to prepare local plans that assess local bicycle and pedestrian needs, and establish new bike and pedestrian facilities where needed or desired; establish policies that require the incorporation of bicycle and pedestrian design elements in all transportation projects that are identified as part of a local or regional bicycle or pedestrian route; and provide adequate funding for project development and maintaining high quality regional and local bicycle and pedestrian systems.

There was very little feedback from attendees on the goals themselves. The attendees for the most part liked and agreed with the goals and objectives. Many expressed that urban centers should be linked with bike and pedestrian routes and that more secondary roads should be used for bike routes. Brad Arnold mentioned that requiring developers to put sidewalks in subdivision had been tried and regretted.

Most attendees were more interested in the implementation of the goals and objectives. Larry reported on some of the recommended strategies to implement the goals and objectives, which were listed on the handouts. He reported implementation strategies will be developed further at the next PAC meeting and at the next set of public hearings. However, that did not deter the biking community from starting some discussion on implementation strategies. Many reported (especially DABC members) wanting "Share the Road – It's the Law" signs placed along routes of high bike traffic and increasing the education to the public about vehicular - biking safety. Shane Adam felt without such signs that somebody will get killed on Waring Road in Whitfield County. This route is heavily used by the club members. Many thought that bike lanes were not as important as properly maintained roads. There were a few Whitfield County staff in attendance who appreciated the input. The bike club was given Whitfield County road maps to record areas of high biking traffic to possibly include in the final plan.

An area resident Margaret Zeisig expressed concerns about the lack of pedestrian crosswalks across Walnut Street in Dalton, especially where it crosses Thornton Avenue.

APPENDIX C

No. 247

A RESOLUTION

A Resolution Adopting The North Georgia Regional Bicycle And Pedestrian Facilities Plan.

WHEREAS, the North Georgia Regional Development Center has prepared a Regional Bike and Pedestrian Facilities Plan pursuant to the requirements of its FY 2005 contract with the Georgia Department of Transportation for planning services; and

WHEREAS, the Regional Bike and Pedestrian Facilities Plan has been prepared with the substantial involvement of a Planning Advisory Committee, local governments and the public, and all required public meetings have been conducted; and

WHEREAS, the Regional Bike and Pedestrian Facilities Plan has been submitted to the Georgia Department of Transportation for review and has been approved by the Georgia Department of Transportation as meeting all requirements;

NOW, THEREFORE BE IT RESOLVED, that the North Georgia Regional Development Center Board of Directors does hereby officially adopt the Regional Bike and Pedestrian Facilities Plan as an appropriate means to improve bike and pedestrian facilities throughout North Georgia.

Resolved this 23rd day of June, 2005.

Jerry L. Christie
Chairman, NGRDC Board of Directors

Secretary, NGRDC Board of Directors

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