EXECUTIVE SUMMARY

This Bicycle and Pedestrian Plan for the Georgia Mountains region is a first step toward integrating bicycles and pedestrians into the infrastructure and land development process in the region. More work will be needed at the local community level to plan and develop local projects.

The projects proposed in this plan represent a place to begin planning efforts and feasibility studies for future implementation. Each local government will need to determine their own priorities in planning and budgeting for local projects. With locally adopted plans in place, new development and road improvements can be required to include bicycle and pedestrian facilities or easements through the development review/approval process. Regionally significant projects will require inter-governmental cooperation and support in order to be realized. Several funding sources have been identified for project design and implementation. Staff support for planning and grant writing is available from the Regional Development Center.

The Georgia Mountains Bicycle and Pedestrian Plan began with a series of public involvement meetings in July of 2003 to identify the region's needs for improved bicycle and pedestrian facilities. A concurrent planning process identified the area's current conditions (geographic, economic, land use and population) as a basis for future planning efforts. Key findings include:

1) Georgia Mountain Region's beautiful rural environment, with a proliferation of State and Federal parks with trails, make it an ideal environment to hike and bicycle, particularly by mountain bike.

2) Tourism of the region has been and will continue to be a significant contributor to local economies, bringing in over $534 million to the region in 2003. Multi-use trail projects in other areas have generated millions of dollars in tourism revenue annually.

3) Land use in the region is still largely agricultural and state/federal forest land. However, with the current population of about 500,000 expected to double by 2025, and then double again to nearly 2 million by 2050, the influx of people and cars will have a significant impact on air quality and the quality of life in North Georgia, underlining the urgency to establish growth policies and development standards to protect the quality of life for all residents.

Particular needs identified for improved planning efforts include:

- A need for new street design standards to include wide shoulders and sidewalks to accommodate bicycles and pedestrians.
- A need for development standards and review criteria to require sidewalks on both internal and external streets to encourage safe pedestrian travel in developing areas.
- A need to look at ways to encourage internal connections between subdivisions to allow cyclists and pedestrians to reach their destinations without being forced onto heavily traveled arterial streets, particularly for children to walk or bike to school.
- A need to find creative ways to fund the needed infrastructure improvements including impact fees and public/private partnerships.

- A need to cluster new developments closer together to create pedestrian-friendly and transit-friendly communities with destinations in walking distance.

Needs for physical improvements are detailed in the appendix of this document, listed by county. A short-term priority was identified to connect existing multi-use trails to commercial centers and to link heavily traveled tourist destinations together with multi-use facilities to enhance the economic development potential of existing trails and sidewalks. Opportunities were identified for Rails-To-Trails conversion projects and development of a system of off-road multi-use paths along existing lakes, creeks and stream corridors to serve as a non-motorized transportation network.

Longer-term improvements to the physical environment includes a need to integrate bicycles and pedestrians into the planning, design and review processes to ensure that every new development serves the needs of all travel modes. There is a particular need to create non-motorized linkages between homes and schools in order to address a serious obesity problem identified in Georgia's school children. Additional programs should promote walking and cycling and educating children about safety.

An annual "report card", including a checklist of accomplishments and progress indicators, was identified as a means to track Georgia Mountain communities' progress toward a healthier multi-modal future. Each local government is being asked to provide a contact person to coordinate bicycle and pedestrian efforts in the future. An ongoing contract with the Georgia DOT will hopefully provide additional financial support for regional coordination, planning and implementation of projects.

The top three areas in the region identified for bicycle/pedestrian improvements are: 1) multi-use trails, bike lanes and sidewalks the area around Helen and 2) the Tallulah Rails-to-Trails project from the Cornelia Depot to the North Carolina border, for their potential to increase tourism, serve multiple travel destinations and improve safety. The Gainesville area, with the highest population density and the highest number of bicycle and pedestrian crashes, is most in need of an extensive network of sidewalks and bike lanes to serve basic travel and safety needs in that community.

The list of proposed projects identified in the appendix of this document serve as a planning tool for local governments. With projects appearing in an approved plan, local governments can then request their inclusion in road improvements projects, and in new or modified private development. They can also apply for grant funding to develop and build the projects.

To request a presentation of the project in your community or assistance with grant writing please contact Bicycle and Pedestrian Program Manager at 770-538-2626.

Acknowledgements

The Georgia Mountains Regional Bicycle and Pedestrian Plan was created as a partnership between the Georgia Department of Transportation, Georgia Mountains RDC, and a Key Stakeholders group of concerned citizens, community and local government representatives. We want to acknowledge the 80% funding contribution from GDOT and FHWA, without which this study would not have been possible. Our thanks go out to the many individuals who dedicated their time and energy in researching and developing the proposed projects for this plan and the vision, goals and objectives for the region.

The purpose of the Georgia Mountains Regional Development Center (GMRDC) is to locally promote and guide proper development of human, natural, physical, social, and economic resources in the Georgia Mountains region so as to improve the quality of life for area residents.

The GMRDC offers a variety of programs and services to its 51 member local governments in the Georgia Mountains area. Its programs are designed to assist member governments in formulating goals and strategies for area growth and development and cover the areas of land use planning, transportation, air quality, water issues, economic development, hazard mitigation/homeland security, historic preservation, solid waste, and others. Georgia Mountains RDC staff is available to assist local governments to identify and plan bicycle and pedestrian projects and to write grants to fund them.

A copy of the plan document and the maps can be found on Georgia Mountains website at **www.gmrdc.org** or by contacting the RDC's Planning Department at:

Georgia Mountains RDC
P.O. Box 1720
1310 West Ridge Road
Gainesville, Georgia 30503
(770) 538-2626

Published August 25, 2005

This page intentionally left blank.

TABLE OF CONTENTS

CHAPTER 1
SUMMARY OF CURRENT CONDITIONS

Introduction

In July of 2003, the Georgia Department of Transportation (GDOT) expanded its contractual agreement with the sixteen Regional Development Centers (RDCs) that provide planning services for the various regions of the state, to allow for the creation of Regional Bicycle and Pedestrian Plans. The goal of the GDOT initiative is to assist local governments in developing goals and strategies to expand and improve bicycle and pedestrian facilities and promote biking and walking as a means of transportation.

Bicycle and pedestrian projects are proposed in Appendix I of this document. Maps of the proposed projects can be found in Appendix II by county. The purpose of this study is to identify corridors in the Georgia Mountains Region that are most in need of improvement for bicycle and pedestrian travel. Specific facility improvements and program recommendations can be found in the appendices of this document.

This plan for the Georgia Mountains RDC began under contract to GDOT in early 2004. Activities under the contract include ongoing planning work for bicycles and pedestrians including conducting an annual inventory and assessment of existing bicycle and pedestrian facilities and to launch public awareness campaigns for the State's Safe Routes to School Program. The plan includes a base map of existing bicycle facilities and sets the foundation for the creation of a bicycle map for each county. The plan addresses the needs of pedestrians through a discussion of current land use and transportation planning practices that integrate pedestrians into project designs, including them in all planning processes.

The creation of a "State Bicycle and Pedestrian Coordinator" was mandated for every state DOT in the 1991 ISTEA legislation. GDOT hired their first Bicycle and Pedestrian Coordinator in 1991 and adopted the State's first bicycle and pedestrian master plan for the State of Georgia in 1997, updating it in 1998. This master plan proposed a network of 14 projects along State highways, totaling some 2,943 miles. Three of the projects- the Appalachian Gateway, Savannah River Run, and Mountain Crossing- pass through the Georgia Mountains Region. As sections of these projects are improved through GDOT's normal road improvement process, they will be upgraded (where possible) with wide curb lanes, bike lanes, paved shoulders, and/or sidewalks. The Statewide improvements within the Georgia Mountains Region are included in the Statewide Transportation Improvement Plan (STIP).

The adoption of this regional plan will add more projects to create a connecting network of bicycle and pedestrian facilities. With an adopted plan, new roads, highways and developments can be improved to include bike safe shoulders, bike lanes, multi-use paths and sidewalks as development occurs. Design standards for bicycle facilities are established in the American Association of State Highway and Transportation Officials Guide (AASHTO) for the development of bicycle facilities (adopted in 1999). GMRDC also supports and encourages local governments to know and incorporate design standards incorporated in the Americans with Disabilities Act to ensure that people with all levels of abilities can use the facilities wherever they can be reasonably accommodated.

Safety is an ongoing concern in the planning and design of facilities for bicycles and pedestrians. By state law, cyclists have the same rights and responsibilities to use the roadways as car drivers have. Pedestrians also have the right to walk in the roadways where no sidewalks exist. However, in northern Georgia, most travel lanes are narrow and do not have adequate shoulders for safe bicycle or pedestrian travel. Separation between modes that travel at different speeds is crucial to the safety of roadway networks for all users. Safety education for cyclists, pedestrians and drivers should be part of the ongoing effort to increase awareness for all users of public rights-of-way. Building a safe network for bicycles and pedestrians to travel outside of vehicular travel lanes is the best contribution local and state governments can make to enhance safety.

Georgia Mountains Regional Profile

Located in the extreme northeastern corner of the state, the Georgia Mountains region is unique in its natural beauty, culture, and history. Encompassing 3,500 square miles, and a population approaching half a million, the area includes the following 13 counties: Banks, Dawson, Forsyth, Franklin, Habersham, Hall, Hart, Lumpkin, Rabun, Stephens, Towns, Union, and White, including all 38 municipalities within these respective counties. The region is bordered by North Carolina to the north and South Carolina to the east, with a number of Georgia counties bordering the region to the south and west.

The region is steeped in history tracing back to Native American Indians. Two provinces comprise the region: the southeastern part of the region is in the Piedmont Province, with the Blue Ridge Province to the northeast. Topographically, over half of the area is mountainous, with the remainder being rolling hills and broad fertile valleys. The highest mountain in the region and also the highest point in Georgia is Brasstown Bald (elevation 4,784 feet above sea level) located in Towns County. Rabun Bald in Rabun County exceeds 4,600 feet elevation, and several other prominent peaks rise above 4,000 feet.

Georgia Mountain's economy is based largely on agribusiness, including forestry, ornamental nursery products, poultry and eggs. Tourism and hospitality, generated by the recreational draw of the mountains and lakes, is Georgia Mountain's region second largest industry. Another significant component of the local economy – construction – is generated by the influx of people building primary and secondary residences in the area.

Georgia Mountains Population Growth

The attractiveness of north Georgia's physical beauty, mild climate and affordable cost of living has attracted visitors and new residents at an incredible rate of growth, exceeding that of the State as a whole. Figure 1 below shows that the current population of the north Georgia 13-county region is approaching half a million people. However, with an annual growth rate of 3.05%, by 2025 the region's population is forecast to a double to nearly 1.1 million. The 2025 population is forecast to nearly double again by 2050.

These incredible growth rates emphasize the importance and urgency for local governments to anticipate the impacts of growth by establishing standards for future development that protect the quality of life for their citizens. Development standards that include requirements for internal sidewalks and road design standards that require sidewalks and safe shoulders for cyclists will be increasingly important as traffic volumes increase with the growth in population.

Existing Land Use

The Existing Land Use Map in Appendix II provides an overview of the current land uses planned throughout the region. Although eleven general categories of use are present, it may be observed that the majority of land with the region is rural, agricultural/ forestry/ conservation use, represented in varying greens. There are some areas of residential housing, shown in yellow distributed throughout the region. Commercial uses, shown in brown, and Industrial, shown in purple, are almost all located in more populated, urbanized areas that form nodes along major highway route intersections through the region. This is also true for higher density housing and mixed-use developments.

With the exception of the I-985 corridor in Hall County, the northeast Georgia region is still mostly rural with urbanizing areas; consisting of primarily low density housing, farmlands (agricultural), national forests, conservation parks/recreation, and undeveloped areas. However, higher density housing, commercial, industrial, and mixed-use developments are also present in smaller clusters.

Figure 1: Georgia Mountains Region Population Projections Through 2050

County	2000	2010	2020	2030	2040	2050
Banks	14,422	19,489	27,023	36,829	46,198	54,884
Dawson	15,999	26,137	42,575	69,350	102,655	126,002
Franklin	20,285	23,419	28,982	37,100	47,765	55,007
Forsyth	98,407	211,962	301,461	382,801	442,775	491,985
Habersham	35,902	47,800	63,820	91,318	115,496	134,022
Hall	139,277	164,864	198,981	321,200	430,559	526,683
Hart	22,997	26,112	29,991	35,544	40,263	45,326
Lumpkin	21,016	34,925	52,410	84,202	113,721	134,609
Rabun	15,050	20,955	31,432	47,148	63,979	78,209
Stephens	25,435	31,164	33,414	35,670	37,926	40,182
Towns	9,319	11,122	18,151	23,665	28,555	35,109
Union	17,289	27,785	44,130	56,200	64,150	70,950
White	19,944	31,865	51,910	80,180	109,606	130,909
Region	***455,342***	***677,599***	***924,280***	***1,301,207***	***1,643,648***	***1,845,668***

Future Land Use

The Projected Land Use Map for 2025 in Appendix II illustrates how north Georgia might look if the projected population increases occur in the next 20 years. We will see an increase in density across the region, with urban centers growing in size, density and complexity of use. Agricultural land is being subdivided and converted to residential use at an increasing rate in north Georgia. Without protection and preservation of agricultural uses, we could see agricultural uses disappear by 2050. Other studies of growth patterns across the nation have demonstrated the benefits of zoning for mixed uses and higher density "nodes" of development in reducing congestion and increasing pedestrian trips.

Recreational Tourism Industry

Tourism generated over $14.5 billion dollars in Georgia in 2003, and growing at a faster rate than the national average. Tourism expenditures in Georgia grew to $26 billion in 2004, according to the annual economic impact report of the Travel Industry of America (TIA). The natural scenic beauty of the Georgia Mountains area is one of its most important resources, attracting over $534 million in tourism dollars to the region in 2003.

Growth in population and tourism in the region has created a great deal of public support and demand for expanded recreational facilities and services. As population densities grow, transforming rural towns into suburbs, the demand will also increase for sidewalk linkages to schools, parks, commercial areas and cultural centers.

Nine of the thirteen counties have National Forest lands with hiking and mountain bike trails located within them. Approximately 492,000 acres of the Chattahoochee National Forest lie in the northern section of the region. The region has many state parks, for visitors who like to hike, camp, canoe, or enjoy wildlife. These parks include: Amicalola Falls, Brasstown Valley Resort, Black Rock Mountain, Vogel State Park, Unicoi State Park and Lodge, Tallulah Gorge, Moccasin Creek Park, Victoria Bryant Park, Hart State Park and Lodge, and Smithgall Woods Conservation Area. The Appalachian Trail and the Bartram Trail wind through the Blue Ridge Mountains in the northern counties. Travelers' Rest in Toccoa and the Gold Museum in Dahlonega are two of the unique areas of the region where visitors can catch a glimpse of life of the early settlers of Georgia and their relationship with the mountains.

The region is blessed with many lakes and rivers, including the largest body of water wholly within the state, Lake Lanier, located on the county lines of Hall, Forsyth, Dawson and Lumpkin. Lake Hartwell, located on the western boundary of Georgia with South Carolina, is the largest lake east of the Mississippi River. Major streams in the area include the Chattahoochee, the Savannah, the Chattooga, the Chestatee, and the Etowah. Many states have adopted plans for multi-use trails that parallel creeks, streams and rivers to form a statewide network. The potential of Georgia's hundreds of miles of waterways to form trail networks is still largely untapped. With locally adopted plans, developers could be required to donate an easement for future trail construction along waterways to connect new developments to the trail network. Funding is available from a number of sources to preserve these corridors and build recreational trails (See the section on Funding Opportunities at the end of Chapter 3).

Existing Recreational Trails

The Georgia Mountains Region has over 245 miles of well-used multi-use trails in local and State Parks and in U.S. Forest Service parks. The number and location of strictly hiking trails (mostly single-wide unpaved paths) are too numerous to mention and difficult to map. However, a significant number of trails and multi-use paths are designated for mountain bikes. These may sometimes be shared with ATV's and equestrian uses. A map of existing multi-use trails is included in Appendix II of this document and individual trails are listed below. There are additional trails in City and County-owned parks suitable for cycling, which are not detailed here.

Figure 2: Trails In State Parks & Privately Owned

Outside of Amicalola Falls Park, Dawsonville (16 miles)
Bull Mountain Multi-User Trail, Dahlonega (15 miles)
Chicopee Woods Trails, Elachee nature Center, Gainesville (10 miles)
College Trail – Gainesville College, Oakwood (4 miles)
Davenport Trail – Brasstown Ranger District, Blairsville (5 miles)
Dug Gap – Dug Gap Mountain Road, Dalton, GA (20+ miles)
Houston Valley ORV Area – Cohutta Ranger District, Chatsworth, GA (25 miles)
Iron Mountain Multi-User Trail – Cottonwood Patch camp, Cohutta Mountains (4 miles)
Smithgall Woods Conservation Area, Helen (22 miles)
Sumac Creek Multi-User Trail – Cisco, GA (12.5 miles)
Tallulah Gorge State Park, Tallulah, GA (11 miles)
Unicoi State Park, near Helen, GA (6 miles)

Figure 3: Trails in US Forest Service Parks

Black Branch Trail & Connector (4.12 miles)	Leatherwood Creek Trail (3.59 miles)
Blizzard Trail (.43 miles)	Miller Creek Trail & Connector (4.66 miles)
Bull Mountain Spur (.56 miles)	Moss Creek Trail (1.79 miles)
Copperhead Trail (.32 miles)	Nimblewill Branch – C Spur (.52 miles)
Davenport Mountain ATV Trail (5.86 miles)	No-Tell Trail (2.12 miles)
Double Bridges Trail (.88 miles)	Parking Lot Trail (.67 miles)
Nimblewill Trail (3 miles)	Pear Orchard (1.48 miles)
Clay Creek Trail (1.3 miles)	Peggy Creek Connector (.62 miles)
West Cane Creek Trail (.89 miles)	Rattlesnake Trail (.21 miles)
West Jones Creek Trail (2.66 miles)	Ridge Top Trail (.49 miles)
Bull Mountain Trail (5.42 miles)	Saddle Back Trail (3.69 miles)
Jones Creek Dam Trail (3.15 miles)	Sally Free Trail (1.51 miles)
Frady Branch Loop & Spur (4.35)	Stonewall Falls Mountain Bike Trail (7.63 miles)
Hightower Connector & Loop (2.4 miles)	Whissenhunt Loop (1.45 miles)
Jake Mountain Trial (3.27 miles)	White Twister Trail (4.06 miles)
Latham Cemetary Trail (2.23 miles)	Whoop-De-Dos Trail (1.1 miles)
	Willis Knob Trails (17.74 miles)

Trail descriptions, maps and directions can be found on the following websites:

www.n-georgia.com/bike_trails.htm
www.nwgasorba.org
www.georgiastateparks.org

The Current Transportation Network

The bicycle is not currently a popular mode of transportation in north Georgia. Due to the lack of bicycle and pedestrian facilities, many rural North Georgians feel walking or riding a bike is not an option. Although cyclists have the same rights and responsibilities to use the roads as car drivers in Georgia, few bicycle routes or safe shoulders currently exist. Some roads display "Share the Road" signs, but most of these roads do not have safe shoulders where cyclists can get out of the way of traffic that is moving at much higher speeds. Currently, bicycle facilities

are not linked together nor do they connect between origins and destinations. Bike racks are rarely found in north Georgia. Sidewalks do exist in portions of the downtown commercial centers of some cities, but are typically not required on street frontages and are rarely found on internal residential streets.

However, several opportunities do exist for local governments to improve existing corridors and developed areas for multi-modal use. In emerging growth centers, pedestrian facilities would encourage people to take advantage of destinations in close proximity These include improving the existing road network with added bike lanes and sidewalks, and constructing multi-use paths along rail corridors, creeks and streams. Many opportunities exist to add internal paths between schools, parks and residential areas that would encourage children to walk to school.

The Road Network

The Georgia Mountains Region's road network is very rural and basic in nature. The region's primary automobile transportation facilities consist of a sparse road network of rural interstates, state routes, county roads, and city streets. The majority of these roadways are small two-lane routes that travel north, south, east, and west across the region. The Regions major routes include I-85, I-985, US 441, US 129, US 76, SR 400, SR 365, SR 60, SR 53, and SR 17. Roads in Georgia are designed and built for cars only, and no shoulders exist that would accommodate bicycles and/or pedestrians. However, the Georgia Department of Transportation has agreed to add widths for bicycle and pedestrian facilities that are part of an adopted bicycle and pedestrian plan where adequate rights-of-way exist for those facilities when roads are improved or widened.

The State of Georgia, through the Department of Transportation, designated three highways as potential regional bicycle projects through portions of the Georgia Mountains Region. These designated projects do not necessarily have bike lanes or paved shoulders on them and improvements are planned for the future. The following is a list of these bicycle projects:

Appalachian Gateway Corridor: SR55 from Old Peachtree Road to GA17/75 (62.8 miles)
Mountain Crossing Corridor: SR90 from GA136 to US23/CR152 (210.3 miles)
Savannah River Run Corridor: SR85 from US23/441 to Bull Street (314.9 miles)

The Rail Network

In addition to the road network, the Georgia Mountains region has four active rail lines (including Amtrak passenger rail lines in Gainesville and Toccoa). Two railroad corridors in the Georgia Mountains region were abandoned prior to 1970. One was the 57-mileTallulah Falls Railroad beginning at the Cornelia Depot, north to Franklin, N.C. abandoned in 1960. The other was a street car line proposed in 1974 that would run from Unicoi State Park to Helen in White County on an old timber mill line that was constructed in 1913 and later abandoned. Railway owners and operators need to be contacted individually to see if they can be acquired or if an easement might be granted for shared trail use. Proposed trail abandonments and trail conversion agreements across the nation are listed on the Federal Surface Transportation Board website at **http://www.stb.dot.gov/.**

On Rails-To-Trails projects, abandoned railroad corridors are purchased or rented (typically by the local government in that jurisdiction) and then converted to a multi-use trail. Sometimes the

agreements are temporary, as in the case of the Silver Comet Trail in northwest Georgia. (Although, due to its popularity and extensive capital investments, it is not likely to revert to freight use). Rails-With-Trails projects accommodate bicycles and pedestrians on one shoulder of the right-of-way (either leased or purchased), allowing rail freight service to continue uninterrupted. Other issues to be addressed in an inter-local agreement include separation and safety of various modes, design of trail crossings at grade intersections, and shared liability.

Georgia's most popular existing example, the Silver Comet Trail is located 13 miles northwest of Atlanta, Georgia and travels west through Cobb, Paulding and Polk counties. This quiet, non-motorized trail is for walkers, hikers, bicyclists, roller bladers, horses, dog walkers, and is wheel chair accessible. The Silver Comet is paved for over 37 miles starting at Mavell Road in Smyrna to Water Street in historic downtown Rockmart. When completed, the Silver Comet Trail will start in Smyrna, Georgia and end at the Georgia / Alabama state line.

At the Georgia / Alabama state line, the Silver Comet will connect to the 33-mile long Chief Ladiga Trail that ends in Anniston, Alabama. When construction on the Silver Comet and Chief Ladiga is finished, the trails will join to form one continuous trail from Smyrna, Georgia to Anniston, Alabama. The Silver Comet and Chief Ladiga Trails were connected in 2002. Both the Silver Comet and Chief Ladiga are converted rail-trails built on abandoned railroad lines. They are heavily used on a daily basis.

Tallulah Falls Railroad

The Tallulah Falls Railroad was 57 miles long and went from Cornelia, in Habersham County, through Rabun County, to Franklin, North Carolina. The railroad was operated from 1898 to 1961 and was a key factor in the growth of Habersham and Rabun counties. Although the tracks have been taken up and the railroad operations have been abandoned, sections of the railroad bed and some trestles still exist. Several of the historic depots remain as important historic resources. In fact, the Cornelia Depot, at the beginning of the line, was recently restored with an ISTEA Enhancements grant, and now serves as a community center and a museum.

A recent study identified the Tallulah Falls Railroad Trail as a top priority for funding and development in the region. The Multi-modal Transportation Study for Habersham, Rabun, Stephens and White Counties, published in July of 2003, identified the trail project as a wonderful opportunity for the region:

"This study recommends reclaiming the railroad bed or at least sections of it for a multi-use trail through North Georgia to the North Carolina line. Many of the visible sections are eligible for the National Register of Historic Places and the trail would provide an educational experience as well as a recreational one. Parts of the old railroad are located near city centers and would provide an opportunity for daily use. A sizeable portion of the railroad is located in the Tallulah Gorge State Park. This creates an opportunity to link the park with the surrounding communities and to carry park visitors into town centers. Part of the rail bed has been developed in the Tallulah Gorge State Park: the Shortline Trail is 3 miles of handicapped accessible paved paths for hikers and cyclists along Tallulah Falls Lake.

Because of the popularity in long-distance multi-use trails, the Tallulah Falls Trail has the potential to greatly benefit the local economy. The inherent scenic quality of North Georgia, as

well as the variety of recreational opportunities that currently exist, makes the trail even more attractive." The Tallulah Falls Rails-to-Trails project and bicycle improvements around Helen and Unicoi State Park have been identified as two of the top priorities for funding and development in the region.

The Restored Cornelia Depot

Railroad Trestle Piers

A Kudzu-Covered Rail Bed

Rail Right of Way near Piedmont College

The Network of Creeks and Streams

A largely untapped and undeveloped resource, North Georgia's extensive network of creeks and streams offer many opportunities to develop a system of off-road trails, either inside or outside of protected stream buffers. With an adopted master plan in place, developers could be required by local governments to donate easements or build trail segments to connect portions of the trail when new developments are built. Georgia's Watershed Protection Ordinance has an established buffer variance procedure to allow the development of trails along stream corridors. (See Rules of Georgia Department of Natural Resources Environmental Protection Division Chapter 391-3-7.05 Buffer Variance Procedures and Criteria.) Care must be taken in designing and building trail projects in sensitive natural areas to avoid negatively impacting the environment. Actual trail alignments and surface treatments would be decided during the development review process.

The scenic beauty of the routes, along with the added safety of minimized conflicts with cars, makes multi-use trails along stream corridors very attractive to residents and tourists alike. Eco-tourism along these natural waterway corridors can help protect these pristine environments for future generations. Currently, 54 acres of trees a day are being cut down in the metro Atlanta area, according to a recent report from the University of Georgia. Action needs to be taken now in Northeast Georgia to preserve natural corridors before they are lost to development pressures. Tools to protect natural areas include land conservation tax credits, transfer of development rights, and restrictive open space and agricultural zoning.

Utility Corridors

Private and public utility corridors represent another opportunity for the development of new trails. Together with the conversion of railroad lines scheduled for abandonment, the use of utility corridors provides a means for the private sector to contribute to bridging the gap between a limited supply of trail opportunities and an escalating demand. Utility corridors, such as those for sewer, water, electric, gas or fiber optics, often already exist and in heavily developed areas may be the only open space where a trail right-of-way can be placed. In areas of high-density land use, development of trails within corridors set aside for water lines or fiber optics adds to the quality of life for the community.[*]

In this first plan for the Georgia Mountains region, utility corridors were not selected as a priority for implementation except perhaps in the Gainesville area where rights-of-way for bicycle paths is at a premium. The utility corridors identified in rural areas that provided no linkage between origins and destinations. Further, these corridors cut across numerous at-grade street crossings with no protection for cyclists and pedestrians.

These corridors may become more important for development in the future as development fills in the rural landscape. They may provide linkages between residential uses and other destinations that cannot be envisioned at this juncture.

[*] Source: The Georgia Trail Corridors and Greenways Plan,
Georgia Department of Natural Resources, June 1993

This page intentionally left blank.

CHAPTER 2
CURRENT PLANNING EFFORTS

Local Planning Efforts

In the Georgia Mountains region, only Forsyth County and the City of Cornelia currently have a bicycle/pedestrian master plan in place. The Gainesville/Hall MPO has its first Bicycle and Pedestrian Master Plan under contract now, which will include the Cities of Gainesville, Flowery Branch, and Oakwood. The Cities of Maysville and Clarkesville are also currently in the process of developing a master plan for bicycles and pedestrians.

Other counties such as Hall, Lumpkin, Rabun, Stephens, Towns, Union, and White either have or will soon complete their required Comprehensive Community Plan Update, which will include a detailed bicycle and pedestrian element. Many communities do have specific bicycle and/or pedestrian related projects they have identified to be constructed, but many of these are not a part of an official plan. Many of the communities in the Georgia Mountains Region understand the need for enhancing bicycling and pedestrian planning efforts within their own communities and are attempting to accommodate cyclists and pedestrians alike. Many of these communities depend on the revenue generated by recreational tourists that flock to the see the beauty of Georgia's Mountain communities. These local official see the value in planning facilities that attract tourists, support local businesses, and create opportunities for a healthy lifestyle for local residents as well.

Several studies have been published at the regional level identifying opportunities for trail corridors and better land use planning practices that integrate bicycles and pedestrians into the development process. Recommended reading includes:

"The Statewide Railroad Industry Context" published by The Trust for Public Land and The Georgia Department of Natural Resources, September 1991

"Georgia Trail Corridors and Greenways Plan", published by the Georgia Department of Natural Resources, June 1993

"Georgia Rails-to-Trails Workshop", published by the Rails-to-Trails Conservancy and the Governor's Office of Energy Resources, March 1995

"Georgia Bicycle and Pedestrian Plan - Statewide Bicycle Route Network" by the Georgia Department of Transportation, July 1998.

"The State of Smart Growth in the Atlanta Region" by the Atlanta Regional Commission and the Regional Business Coalition, August, 2004

Livable Centers Initiative and grants to local governments, Atlanta Regional Commission (ongoing)

The following table is a breakdown of the current status of known plans in the region by community name, type of plan, and date completed or to be completed:

Figure 4: Overview of Existing Bicycle and Pedestrian Plans

Community Name	Type of Plan	Date
Banks, Franklin and Jackson Counties - includes all municipalities	Multi-modal Transportation Study	June 2004
*City of Maysville	Pedestrian Master Plan	TBC July 2005
Forsyth County	Bicycle and Pedestrian Plan- 2025 Livable Centers Initiative	April 2002 Study underway
*City of Cumming	Comprehensive Plan 2025	December 2003
Habersham, Stephens, Rabun and White Counties- includes all municipalities	GDOT/Day Wilburn Assoc. Multi-Modal Transportation Study	July 2003
*City of Clarkesville	Downtown Master Plan	2004
*City of Cornelia	"A Plan and Process for Community Design" Downtown Master Plan	September 2001
Hall County and cities	Gainesville/Hall MPO Bicycle/ Pedestrian Plan	Now underway
*City of Gainesville	Recreational Master Plan	October 2003
*City of Hartwell	Downtown Master Plan	2000

*Compiled by GMRDC 2004/2005

Enhancements Sidewalk Project Applications

In addition to the projects mentioned above, several communities in the Georgia Mountains Region have submitted Transportation Enhancements Grant applications to Georgia DOT to fund sidewalk projects in recent years. Many of these projects have already been awarded funds:

Gainesville: Jesse Jewel Parkway pedestrian overpass – FY02 (funded)
Banks County: Phase 3 corridor beautification project – FY02 (funded)
Stephens County: Toccoa Depot Rehabilitation and Train Museum – FY02 (funded)
Union County: Meeks Park Nottley River Trail – FY02 (funded)
Towns County: Hiawassee sidewalk projects – FY02 (funded)
Dawsonville: downtown sidewalks project – FY02
Baldwin: Sidewalks and streetscape project – FY00
Royston: Downtown sidewalk project – FY00 (funded)
Dawsonville: Academy Avenue sidewalk project – FY03
City of Hartwell: Streetscape beautification project – FY03
Forsyth County: Fowler Park to Alpharetta Trail – FY03 (funded)
City of Gainesville: Rock Creek Greenway project – FY04
City of Lavonia: Pedestrian improvements on Bear Creek Rd., Adams St. and Crest Dr. – FY02 (funded)
City of Flowery Branch: Streetscape and sidewalk projects – FY03 (funded)
City of Flowery Branch: Streetscape, Bike Path and Parking project – FY99
City of Homer: Historic district revitalization project – FY03 (funded)
City of Hartwell: Downtown streetscape project – FY00 (funded)

National Planning Trends

Nationwide, the trend in planning communities is taking a more integrated approach toward including bicycles and pedestrians. Rather than viewing pedestrian planning as the construction of sidewalks or bicycle planning as the addition of bike lanes on roads, the holistic approach sees these needs as part of every project and the fabric of every community. Cities and counties across the country are embracing new development standards that require connectivity for all modes. Street design standards are increasingly multi-modal, with cross sections that include bicycles and pedestrians for every new street built or improved.

Pedestrian-Oriented Development

Pedestrian-oriented development is heralded as an effective planning tool in designing livable and sustainable communities of the future. The connection between land use, trip generation and pedestrian travel has been well documented by leading architects and community planners in development projects across the country for many years now. The more thought that is put into making developments friendly to pedestrians, the higher the percentage of trips that is made on foot or by bicycle. Pedestrian activity on the streets has been shown to have a positive effect on commercial success, reduced crime rates, improved personal health and mobility, community cohesiveness, reduced dependence on the automobile, and improved air quality.

Sidewalks, if required on all road frontages in suburbanizing areas, provide a safe place for people to walk to visit friends, go shopping, or get to work and school. Sidewalks set back from the street's edge with a landscaped planting strip provide a cool and attractive place to walk. And, if development densities do not justify sidewalks on street frontages in the present, allowing developers to contribute to a sidewalk fund will help build the connections when future densities arrive.

A pedestrian friendly environment is one in which all travel needed for full participation in society - including work, shopping, social and natural opportunities - can be achieved by walking (or using a personal mobility aid such as a wheelchair), biking and public transit. This can be accomplished by planning for a variety of buildings and activities in close proximity to neighborhoods and by connecting these centers with effective public transportation.

Thirteen Points for Effective Pedestrian Design

Duany Plater-Zyberck, an urban design firm considered pioneers in town planning across the US, have published a list of 13 points for effective pedestrian-oriented design in urbanized areas. In rural Georgia, we would need to adapt the following principles for use in our current lower-density communities and integrate them into our land use practices in order to provide a pedestrian-friendly foundation for the growth that is coming in the near future.

1. The neighborhood has a **discernible center**. This is often a square or a green space and sometimes a busy or memorable street corner. A transit stop would be located at this center.

2. Most of the dwellings are within a **five-minute walk** of the center, an average of roughly 2,000 feet.

3. There are a **variety of dwelling types** — usually houses, rowhouses and apartments — so that younger and older people, singles and families, the poor and the wealthy may find places to live.

4. At the edge of the neighborhood, there are **shops and workplaces** (and/or transit stations leading to workplaces) of sufficiently varied types to supply the weekly needs of a household. (Collective neighborhood edges form a town center.)

5. An elementary school is close enough so that most **children can walk** from their home.

6. There are small **playgrounds accessible** to every dwelling - not more than a tenth of a mile away.

7. Streets within the neighborhood form a "connected network", which **disperses traffic** by providing a variety of pedestrian and vehicular routes to any destination.

8. The streets are relatively **narrow** and shaded by rows of trees. This slows traffic, creating an environment suitable for pedestrians and bicycles.

9. Buildings in the neighborhood center are placed **close to the street**, creating a well-defined outdoor room.

10. Parking lots and garage doors rarely front the street. Parking is relegated to the **rear of buildings**, usually accessed by alleys.

11. Certain prominent sites at the termination of street vistas or in the neighborhood center are reserved for civic buildings. These provide sites for community meetings, education, and religious or cultural activities.

12. The neighborhood is organized to be self-governing. A formal association debates and decides matters of maintenance, security, and physical change. Taxation is the responsibility of the larger community.

13. For single-family homes: A small ancillary building is permitted within the backyard of each house. It may be used as a rental unit or place to work (e.g., office or craft workshop).

Connectivity

During the 1960s through the 1990s, roadway design practices favored a poorly connected, "hierarchical" network, with numerous cul-de-sacs. This increases the amount of travel required to reach destinations, concentrates traffic onto fewer roads, and creates barriers to non-motorized travel. A connected road network emphasizes accessibility by accommodating more direct travel with traffic dispersed over more roads, while a hierarchical road network emphasizes *mobility* by accommodating higher traffic volumes and speeds on fewer roads. New Urbanism and Smart Growth land use policies support improved Connectivity as a way to increase land use accessibility. For a particular development or neighborhood, connectivity applies both internally (streets within that area) and externally (connections with arterials and other neighborhoods).

The Georgia Mountains communities have not yet embraced the concept of connectivity in its street development standards. Most new developments are still approved as cul-de-sac streets that force all trips onto arterial streets, creating an ever-growing problem with rush hour congestion. By requiring developers to stub streets in multiple directions (to allow connections to future developments), and to permit cul-de-sacs only when they cannot be avoided (due to a physical impediment like streams or elevation changes), the groundwork for a future transportation network is created. The benefits to bicycles and pedestrians is that this internal street network allows children and adults to walk or ride bikes to nearby destinations instead of being forced onto the heavy traffic of arterial streets (which often have no sidewalks).

Efforts to increase connectivity must overcome the common preference for residential cul-de-sac street. Cul-de-sacs are popular because they have limited traffic volumes and speeds, and help create a sense of community and security. More connected residential streets can have these attributes if designed with short blocks, "T" intersections, narrower widths and other Traffic Calming features to control vehicle traffic speeds and volumes, and community design features to promote a sense of community and Security. Another objection to a connected street network is that it requires more road right-of-way land, but this can be offset by reducing street widths.

Examples of connectivity studies performed in other cities (like Charlotte, N.C.) have demonstrated that trying to retro-fit connectivity by punching through dead-end streets and cul-de sacs may be physically possible, it is nearly impossible politically. Street re-connections are hotly contested at the neighborhood level. Once cul-de-sacs are in place, residents feel a sense of "ownership" to the streets and will fight re-opening them to through traffic. However, when residents purchase homes in new subdivisions with stubbed streets they are informed that a future connection may be made there, and the resistance is significantly reduced. The City of Charlotte, N.C. no longer permits cul-de-sacs in new development and City planners wish they had adopted this standard 20 years earlier before their traffic congestion reached such high levels.

Safe Routes to Schools

Safe Routes to Schools is a community-based program that was created by parents in Marin, California and in Boston, Massachusetts, to encourage their children to walk to school. The program has since been recognized by the National Highway & Transportation Safety Administration (NHTSA). The program is managed by community volunteers with support from local governments to identify and construct improvements along key routes to elementary and middle schools. NHTSA provides training workshops for communities across the country, teaching them how to identify safety hazards and the design changes needed to improve the routes. The program typically includes the four E's: engineering, education, encouragement, and enforcement. Local governments are partners in the process, funding the improvements needed. A line item for a Safe Routes to Schools program is in the new federal transportation authorization bill, which is not yet approved as of this publication date. GDOT is also running a pilot Safe Routes to Schools program in four Georgia schools in Gwinnett and DeKalb counties.

A group of parents and sometimes teachers work with local governments to walk to their children's schools and identify safety concerns and physical barriers to walking or riding a bike. The safe routes to school are then mapped and a list of improvement projects is submitted to the local government: e.g., sidewalks, crosswalks, a trail connection between two subdivisions, perhaps a striped and signed shoulder on the road for bicycle riders. Once the improvements are made, the parents volunteer to walk groups of children to and from school daily. Documented benefits include happier and healthier children, a built-in neighborhood watch patrol to reduce crime, and a reduced percentage of trips to schools being made by cars and buses.

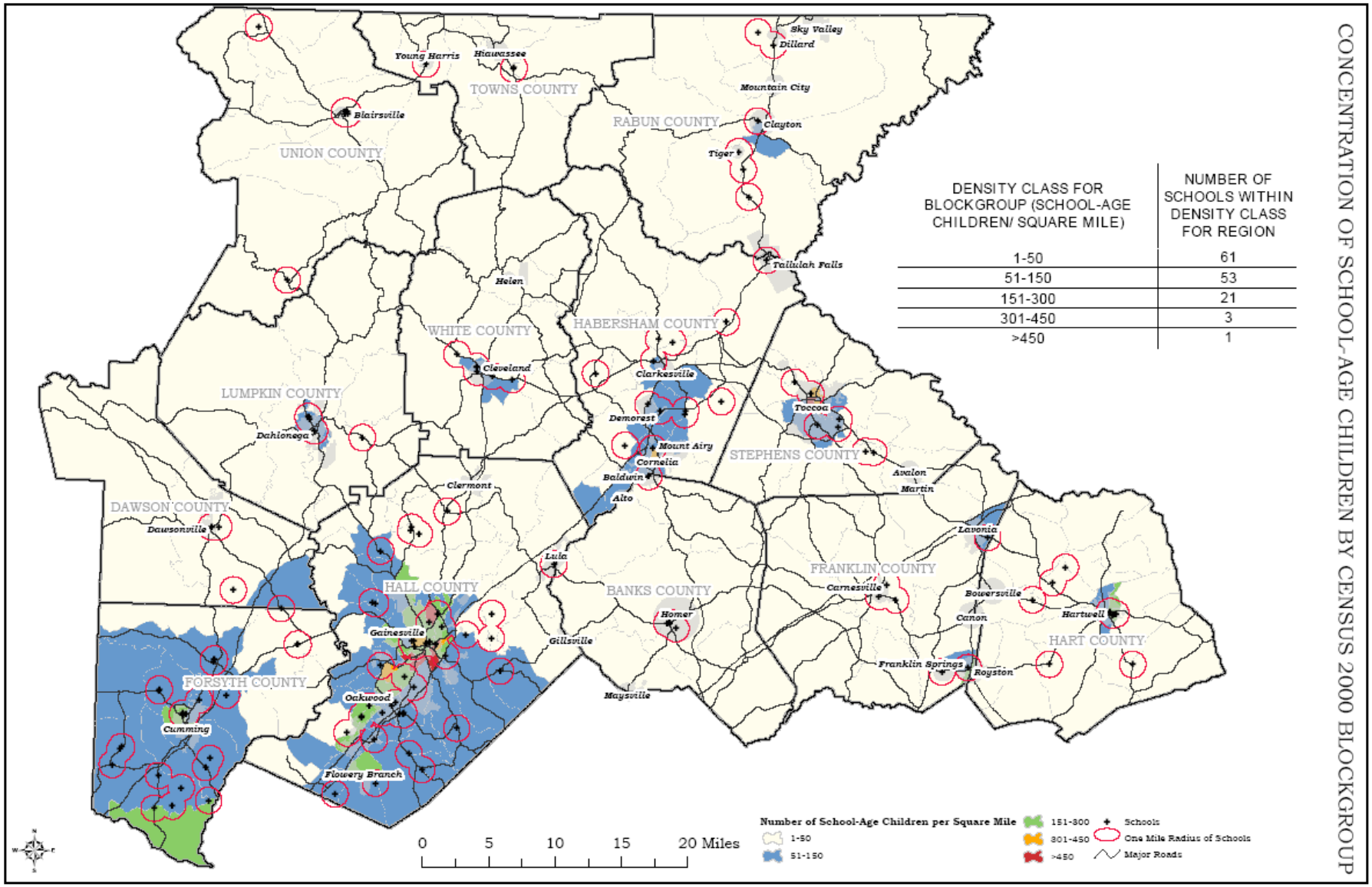
More information on Safe Routes to Schools programs can be found on The National SAFE KIDS Campaign website at http://www.saferoutestoschools.org/ or by doing a search under Safe

School Safety in NE Georgia

An analysis of the concentration of school-aged children within walking distance of schools in NE Georgia identified a number of schools where sidewalk improvements were needed. The map on the following page shows concentrations of children and one-mile walking distance radiuses around schools in the 13-county region.

The map shows that Forsyth and Hall Counties have the largest concentrations of children living within walking distance of schools. Our analysis of crash locations show that these two areas also have the highest number of crashes involving bicycles and pedestrians (see page 22). Several locations in the Flowery Branch to Gainesville corridor Gainesville showed from 151 to over 450 children per square mile: the area of top priority in the region for sidewalk improvements. Toccoa and Cornelia showed between 301 and 450 children per square mile in school zones. The area from Alto to Clarkesville in Habersham County also showed sufficient densities to support a walk-to-school program. These areas should be the region's top priorities for investments in sidewalks and bicycle paths so children can walk or ride their bikes to school. Hartwell, Lavonia and Dahlonega should be considering a sidewalk program near schools as their cities continue to grow in population density.

Because of the importance of sidewalks serving children's needs for physical activity, all communities in the region should be planning and budgeting for sidewalks within a one-mile radius of schools and community centers for both existing and proposed development projects.


CONCENTRATION OF SCHOOL-AGE CHILDREN BY CENSUS 2000 BLOCKGROUP
DENSITY CLASS FOR BLOCKGROUP (SCHOOL-AGE CHILDREN/ SQUARE MILE)
NUMBER OF SCHOOLS WITHIN DENSITY CLASS FOR REGION
1-50 61
51-150 53
151-300 21
301-450 3
>450 1
TOWNS COUNTY
UNION COUNTY
RABUN COUNTY
WHITE COUNTY
HABERSHAM COUNTY
LUMPKIN COUNTY
STEPHENS COUNTY
DAWSON COUNTY
HALL COUNTY
BANKS COUNTY
FRANKLIN COUNTY
FORSYTH COUNTY
HART COUNTY
Young Harris
Hiawassee
Blairsville
Sky Valley
Dillard
Mountain City
Clayton
Tiger
Tallulah Falls
Helen
Cleveland
Clarkesville
Demorest
Mount Airy
Cornelia
Baldwin
Alto
Toccoa
Avalon
Martin
Dahlonega
Clermont
Dawsonville
Lula
Gainesville
Gillsville
Homer
Maysville
Carnesville
Lavonia
Bowersville
Canon
Hartwell
Franklin Springs
Royston
Ocklawood
Cumming
Flowery Branch
0 5 10 15 20 Miles
Number of School-Age Children per Square Mile
1-50
51-150
151-300
301-450
>450
Schools
One Mile Radius of Schools
Major Roads

CHAPTER 3
THE BENEFITS OF INVESTMENTS IN CYCLING AND WALKING

Economic Benefits of Cycling and Trail Investments

Tourism plays an important role throughout the region and continues to be a growing industry for the state of Georgia as well as the Georgia Mountains region. The outdoor activities, parks, museums, mountain arts and crafts, antiques, natural scenic beauty, and historic sites attract visitors to the region. Numerous festivals throughout the year, such as Oktoberfest in Helen, Gold Rush in Dahlonega, and the Georgia Mountains Fair in Hiawassee, draw hundreds of thousands of visitors from many places. The Gainesville-Hall Convention and Visitor's Bureau hosted the annual Tour De Georgia bicycle race this April, attracting 128 racing cyclists and over 9,000 attendees in 2005, generating $1.1 million in tourism revenue to Hall County.

Many of the cities and counties in the Georgia Mountains region have actively promoted their historical, cultural, and scenic resources through the use of walking & driving tours, including: the Southern Highroads, The Appalachian Gateway Group and Georgia Mountains Parkway and The Georgia Wine Highway offering many recreational areas in which to hike trails, ride bicycles, and view breathtaking waterfalls. Multi-use trails constructed in other communities have demonstrated their success in measurable ways:

- A 1999 study of Ohio's 72-mile Little Miami Scenic Trail found and estimated 150,000 people used the trail annually. Trail users spent approximately $2 million on trip-related expenditures in one year, which translates into an average of $13.54 per person trip.

- Annual trail users' expenditures along the proposed 324-kilometer Trans Canada Trail through Alberta are estimated at $7.4 million (Canadian dollars) in Alberta and $3.2 million in the region.

- The average economic activity associated with three multi-purpose trails in California, Florida and Iowa was $1.5 million annually.

- A study of The Great Allegheny Passage from Pennsylvania to Maryland showed the direct economic impact of the Passage at $14 million a year in 1998 – even though the trail was only half finished at that time. The study recorded more than 350,000 visitor trips on the trail each year with users spending $12.01 to $15.33 per person, per trip. In addition, annual expenditures on bicycles and related equipment – attributable to the trail over the prior two years – were between$8.9 and $12.2 million. The study suggests a total, direct annualized impact of $14.3 to $26.5 million. When completed in 2005, the Great Allegheny Passage will offer 150 miles of non-motorized travel between Pittsburgh, Pennsylvania and Cumberland, Maryland.

Northern Georgia has many undeveloped opportunities to build, expand and market non-motorized trails to attract tourists and the dollars they bring to rural communities.

Several studies have shown a positive relationship between the proximity of a home to a multi-use trail and its real estate value. A 1991 study by the Rails-to-Trails Conservancy showed that

eighty-eight percent (88%) of nearby landowners used a nearby trail 85 days of the year. Sixty-four percent (64%) of adjacent landowners believed that the trail had no effect on its resale value with twenty-eight percent (28%) believing that land value increases as a result of the trail. Another survey of real estate appraisers showed that nineteen percent (19%) of them believed that proximity to a trail resulted in a property value increase.

The Health Benefits of Cycling and Walking

According to a May 21st, 2005 news release from ABC News, being overweight contributes to nearly one in 10 deaths in Georgia, a state health study found. Obesity has been climbing about 3 percent each year among Georgia adults and nearly 60 percent of adults were either overweight or obese in 2002, according to the study by the Georgia Division of Public Health.

The study also found that obesity is responsible for $2.1 billion in health care costs each year and about 6,700 Georgians die yearly from obesity-related health problems that include diabetes, high blood pressure, heart attacks and strokes.

Health officials are trying to teach Georgia children healthy eating habits and to be more active. But about a third of the state's middle school students and more than a quarter of the high school students already are overweight or obese, the study found.

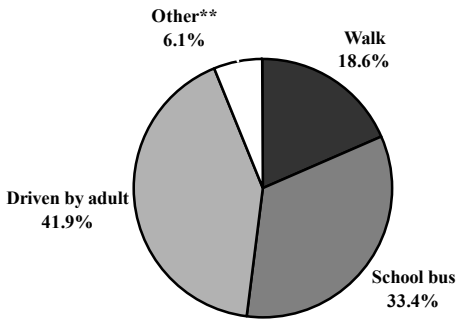
A study in February by the Healthcare Georgia Foundation found that fourty-one percent (41%) of Georgia adolescents do not get 20 minutes or more of physical activity three or more days each week as recommended. Less than a third of Georgia middle and high school students attend physical education classes daily.

But children need at least an hour a day of exercise, said Catherine Davis, an assistant professor of pediatrics at the Medical College of Georgia.

Many people fear walking and riding their bikes on Georgia roadways without a safe shoulder or sidewalk. Providing more opportunities for children and adults to walk and ride their bikes in their communities on a daily basis would bring positive health benefits.

Figure 5 below illustrates that of the children who live less than a mile from school fewer than 19% actually do so.

Figure 5: Modes of transportation to school for children aged 5 to 15 years who live approximately 1 mile* from school, Georgia, 2000.



About a third of the state's middle school students and more than a quarter of the high school students already are overweight or obese, the study found. That figure compares with 15% nationwide. Georgia has the 6th highest level of adult obesity in the nation at 25.2 percent, the 16th highest overweight levels of high school students at 11.1 percent, and the 25th highest levels of low-income children ages 2-5 at 11.9 percent. The state spent an estimated $246 per person in 2003 on medical-costs related to obesity, which was the 31st highest amount in the nation.

Source: "Overweight and Obesity in Georgia, 2005" by the Georgia Department of Human Resources, Division of Public Health, April, 2005

Bicycle and Pedestrian Safety Analysis

The National Highway Transportation Safety Administration (NHTSA) reports that nationwide, approximately 6,500 pedestrians and 900 bicyclists are killed each year as a result of collisions with motor vehicles. As a group, pedestrians and bicyclists comprise more than 14 percent of all highway fatalities each year. However, according to the 2001 National Household Travel Survey conducted by the U.S. Department of Transportation in terms of total miles traveled or trips taken, walking accounted for only 0.7 percent and bicycling accounted for 0.2 percent of person-miles of daily travel. The difference is called the exposure rate:

What this means is, a cyclist or pedestrian is 14 times more likely to die per mile of travel than a person driving a car. There is a much greater onus of responsibility for local governments to plan and invest in safe facilities for non-motorized travelers because they are exposed to significantly more risk than car drivers are.

In addition, it is estimated that 90,000 pedestrians and 60,000 cyclists were injured (1994 GES data) and a fewer than two-thirds of bicycle-motor vehicle crashes with injuries serious enough to require emergency room treatment were reported on State motor vehicle crash files. Of these accidents, pedestrians were judged to be solely at fault 43% of the time and bicyclists were judged solely at fault 50% of the time.

In Georgia a total of 178 non-motorists were killed in 2003, representing 11.1% of total fatalities. Of those, 156 fatalities were pedestrians and 22 were bicyclists. Georgia ranks with the 12th highest pedestrian fatalities and the 18th highest bicyclist fatalities in the nation. Most of northeast Georgia has no sidewalks. Roads are narrow and alcohol consumption plays a role in 30% of all fatalities on Georgia roadways. According to the 2000 Census, about one-third of Georgia's population are immigrants from other countries. Many immigrants come to North Georgia for jobs in the poultry industry. Many of them do not own a car and cannot legally drive in the U.S., so they are forced to walk to their jobs from nearby homes.

Nationwide, about 60% of the road-related crashes between cars and bikes and cars and pedestrians occurred on two-lane roadways. Roads with narrower lanes and higher speeds (like most of the highways in northeast Georgia) were associated with more than their share of serious and fatal injuries to cyclists. The preponderance of bicycle fatalities nationwide in 2001

was people between the ages of 25 and 54, occurring during the day on a straight stretch of road (not at an intersection).

Crashes ruled to be the fault of the pedestrian resulted from running into the road, failure to yield, alcohol impairment, stepping out from between parked cars and walking and running in the wrong direction (with traffic). Walking children were most likely to be at fault. Crashes ruled to be the fault of the cyclist include failure to yield, riding against traffic, stop sign violations, and safe movement violations. Again, the likelihood of the cyclist being at fault was the greatest for younger bicyclists. Statistics like these point to the need for more safety education for cyclists, pedestrians and drivers at young ages.

Georgia Mountains Crash Data Analysis

The map of Bicycle and Pedestrian Related Crashes 2000 – 2003 (see map insert page 24*) shows a very clear pattern of bicycle and pedestrian crash locations in the region. Gainesville, with the highest population concentration in the region, also had the highest number of crashes (134), showing the high correlation between population growth and hazardous conditions for cyclists and pedestrians. Forsyth County came in second with 34 crashes. Another cluster of crashes (21) appears in an area in Toccoa, Stephens County. These locations are also identified as having the highest density of school age children living in walking distance of schools (see map insert, page 16). Franklin, Hart and Habersham Counties should also be looking into zoning ordinances to require sidewalks and bicycle lanes with new construction to prevent becoming high-accident locations with the tremendous growth that is coming to this area.

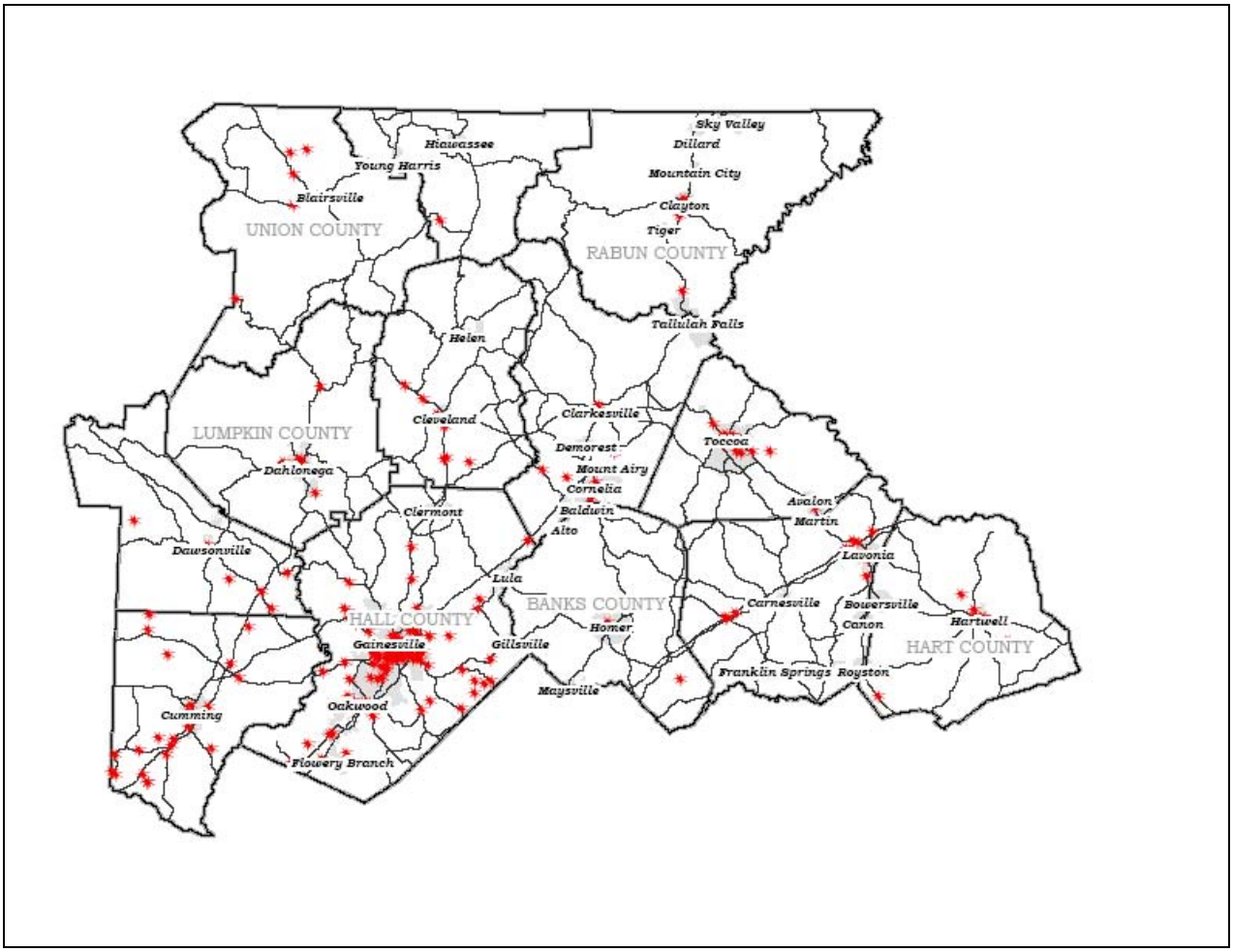
* Some locational data is missing from the crash locations mapped on page 22. The map reflects 84% of reported crashes during 2000-2003. It is estimated that another third of crashes goes unreported.

Figure 6: Comparison of Bike/Ped Crashes and Population

TOP CRASH LOCATIONS BY COUNTY	NUMBER OF CRASHES 2000-2003	PERCENT OF GMRDC CRASHES 2000-2003	PERCENT OF GMRDC 2000 POPULATION
Hall County	134	51%	31%
Forsyth County	34	13%	22%
Stephens County	21	8%	6%
Franklin County	15	6%	4%
Hart County	12	5%	5%
Habersham County	8	3%	8%
GMRDC Totals	264		

Figure 6 above shows that of the entire NE Georgia region, Hall County is the most in need of improving its safety record for bicycles and pedestrians. Though Hall County has 31% of the region's 2000 population, they had over half of the bicycle and pedestrian crashes in the region. (Population data appears in Figure 1 on page 3 of this document).

It is notable that although Forsyth County had 22% of the region's population in 2000, they had only 22% of the region's bicycle and pedestrian crashes.



Bicycle and Pedestrian crashes 2000-2003.

This page intentionally left blank.

CHAPTER 4
THE PLANNING PROCESSES

The Planning Advisory Committee

One of the first steps in the development of the Regional Bicycle and Pedestrian Plan was to create a Planning Advisory Committee (PAC) to help guide and formulate the planning process, and provide comments on the Draft Plan. Planning meetings were attended by various groups of stakeholders from around the region. Advisory Committee members included:

Linda Johnson - Stekoa Creek Greenway Group
Jane Schnell - Town of Clayton, Rabun County and Stekoa Greenway Group
Hal Williams – Lumpkin County Chamber of Commerce
Michael Crump – Hart County Chamber of Commerce
Joseph G. Neuwirth – Cycling Advocate/Road Racer
Larry Sorohan, City Manager – City of Dahlonega
Myrtle Figueras, Bill Andrew – City of Gainesville
Mona Painter – City of Cornelia
Dick Gellner – Georgia Bikes! Cycling Group
Jack Haire – Adventure Cycles, Oakwood, GA
Candace Lee – Towns County Chamber of Commerce
Cheryl Smith – Georgia State Office of Tourism
Amy Goodwin – Georgia Department of Transportation

The Planning Advisory Committee met a total of eight times over a period of seven months in 2004. A total of 69 people attended those meetings. Input from attendees of the planning advisory meetings included:

- Assistance in formulating the vision statement, goals and objectives for the regional plan.
- Identifying opportunities and challenges faced by cyclists and pedestrians in each jurisdiction
- reviewing work products developed by staff
- making route recommendations based on specific knowledge of the area
- suggesting policy/regulation changes that would enhance bicycle/pedestrian transportation, safety and access
- distributed information to their respective constituents

After the release of the Draft Plan, additional meetings were held with public officials and the public to solicit their comments and any additional projects to be added to the inventory. The dates and locations of the planning meetings on the project are listed in Figure 6 below.

Figure 7: Regional PAC Meeting Dates, Locations, Type, and Attendance

Dates	***Locations***	***Type***	***Attendance***
May 04, 2004	Gainesville, GA	Regional PAC Kick-off Meeting	19
May 10, 2004	Royston, GA	Sub-Regional PAC Meeting	5
May 11, 2004	Clarkesville, GA	Sub-Regional PAC Meeting	5
May 12, 2004	Dawsonville, GA	Sub-Regional PAC Meeting	9
May 13, 2004	Hiawassee, GA	Sub-Regional PAC Meeting	4

May 26, 2004	Cleveland, GA	Regional PAC Meeting #2	6
July 8, 2004	Gainesville, GA	Regional PAC Meeting #3	4
November 17, 2004	Cleveland, GA	Regional PAC Meeting #4	17

Open Public Meetings

GMRDC held three open public meetings on the project. The first one was on June 22, 2004 in Gainesville to present and discuss 1.) The Vision, Goals, Objectives, and Performance Measures, 2.) Regional Recommendations, and 3.) Implementation Strategy developed by the PAC. Eleven people were in attendance.

The second public meeting was a presentation to the GMRDC Board on June 30, 2005 at Toccoa Falls College, where copies of the plan and maps were distributed to 29 board members representing local governments for their review and comments. The GMRDC Board submitted their comments on the plan at their July 28th Board Meeting. A resolution for adoption of the plan by the RDC Board is scheduled for the August 25th meeting in Gainesville.

The third public meeting was held on July 25, 2005 at the Cornelia Train Depot to make comments on the draft plan and proposed project lists. Over 60 people were in attendance, and 38 people volunteered to work on the Tallulah Rails-to-Trails project.

Presentation to public officials were made on July 14th to Mayors and Commissioners of Franklin County as part of the Comprehensive Land Use Plan kickoff meeting. Commissioners and Zoning Review Board of the City of Helen heard a presentation on the project at their July 21st meeting on their zoning rewrite project kickoff.

In addition, e-mails were sent to dozens of planning and public works staff in 38 local governments asking them to access the draft plan on the agency's website to review and comment on. Comments received on the draft plan are documented in the appendix of the final plan document.

Vision and Goal Statements

In order to build a good plan that has both merit and chance for success, a plan must contain a strong vision, realistic goals, objectives for meeting those goals, and a way to measure the performance of each of the goals and objectives. A Vision Statement helps to set and establish the overall purpose or objective for developing the plan. The Goals are specific outcomes that are desired in order to obtain the plan vision. The Objectives are specific targets designed to achieve each of listed goals. Finally, the Performance Measures are tools used to determine how well one is able to achieve the goals and objectives of the plan. The main tasks assigned to the Plan's Advisory Committee were to help develop these elements of the Georgia Mountains Regional Bicycle and Pedestrian Plan.

One of the first tasks of the Regional Bicycle and Pedestrian Plan Steering Committee was to establish the project's vision. The Advisory Committee's objective was to establish a clear, well-defined vision that would encompasses the total desired outcome for the region. With that in mind, the Committee overwhelming supported the following statement and, after receiving valuable public input, it was modified and adopted as the vision of our plan:

Vision Statement:

"THE GEORGIA MOUNTAINS REGION SHALL FOSTER THE DEVELOPMENT OF A SAFE AND CONVENIENT NETWORK OF CONNECTED BICYCLE AND PEDESTRIAN FACILITIES, INCLUDING MULTI-USE TRAILS AND PROJECTS, THAT MEET THE REGIONS FUTURE MOBILITY AND RECREATION NEEDS BY OFFERING ALTERNATIVE TRANSPORTATION CHOICES THAT ENHANCE THE QUALITY OF LIFE FOR ALL CITIZENS."

Goals and Objectives:

The second objective of the Regional Bicycle and Pedestrian Plan Advisory Committee was to establish the Goals, Objectives, and Performance Measures for the Plan. The Advisory Committee met several times with staff to formulate the following draft Goals and Objectives for the region. Regional goal statements were drafted for review and discussion at the local government level. Local governments should adopt their own local goals and objectives for encouraging non-motorized transportation modes. The following Goals and Objectives were presented to the Georgia Mountains RDC Board of Directors on June 30, 2005.

The program Implementation Strategies outlined at the end of Chapter 7 propose programs and funding levels needed to achieve the stated Goals and Objectives for the region.

GOAL #1	**GOAL #1 OBJECTIVES**
Goal #1: Coordinate efforts of government agencies, the private sector, and the general public to provide a regional system of safe and convenient bicycling and pedestrian facilities for all users.	*Objective 1.1: Develop the commitment of the public and private sectors to support the region's bicycle and pedestrian planning effort in a manner that promotes cohesive and cooperative partnerships.*
	Objective 1.2: Develop a connected network of bicycle and pedestrian facilities that can serve the region's major origin and destination points, such as linking major land uses as residential and commercial zones, education and employment areas, health care and service centers, natural, cultural and recreational resources, and other community activity centers.
	Objective 1.3: Ensure that the bicycle and pedestrian system complements the existing transportation network to maximize and preserve the existing system and take advantage of public rights-of-way and corridors such as utility lines, rail lines, linear waterways, etc., in order to maximize public savings and minimize costs.
	Objective 1.4: Ensure that bicycle and pedestrian facilities are integrated and connected to other existing or planned modes of transportation in an effort to reduce dependence on the private automobile, reduce traffic congestion, and improve air quality.
	Objective 1.5: Encourage the establishment of a program in each community for cyclists and pedestrians to call in and report debris and obstructions on road shoulders and sidewalks and to request sidewalk construction.
	Objective 1.6: Develop a bicycle and pedestrian system that meets the highest achievable design and safety standards, including ADA and AASHTO standards.
	Objective 1.7: Provide ancillary facilities such as bicycle parking and storage, resting areas, lighting, landscaping, signing (including those of an interpretive nature), pavement markings and signalization to enhance the value and increase the utility and safety of the bicycle and pedestrian network.
	Objective 1.8: Ensure the bicycle and pedestrian system addresses the needs of different types of users, from experienced cyclists on arterial roadways to young children walking and/or riding bicycles, etc. on local roads to school or for recreation.

GOAL #2	***GOAL #2 OBJECTIVES***
Goal #2: Increase the awareness of bicycling and pedestrian related issues including safety, public health, public policy best practices, and sharing of the region's transportation network.	Objective 2.1 *Develop partnerships with others to educate drivers on sharing the road with cyclists and pedestrians, including public service announcements and drivers education courses.*
	Objective 2.2 Utilize existing educational programs and resources, such as Safe Routes to School Programs, Bicycle Rodeos and recreation programs to educate young users on the health benefits and safety concerns of walking and cycling.
	Objective 2.3: Sign roadways used by cyclists and pedestrians to warn motorists to slow down, pass safely and share the roads.
	Objective 2.4*: Educate local officials and public about best practices and policies that promote bicycling and pedestrian planning, development guidelines, and funding opportunities.*
GOAL #3	***GOAL #3 OBJECTIVES***
Goal #3: Identify and provide funding resources for planning, developing, and maintaining the region's bicycle and pedestrian system.	*Objective 3.1: Identify and actively pursue both public and private funding resources, including all eligible federal and state grants.*
	Objective 3.2: Establish criteria for prioritizing projects for grant applications and funding across the region.
	Objective 3.3: Recognize and promote individual projects developed by local governments in an annual progress report and on the GMRDC website.
	Objective 3.4: Encourage the development of private/public partnerships and shared funding sources for bicycle & pedestrian projects.
	Objective 3.5: Encourage local governments to establish Sidewalk Funds for developers to pay into should the construction of a sidewalk adjacent to a proposed development not be deemed timely.
	Objective 3.6: Encourage private developers to include bicycle and pedestrian facilities in their projects and publicize and promote the privately funded projects in an annual report and on the GMRDC website.

GOAL #4	**GOAL #4 OBJECTIVES**
Goal #4: Encourage local governments to amend their development standards to provide incentives and requirements to include bicycle and pedestrian facilities in new development.	*Objective 4.1: Encourage local governments to require new developments within a one- mile radius of major origin/destination land uses, such as existing public facilities, activity centers, community recreational facilities, educational and employment centers, health care and service centers, and natural/cultural resources, to provide access via pedestrian and/or bicycle facilities.*
	Objective 4.2: Encourage local governments to promote pedestrian connectivity (via paths/sidewalks) to adjacent compatible land uses, developments.
	Objective 4.3: Encourage local governments to adopt typical design section requirements for bicycle and pedestrian facilities within different road classifications.
	Objective 4.4: Encourage local governments to include bicycle and pedestrian facilities in their transportation improvements (resurfacing, paving, re-striping, new location, intersection improvements, reconstruction, and maintenance).
	Objective 4.5: Encourage local governments to coordinate bicycle and pedestrian planning efforts with local and regional recreation, conservation, and green space planning considerations.
GOAL #5	**GOAL #5 OBJECTIVES**
Goal #5: Promote the private contributions and economic development benefits of recreational trails and tourism in local communities.	*Objective 5.1: Work with local governments and Chambers of Commerce to develop pedestrian and cycling tours and events in their communities, including tours of historic downtowns, bike to work day, walking and cycling events, etc.*
	Objective 5.2: Encourage public/private partnerships to target new pedestrian-oriented retail and service establishments in connection with new and existing multi-use trails.
	Objective 5.3: Solicit contributions from individuals and private companies to donate money, time, land and materials for sidewalk and trail projects.

CHAPTER 5
TOOLS FOR FUTURE PLANNING

Tracking and Measuring Progress

The Georgia Mountains Region, along with the local governments it serves, has a responsibility to address the needs of safety and access for cyclists and pedestrian in our communities. As tourism rises in the region and residents pursue healthier lifestyles, local governments must begin to integrate bicycles and pedestrians into new developments and road projects. We must ensure that future generations have a safe and convenient network of bicycle and pedestrian facilities, that meet mobility and recreation needs. The following checklist is proposed to establish a baseline of planning needs being met in each community. Future years' progress reports on each community will compare their progress based on a common set of success indicators, and compared to other governments in the region.

The list of success indicators on the following page is proposed to establish a baseline of current conditions and to track the success of future years against this baseline. The final list of success indicators will require the participation of local governments to appoint a representative to assist in submitting the progress report data on an annual basis.

Ordinance Examples

The following ordinance language from Charlotte, North Carolina is offered as examples for inclusion in subdivision design requirements to limit the construction of cul-de-sacs and encourage connectivity through neighborhoods. Stubbed streets create opportunities for future connections. Multiple through connections create a safer environment for bicycles and pedestrians, and reduce circuitous travel for cars. Creating shorter block lengths within developments also creates more opportunities for shorter trip lengths and disperses traffic.

Connectivity : "The proposed street system shall be designed to provide a network of interconnected streets so as to facilitate the most advantageous development of the entire neighboring area. Stub streets shall be provided to adjacent properties where feasible. The proposed street system shall extend existing streets on their proper projections. A cul-de-sac shall not be used to avoid connection with an existing street or to avoid future extension. Cul-de-sacs and other permanently dead-end streets are permitted where one or more of the following conditions offer no practical alternative for connectivity:

(1) Topographical conditions.
(2) Environmental conditions.
(3) Property shape.
(4) Property accessibility.
(5) Land use relationships."

Block lengths: "Block lengths shall not be more than 1,000 feet, except as hereinafter provided. The planning staff may authorize block lengths in excess of 1,000 feet where one or more of the following conditions exist:
(1) Topographical conditions.
(2) Environmental conditions.

(3) Property shape.
(4) Property accessibility.
(5) Land use relationships.

Block widths must be sufficient to allow two tiers of lots except where single tiers of lots will facilitate nonresidential development and the separation of residential and nonresidential developments or the separation of residential development from thoroughfares."

Sidewalk Ordinance Example

"Sidewalks are required in all subdivisions as follows:
(1) Sidewalks are required on both sides of all new or existing class III and IV streets in accordance with other improvement requirements of this section.
(2) Sidewalks are required on both sides of all new or existing class V (collector) streets in accordance with other improvement requirements of this section.
(3) Sidewalks are required on both sides of all new or existing class VI (local residential) streets in accordance with other improvement requirements of this section.
(4) Sidewalks are required on both sides of all new or existing class VI-L (local limited residential) streets in accordance with other improvement requirements of this section, except that, for streets accessing less than ten lots or less than 250 feet in length, sidewalks will only be required on one side of the street and not along the cul-de-sac "bulb."
(5) Location. Approval of sidewalk construction plans must be obtained as part of the subdivision review process. Except in unusual circumstances, sidewalks must be located a minimum of four feet from the back of the curb or at the back of the right-of-way when no curb and gutter is required. If existing public street right-of-way is not available, the developer will be required to construct the sidewalk outside the street right-of-way on a permanent easement."

Program Examples to Promote Cycling, Walking, and Safety

Here are just a few ideas of programs and initiatives that could be taken at the local level to increase awareness of cycling and walking in your community. Your ideas for additional programs are welcome!

- Organize "Safe Routes to Schools" and "The Walking School Bus" programs with parents in local communities.
- Modify local development regulations to require sidewalks and crosswalks within 1 mile of new schools and retrofit crosswalks within 1,000 feet of existing schools.
- Organize and promote "Bike Week" events the first week of May.
- Introduce bicycle and pedestrian awareness education as part of driver's education classes in high school.
- Create a video of bicycle awareness issues for riders and drivers.
- Talk to major employers about installing bike racks and lockers and promoting a "Bike to Work" day.
- Work with your local Chamber of Commerce to organize historic bicycle tours or walking tours of your town.
- Work with local Boy Scout troops to organize bicycle rodeos at local schools.

- Work with school planners and architects to include sidewalks, trails and bike racks at local schools.
- Create a development checklist on making new developments friendlier to bicycles and pedestrians. Hold a conference to go over the new standards and solicit developer's input on them.
- Organize volunteers to help build trails on National Trails Day (June 4th in 2005).

Funding Opportunities

The most common way to fund greenways or multi-use trails is to combine local, public sector and private sector funds with funds from state, federal and additional private-sector sources. Many communities involved with multi-use path implementation are choosing to leverage local money as a match for outside funding sources, thereby multiplying their resources. It is a good strategy to pursue multiple funding sources in the event that one source is exhausted or funding gets cut. Sources for trail funding can be divided into local and state sources, capital improvement plans, multi-use path or open space trust funds, and local private sector funding.

Federal Sources

Federal Transportation Safety dollars are authorized by congress and made available every year to the states for safety improvement projects. This is money that could be spent on sidewalks, crosswalks, lighting, etc. in targeted high-crash areas. In 2002, for example, 11% of all traffic fatalities were bicyclists and pedestrians, but only 1.4% of available federal safety monies were spent on bicycle and pedestrian safety. Local governments could identify high-accident areas and request that GDOT fund improvements with their federal safety funds allocation.

Local and State Sources

Bond referendums for multi-use paths have been very successful in other counties, cities and states, generating millions for trail projects. Residents nationwide have shown their support for well-planned trail projects, and have voted to raise their own taxes in support of trail implementation. Funding approval is most successful following a broad-based public involvement and promotional campaign, raising awareness of the project's benefits, design and alignment. In Georgia, SPLOST money can be dedicated to sidewalk and trail building projects. With public support for specific projects, special assessment districts and tax increment financing can also be created to target tax revenues to improvements in specific neighborhoods.

Capital Improvement Plans

A true measure of a local government's commitment to multi-use paths is a yearly appropriation for trail development in the Capital Improvements Program. In Raleigh, North Carolina, for example, multi-use paths continue to be built and maintained, year after year, due to a dedicated source of annual funding (administered by the Parks & Recreation Department). In addition, the City of Raleigh's Real Estate Department has its own line item budget for multi-use path land acquisition. In Oregon, the State DOT sets aside 1% of each highway construction project's budget to build a multi-use path paralleling the highway for non-motorized users.

Lots of improvements for bicycles and pedestrians can be accomplished without spending money. Adding a little extra width and a stripe of paint for a bike lane or a pedestrian crossing can easily be wrapped into the cost of resurfacing streets. "Bike Lane" and "Share The Road" signs are easily absorbed into an existing sign budget.

Greenway Trust Fund

The Georgia Land Conservation Program was recently signed into law, which offers grants for purchase of open space and greenway corridors. While the exact criteria to receive funding under this program are still being drafted, by the end of 2005 there will be $100 million available as matching funds for local governments and private organizations to apply for use in preserving greenway corridors. For more information, contact the Georgia Environmental Facilities Authority (GEFA) at 404.962.3035. Local governments can also create their own trust funds, allowing individuals and corporations to donate land and money tax free for open space preservation.

Local Private-Sector Funding

Local industries and private businesses may agree to donate money, materials and/or labor to help build trail systems in their community. Donations are tax-deductible and good PR for them. In addition, materials they donate might very well be considered scrap or waste for them (things like gravel, lumber or asphalt). Another method is to create an "Adopt A Trail" program whereby local volunteers can do things like help clear brush and build paths or donate benches and drinking fountains. Volunteers are also useful in soliciting donations for the project.

Grant Programs

The Georgia Recreational Trails Program (RTP) is a grant program that provides funds for the construction of new trails and the maintenance of existing trails, among other things. The maximum grant has traditionally been $100,000 per project. Grant recipients under this program must pay 100 percent of the cost of an item, and then submit a request for reimbursement. The program would reimburse 80 percent of eligible costs. The following entities are eligible to apply for RTP grants: federal and state agencies, local governments, and legally constituted authorities. ***At last count, 50 RTP projects have been funded in Georgia representing $4,109,736 in RTP Funding, and $3,379,101 in other funding.***

The RTP funds come from the Federal Highway Trust Fund, and represent a portion of the motor fuel excise tax collected from non-highway recreational fuel use: fuel used for off-highway recreation by snowmobiles, all-terrain vehicles, off-highway motorcycles, and off-highway light trucks. The RTP funds are distributed to the States by legislative formula: half of the funds are distributed equally among all States, and half are distributed in proportion to the estimated amount of non-highway recreational fuel use in each State.

See the Federal Highways website for more information at http://www.fhwa.dot.gov/environment/rectrails/. Grant applications come out in late September for the following year. Contact Bryan Alexander, Grants Administrator for the State of Georgia at:

www.gastateparks.org/grants/
Department of Natural Resources
2 Martin Luther King, Jr. Dr., SE Suite 1352
Atlanta GA 30334-9000
404-656-6536 Fax 404-651-5871
Bryan_Alexander@dnr.state.ga.us

Transportation Enhancement Program

The Inter-modal Surface Transportation Efficiency Act of 1991 (ISTEA) created the Transportation Enhancement (TE) program. Ten percent of the funds within the Surface Transportation Program (STP) of the Federal-aid Highway Program are reserved for TE program. Projects implemented under the TE program must be one or more of the following activities:

1. Provision of facilities for pedestrians and bicycles
2. Provision of safety and educational activities for pedestrians and bicycles
3. Acquisition of scenic easements and scenic or historic sites
4. Scenic or historic highway programs including the provision of tourist and welcome center facilities.
5. Landscaping and other scenic beautification
6. Historic preservation
7. Rehabilitation and operation of historic transportation buildings, structures, or facilities including historic railroad facilities and canals
8. Preservation of abandoned railway corridors including the conversion and use thereof for pedestrian or bicycle trails
9. Control and removal of outdoor advertising
10. Archaeological planning and research
11. Environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity
12. Establishment of transportation museums

Federal funds available under the TE program will pay for up to 80 percent of the total project cost. The sponsor's local match must be at least 20 percent of the total project cost. The local match may be cash, in-kind services, or donated services, materials, or real property. The federal TE funding award may be used in any or all of the three project phases of preliminary engineering, right-of-way, and construction. Innovative financing refers to an approach that permits Sponsors greater flexibility in matching Federal TE funds. All TE projects must meet the minimum obligation of a 20 percent local contribution. In addition to local government funds, Sponsors may use sources such as private cash donations and funds from other Federal or State agencies to pay the local matching share. Other sources of the Sponsor's local match may include in-kind contributions and donated services, materials and real property on a case-by-case basis. Applications are accepted every two years and funds are distributed equally among the congressional districts, which amounts to about $4.0 million per district.

For more information on available funds and pre-screening projects contact the Georgia Department of Transportation at 404-657-5228.

Community Development Block Grants
Through its State CDBG program, the U.S. Department of Housing and Urban Development (HUD) provides states with annual direct grants, which they in turn award to smaller communities and rural areas for use in revitalizing neighborhoods, expanding affordable housing and economic opportunities, and/or improving community facilities and services. Funding is available for specific communities identified as economically depressed. Money has been made available in the past for things like bike lanes and trails through parks as a part of a neighborhood revitalization plan. For more information contact:

Mr. Bobby Smith, CDBG Program Director
State of Georgia
Department of Community Affairs
Phone: 404-679-3168
Fax: 404-679-1583

The Land and Water Conservation Fund

Created by Congress in 1964, the Land and Water Conservation Fund (LWCF) provides up to $900 million per year to federal, state and local governments to acquire land, water and conservation easements on land and water for the benefit of all Americans. The fund also pays for improvements like paths for walking and cycling and the creation of new parks. These acquisitions become part of our national forests, parks, wildlife refuges and other public areas.

Lands are purchased from willing sellers at fair-market value or through partial or outright donations of property. Landowners can also sell or donate easements on their property that restrict commercial development while keeping the land in private ownership.

Each year, four federal agencies – the Department of Agriculture (USDA) Forest Service, Department of Interior (USDI's), National Park Service, Fish and Wildlife Service and Bureau of Land Management -- identify important properties available for purchase. Congress appropriates up to $900 million each year for LWCF projects. The funding for these purchases comes primarily from revenues received from offshore oil and gas drilling.

For more information about the Land and Water Conservation Fund please contact the state agency representative listed at **www.nps.gov/lwcf**. The National Park Service also manages two other assistance programs with similar stewardship responsibilities and protections: the Federal Lands to Parks surplus property and Urban Park and Recreation Recovery grant programs. Information on these and other recreation assistance programs can be found at **www.nps.gov/ncrc.**

Figure 8: Proposed Progress Report Checklist for Bicycles and Pedestrians

Jurisdiction: _____ Department: _____

Prepared By:_____ Date: _____

1._____ Has appointed a person to report on bicycle & pedestrian planning progress.
2._____Has an adopted Master Plan for pedestrian facilities.
3._____ Has an adopted Master Plan for bicycle facilities and multi-use trails.
4._____ Has adopted design standards for roads that include sidewalks and bicycle shoulders or shared paths.
5._____ Has adopted design standards for sidewalks and bike lanes.
6._____ Has adopted design standards for multi-use trails and ADA compliance.
7._____ Requires developers to add sidewalks to internal streets.
8._____ Requires developers to add sidewalks to street frontages.
9._____ Has adopted a connectivity ordinance to require internal street and sidewalk connections between developments.
10._____ Has applied for a grant to build a non-motorized facility.
11. _____Has done an assessment of Safe Routes to Schools in their jurisdiction.
12. _____Has adopted impact fees to help pay for roads, sidewalks and bike lanes.
13._____ Requires bike racks, where appropriate, in new developments.
14._____ Has guidelines and funding for traffic calming and pedestrian refuges.

A. Number of miles of sidewalk: _____
B. Number of miles of signed bike lanes: _____
C. Number of miles of multi-use trails: _____
D. Number of pedestrian activated signals: _____
E. Number of striped pedestrian crossings at intersections: _____
F. Number of installed bike racks owned by the City/County: _____
G. Number of annual events that promote walking or cycling: _____
H. Number of public/private partnerships to fund bike/ped projects: _____
I. Number of educational programs or promotions: _____

This page intentionally left blank.

CHAPTER 6
DESIGN GUIDELINES FOR BICYCLE FACILITIES

The AASHTO *Guide for the Development of Bicycle Facilities* defines a bike lane as "a portion of a roadway which has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists." As levels of bicycling have increased in the United States, there has been a growing amount of support for bike lanes on urban and suburban roadways. Bike lanes are a preferred facility type in European countries, and in North America, nearly every major city has made an effort in recent years to install bicycle lanes, either as "pilot projects" (to test their success) or, in many cases, on larger networks of interconnecting roadways. Several small towns have led the way in establishing networks of bicycle lanes, particularly college towns where there are high levels of student bicycle commuters (e.g., University of California at Davis and University of Texas at Austin).

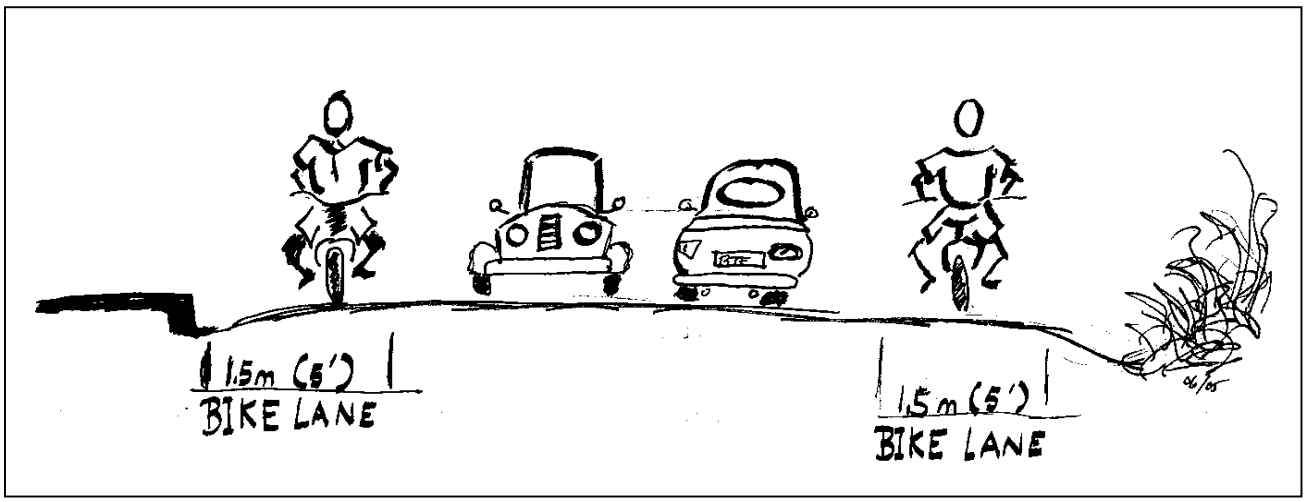
As a relatively new feature in the roadway cross-section, bike lane design has been the topic of much study in recent years. Bike lane design can be quite challenging in situations where the existing urban traffic patterns are complex and cross-sections are already constrained by heavy traffic volumes. Designers throughout the country develop new and better solutions each year. This section includes excerpts from several sources, including Oregon's *1995 Bicycle and Pedestrian Plan* and Philadelphia's *Bicycle Network Plan.*

Bicycle Lane Widths and Construction Standards

Bicycle lanes serve the needs of all types of cyclists in urban and suburban areas, providing them with their own travel lane on the street surface. The minimum width of a bike lane should be 1.5 meters (5 feet) against a curb or adjacent to a parking lane. On streets where the bike lane is adjacent to the curb and the curb includes a 1-foot to 2-foot gutter pan, bike lanes should be a minimum of 4 feet wide (width does not include the gutter pan, since bicyclists are typically unable to use this space). Wider bike lanes are recommended on streets with higher motor vehicle speeds and traffic volumes, or where pedestrian traffic in the bike lane is anticipated. Width measurements are taken from the curb face to the bicycle lane stripe.

Since bicyclists usually tend to ride a distance of 0.8 meters to 1.1 meters (2.5 feet to 3.5 feet) from the curb face, it is very important that the pavement surface in this zone be smooth and free of structures. Drain inlets and manholes that extend into this area cause bicyclists to swerve, having the effect of reducing the usable width of the lane. Where these structures exist and the surface cannot be made smooth, bike lane width should be adjusted accordingly. Regular maintenance is critical for bike lanes (see text in this section).

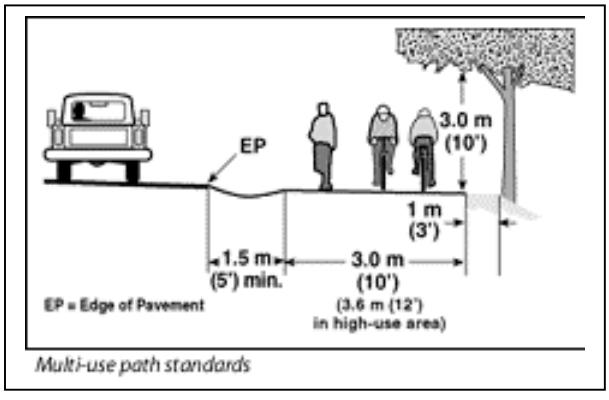
Bike lanes should be constructed to normal full-depth pavement standards since motor vehicles will occasionally cross them, or may use them as a breakdown area.



Location Within the Street Cross-Section

Bicycle lanes are always located on both sides of the road on two-way streets. Since bicyclists must periodically merge with motor vehicle traffic, bike lanes should not be separated from other motor vehicle lanes by curbs, parking lanes, or other obstructions. Two-way bike lanes on one side of two-way streets create hazardous conditions for bicyclists and are not recommended.

On one-way streets, bicycle lanes should be installed on the right-hand side, unless conflicts can be greatly reduced by installing the lane on the left-hand side. Left-side bicycle lanes on one-way streets may also be considered where there are frequent bus or trolley stops, unusually high numbers of right turning motor vehicles, or if there is a significant number of left-turning bicyclists.



Bicycle lanes provided under different types of conditions.
Source: AASHTO Guide for the Development of Bicycle Facilities, 1991.

Bike Lane Pavement Markings

The *Manual on Uniform Traffic Control Devices* (MUTCD) section 9C addresses standard bike lane markings. The stripe between the bicycle lane and the adjacent motor vehicle lane should be a 100- millimeter (4 inch) wide white line (minimum width). Six- to eight-inch-wide lines provide an even clearer division of space, and are highly recommended. Where parking is allowed next to a bike lane, the parking area should be defined by parking space markings or a solid 100 millimeter (4 inch) wide stripe.

Care should be taken to use pavement striping that is durable, yet skid resistant. Reflectors and raised markings in bike lanes can deflect a bicycle wheel, causing a bicyclist to lose control. If reflective pavement markers are needed for motorists, they should be installed on the motorist's side of the stripe, and have a beveled front edge.

While the 1988 edition of the MUTCD recommends the use of the diamond shaped preferential lane symbol in conjunction with bike lane signs, this symbol is often confusing for both the bicyclist and motorist. For this reason, subsequent editions of the MUTCD will probably eliminate the use of the diamond in bike lanes. The new standard pavement markings for bicycle lanes are the bicycle symbol (or the words BIKE LANE) and a directional arrow.

Bike lane signs should be replaced with bike lane stencils, with optional NO PARKING signs where needed.

Bike Lane Signing

The *Manual on Uniform Traffic Control Devices* (MUTCD) section 9B addresses standard bike lane signing. According to section 9B-8, the R3-16 sign should be used in advance of the beginning of a designated bicycle lane to call attention to the lane and to the possible presence of bicyclists. In locations where bicycle lanes are ending, the same R3-16 sign should be used, with the word ENDS substituting for the word AHEAD. The R7-9 or R7-9a signs should be used along streets where motorists are likely to park or frequently pull into the bike lane.

Diagonal Parking

Diagonal parking causes conflicts with bicycle travel: Drivers backing out have poor visibility of oncoming cyclists and parked vehicles obscure other vehicles backing out. These factors require cyclists to ride close to the center of a travel lane, which is intimidating to inexperienced riders.

Where possible on one-way streets, diagonal parking should be limited to the left side, even if the street has no bike lane; on one-way streets with bike lanes, the bike lane should be placed adjacent to parallel parking (preferably on the right).

Bike lanes are not usually placed next to diagonal parking. However, should diagonal parking be required on a street planned for bike lanes, the following recommendations can help decrease potential conflicts:

- The parking bays must be long enough to accommodate most vehicles.
- A 200-millimeter- (8-inch-) wide stripe should separate the parking area from the bike lane.
- Enforcement may be needed to cite or remove vehicles encroaching on the bike lane.

Bike lane next to diagonal parking, 8-inch stripe should separate the areas.

Intersections With Right-Turn Lanes

In general, right-turn lanes should be used only where warranted by a traffic study, as they present problems for both bicyclists and pedestrians:

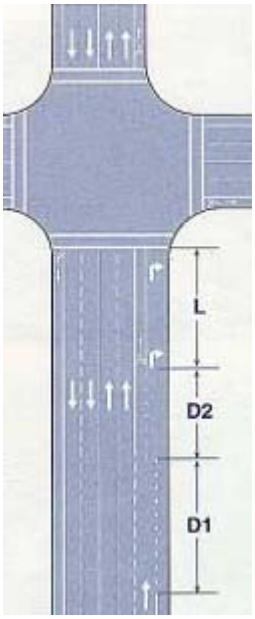
- If right-turning cars and through bicyclists must cross paths.
- If the additional lane width adds to the pedestrian crossing distance.
- If right-turn moves are made easier for motorists, which may cause inattentive drivers to not notice pedestrians on the right.

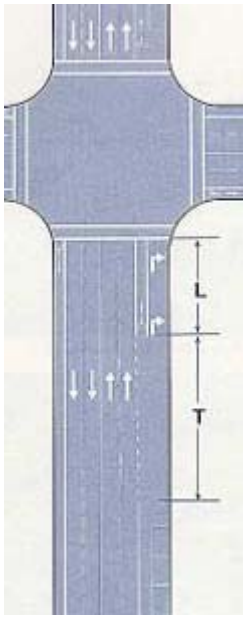
The through bike lane to the left of a right-turn lane should be striped with two 100-millimeters- (4-in-) wide stripes and connected to the preceding bike lane with 0.9-meter (3-foot) dashes and 2.7-meter (9-foot) spaces. This allows turning motorists to cross the bike lane. A legend must be placed at the beginning of the through bike lane. Sign R4-4, BEGIN RIGHT TURN LANE, YIELD TO BIKES, may be placed at the beginning of the taper in areas where a through bike lane may not be expected.

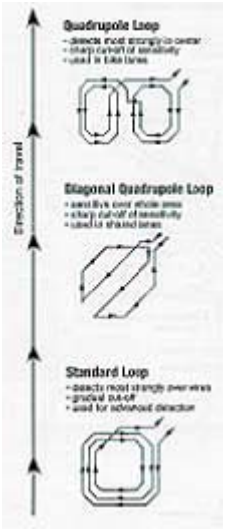
Not all intersections can be widened to provide a right-turn lane. A bike lane to the left of right turning cars should still be provided. One common configuration occurs where a right-turn lane is developed by dropping parking (see figure at right). Another configuration occurs where a lane is dropped and turns into a right-turn lane. Note: This is a difficult movement for bicyclists as they must merge left and find a gap in the traffic stream:

Exception #1: Heavy Right Turns If the major traffic movement at an intersection is to the right, and the straight through move leads to a minor side street, then the bike lane may be placed on the right and wrapped around the curve, assuming that the majority of cyclists will desire to turn right too. This often occurs where a highway is routed over local streets and the route is indirect.

Exception #2: Tee Intersections At a Tee intersection, where the traffic split is approximately 50 percent turning right and 50 percent turning left, the bike lane should be dropped prior to the lane split to allow cyclists to position themselves in the correct lane. Where traffic volumes are very high, a left- and right-turning bike lane should be considered.



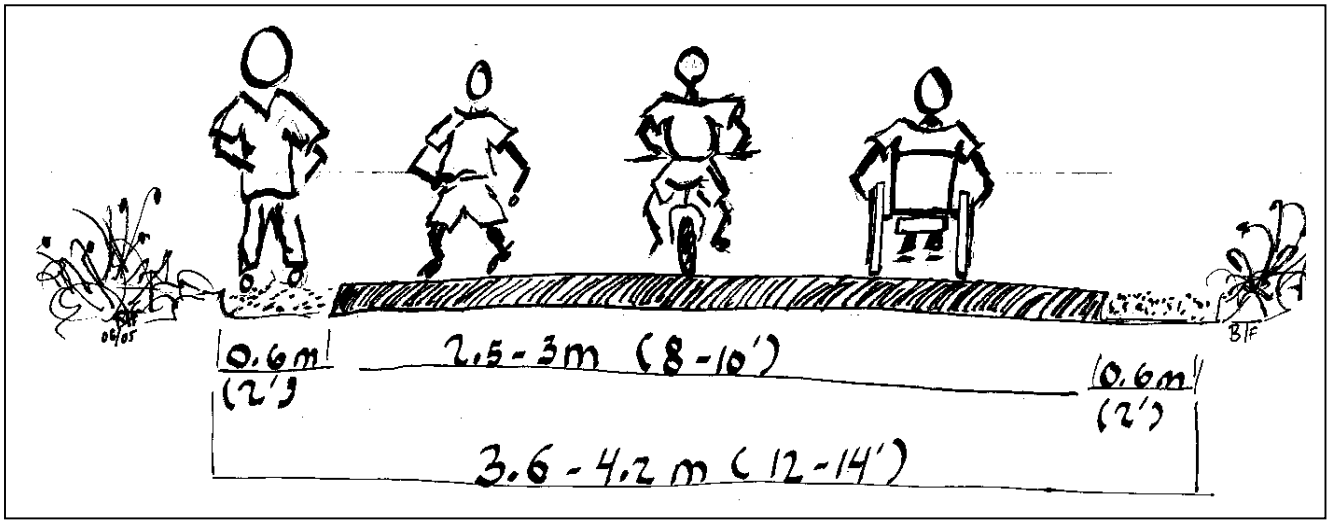




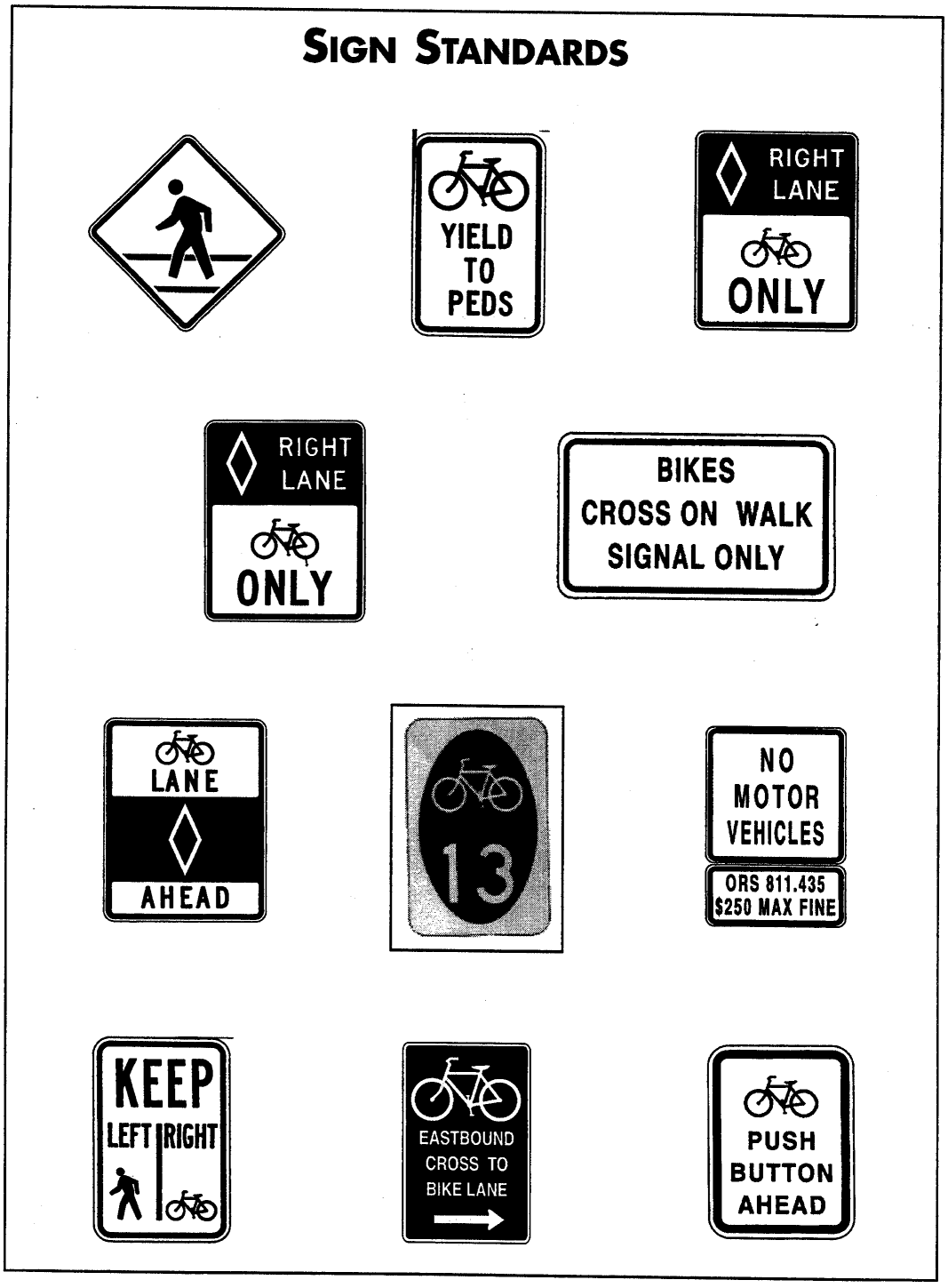
Above left: Bike lane left of right-turn lane developed by dropping a travel lane. Above center: Bike lane left of right-turn lane developed by dropping parking. Above right: Different loop configurations: The quadrupole loop is recommended for bike lanes.

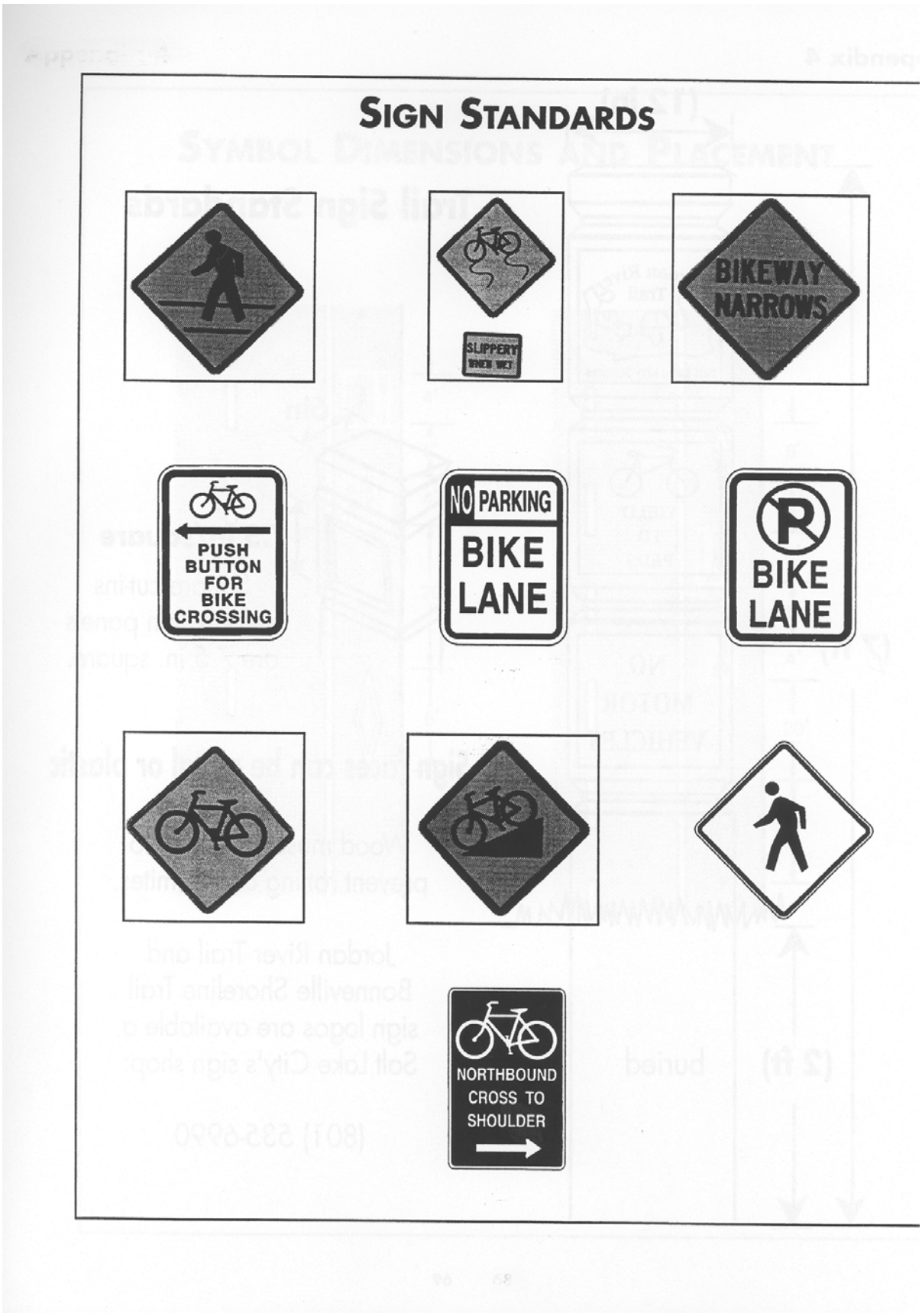
Offset Intersections Care should be taken to ensure that motorists are not inadvertently encouraged to ride in the bike lane because of offset travel lanes. At intersections with offset lanes, dashed offset lane markings should continue through the intersection to direct traffic flow (MUTCD Section 3B-7).

Ideal Cross-Section for a Multi-Use Path



Bicycle Path (Multi-Use Path) Although AASHTO sets a minimum width of 8 feet of paved or packed gravel surface on a trail with 2 foot shoulders, most states have set their minimum paved width at 10' for multi-use facilities. The heavier the anticipated demand or use of a facility and the greater the mix of user types, the greater the width needed to accommodate all users safely.


SIGN STANDARDS
YIELD TO PEDS
RIGHT LANE ONLY
RIGHT LANE ONLY
BIKES CROSS ON WALK SIGNAL ONLY
LANE AHEAD
13
NO MOTOR VEHICLES
ORS 811.435
$250 MAX FINE
KEEP LEFT RIGHT
EASTBOUND CROSS TO BIKE LANE
PUSH BUTTON AHEAD


SIGN STANDARDS
SLIPPERY
BIKEWAY NARROWS
PUSH BUTTON FOR BIKE CROSSING
NO PARKING
BIKE LANE
BIKE LANE
NORTHBOUND CROSS TO SHOULDER

CHAPTER 7
PROPOSED BICYCLE AND PEDESTRIAN PROJECTS

Existing Facilities and Proposed Project Maps

The maps in Appendix II are a compilation of the existing and proposed bicycle and pedestrian facilities in the Georgia Mountains region by type and by County. The vast majority of existing facilities in the north Georgia region are separate bike paths or multi-use trails. These facilities generally exist in local, state, and federal parks. There are very few connections on the roadways to link these facilities together, or to provide routes for cyclists to directly access the services they need (hotels, restaurants, bike shops, etc.). In the Georgia mountains region, most cycling trips begin by loading the bicycle in the car and then driving to the recreational destination.

Base maps were created for each county identifying existing bike lanes (on-road facilities) and multi-use trails (off-road facilities). Potential projects identified through the public involvement process and through staff recommendations were added as a GIS data layer to the existing facilities base map. Projects were selected with the intention of creating a network of facilities serving a number of recreational, commercial and commuting destinations. Both on-road and off-road types of facilities were identified to serve the needs of children and adults for comfort and safety based on their different levels of experience.

Because this is a regional plan, projects were selected that provided regional connections: between counties or between cities and towns and recreation destinations across significant distances. However, because most pedestrian trips are less than 2 miles in length and most bicycle trips are less than 7 miles in length, the majority of pedestrian bicycle trips are, by definition, local trips. Much more work needs to be done at the local government level to make cycling and walking safe and attractive for short trips. Examples of local trips include from home to the grocery store, from home to school and from neighborhood to neighborhood to visit friends.

Criteria for Proposed Project Selection

Various bicycle/pedestrian projects were proposed by the Public Advisory Committee and representatives of cycling groups in the local communities. The projects were evaluated by staff for regional connectivity and added to this plan for the Georgia Mountains Region based on criteria similar to those used to qualify projects for Transportation Enhancements funding. No attempt was made to prioritize particular projects on this list due to the large number of projects identified and a significant amount of still research required for particular projects (i.e. available rights-of-way, ownership, cost of construction, count of crashes at each site, etc.) The following criteria were used to identify projects for the list. Projects that meet multiple criteria should be considered a higher relative priority:

1) Serves a transportation purpose by providing linkages to multiple destinations along a proposed route.
2) Enhances safety by improving known or visible safety hazards along an existing route.
3) Provides a connection to tourist destinations and welcome centers, and scenic or historic sites.

4) Provides a linkage between more than one political jurisdiction (i.e. school district, city, county, state)
5) For sidewalk projects: provides a walkable route to school(s) and/or major activity center(s) within a one-mile radius of one or more destinations.

Projects by County and Specific Improvements Needed

Greenway routes proposed along creeks, rivers and lakes form an important off-road network for pedestrians and cyclists with few hazardous street intersections. These projects should be integrated into new developments as they come through the local government review process, or through easements or property purchases by local governments with an adopted plan. All major lakes in the region are also proposed to be bicycle and pedestrian accessible as regional tourism attractors. Specific points of access or routes around lake perimeters have not been determined and will require further study and planning at the local level. Projects that are proposed along roadways should include bike lanes and sidewalks in the planning and design stage as the road improvement projects are added to state and local Transportation Improvement Plans. Bicycle and pedestrian improvements can also exist as stand-alone projects on TIP lists.

County by County Project Descriptions

Banks County

Multi-Use Trail Projects

Hudson River Project- This project is approximately 31.14 miles in length. It parallels the Hudson River beginning in northwest Banks County north of the Town of Homer. It extends south through Homer and ends at the Franklin/Banks County line.

Grove Creek Project- This project is approximately 18.28 miles in length. It parallels Grove Creek beginning at the eastern edge of the City of Lula in west Banks County and extends south towards the City of Maysville. This project could offer a good linkage trail between the two communities via several tributary alternatives that could lead into downtown Maysville.

Middle Fork Broad River- This project is approximately 7.62 miles in length. It a potentially connection between the Lake Russell W.M.A. in Habersham/Stephens counties and Franklin County. This project begins at the Banks/Habersham/Stephens counties lines and extends southeasterly to the Banks/Franklin County line

GMRDC also identified two large utility line easements. One ran north/south (Atlanta Gas & Light) and the other east/west (Georgia Power) through the county. After closer examination it was determined that a number of unprotected crossing existed with several major roadways making them undesirable. In addition both easements lacked good destination points along their pathways. GMRDC also identified one rail corridor extending north/south and paralleled CR 243/County Line Road. This is currently an active rail line.

On-Road Bicycle Projects

On-road bicycle facilities (paved bike-safe lanes or shoulders) are proposed for the following highways:

SR 51- This project is approximately 18.48 miles in length and begins in the City of Lula in west-central Banks County. It extends eastward along SR 51 thru the Town of Homer along Old US 441 and ends at the Banks/Franklin county line.

SR 98 (Old US 441)- This project is approximately 6.7 miles in length and begins in downtown Homer at Old US 441 and SR 51. It extends south along Old US 441 to SR 98. Then follows SR 98 south into downtown Maysville ending at the Banks/Jackson county line.

CR 243 (County Line Road)- This project is approximately 9 miles in length and begins in downtown Lula. It extends north along County Line Road zigzagging in and out of Banks, Hall, and Habersham Counties. It ends in Baldwin at the Banks/Habersham county line.

SR 105- This project is approximately 6.87 miles in length and begins in downtown Baldwin. It extends eastward along SR 105 and ends at the Banks/Stephens county line.

Sidewalk Projects

The Banks, Franklin, Jackson County Multi-modal Transportation Study recommends sidewalks along SR51 in front of Banks County Primary and Elementary Schools, and Banks County Library and extending to US441.

Dawson County

Multi-Use Trail Projects

Amicalola River Project- This project is approximately 23.54 miles in length. It parallels the Amicalola River beginning in northwest Dawson County at the Amicalola Falls State Park. It extends south through Dawson Forest W.M.A. and ends at its junction with the Etowah River.

Etowah River Project- This project is approximately 25.02 miles in length. It parallels the Etowah River beginning in southwestern Dawson County at the Forsyth/Dawson county line. It extends easterly through the Dawson Forest W.M.A. and continues northeasterly to the Dawson/Lumpkin county line.

Flat/Shoal Creek Project- This project is approximately 9.34 miles in length. It parallels both Flat and Shoal Creeks beginning in southwest of the City of Dawsonville along Flat Creek. It extends westerly where it intersects with Shoal Creek. It then extends south along Shoal Creek and ends at the Etowah River in the Dawson Forest W.M.A. in south central Dawson County.

GMRDC also identified several large utility line easements. That offered east/west and north/south connections through the county. After closer examination it was determined that a number of unprotected crossing existed with several major roadways making them undesirable. Dawson County wished to investigate these types of options further to better understand their suitability for use.

On-Road Bicycle Projects

On-road bicycle facilities (paved bike-safe lanes or shoulders) are proposed for the following highways:

SR 136/183- This project is approximately 21.51 miles in length and begins at SBR 90 on SR 52. It extends southeasterly along SR 183 and the entire length of SR 136 through Dawson County and ends at the Dawson/Hall county line at Lake Lanier.

Sidewalk Projects

Dawsonville sidewalks recommended in the 2004 Dawson County Comprehensive Land Use Plan:

- sidewalks throughout the downtown area
- sidewalks in the north part of the SR400 corridor as part of planned development
- pedestrian centers included in SR53 corridor development plans

Franklin County

Multi-Use Trail Projects

Hudson River Project- This project is approximately 13.64 miles in length. It parallels the Hudson River beginning in southwest Franklin County at the Banks/Franklin county line. It extends easterly along the Franklin/Madison county line Homer and ends at the Franklin/Madison County line in southeast Franklin County; southwest of City of Franklin Springs.

Broad Rivers Project- This project is approximately 49.33 miles in length. It parallels the North Fork Broad, Middle Fork Broad, and Broad Rivers Part One beginning in north central Franklin County at the Franklin/Stephens county line along the North Fork Broad River. It extends south along North Fork Broad River where it connects with the Middle Fork Broad River. It continues south along Broad River and ends at the Franklin/Madison County line where it intersects with the Hudson River. Part Two begins in northwest Franklin County at the Banks/Franklin county line. It extends south along the Middle Fork Broad River just west of the Town of Carnesville and ends at its junction with the North Fork Broad and Broad Rivers. This project could potentially be extended further north to connect to the Lake Russell Wildlife Management area in Stephens and Franklin Counties.

GMRDC also identified several utility line easements that offered east-west and north-south connections through the county. After closer examination it was determined that a number of unprotected crossing existed with several major roadways and there was also a lack of good destination points amongst the easements making them undesirable. Additionally, GMRDC identified one railroad corridor that paralleled SR 17. This is currently an active rail line.

On-Road Bicycle Projects

On-road bicycle facilities (paved bike-safe lanes or shoulders) are proposed for the following facilities:

SR 51/59/145 & SR8 (US 29)- This project is approximately 21.27 miles in length and begins at the Banks/Franklin county line in west Franklin County. It extends easterly along SR 51 where it intersects with SR 59. It then turns north on SR 59 and continues into downtown Carnesville where it connects with SR 51/145 and travels south to Franklin Springs. The project then turns west on SR 8/US 29 and continues thru Franklin Springs and Royston. The project ends in downtown Royston at the Franklin/Hart county line.

SR 17/SR 28- This project is approximately 10.49 miles in length and begins in downtown Lavonia at SBR 85/Savannah River Run. It extends south along SR 17 and passes in and out of Hart County as it passes thru Bowersville, Canon, and Royston. In Royston the project turn south on SR 28 and ends at the Franklin/Madison county line

Sidewalk Projects

The Banks, Franklin, Jackson County Multi-modal Transportation Study recommends the following sidewalk projects for Franklin County:

a. Add sidewalks along residential roads off Hartwell Road.
b. Add a sidewalk between SR77 at the Carnegie Library connecting to the playground located behind Old Lavonia Elementary.

(Carnesville)

c. Add sidewalks around the Carnesville Post Office and major approaches to the post office.
d. Add sidewalks from the Magnolia Village Shopping Center to the downtown area along SR106 and the new housing units to be located nearby.
e. Add sidewalks from the downtown area to Carnesville Elementary School (east of downtown) and Rocky Ford Park (located adjacent to the school).
f. Add sidewalks along SR59 from Church Street to the Middle School on Lavonia Street. Seniors use this area to walk.
g. Add and/or rehabilitate sidewalks in the downtown area and from the Courthouse to the High School.
h. Add sidewalks near the Carnasale housing development (public housing) and the Carnasale Baptist Church to the downtown area.

(Royston/Franklin Springs)

i. Add sidewalks along both sides of US29.
j. Add sidewalks in the residential neighborhood around Royston Elementary School.

Habersham County

Multi-Use Trail Projects

Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study- GMRDC recognizes the Multi-county study completed for Habersham County in 2003 by Day-Wilburn and Associates, Inc.

The Tallulah Falls Rails-to-Trails: this 57-mile abandoned railroad conversion project runs from the Historic Depot in Cornelia through Rabun County, ending at the North Carolina border. Connects through the Tallulah Gorge State Park and the existing 1.7-mile Short Line Trail.

Rocky Branch Greenway Project (Phase I: 2005 Enhancements Application): Approximately 6 miles in length from the Historic Central Business District (Square) to the Rocky Branch and Soque River Greenway through: (a) rehabilitation of existing sidewalks/pathways along East Water Street; (b) construction of a new pedestrian/ bicycle pathway from the eastern end point of East Water Street to the Soque River via the Rocky Branch Greenway; and (d) enhancement of tree and shrub plantings along the designated East Water Street pedestrian/bicycle pathway. The project includes: (a) extension of upgrade installation of pavers, crosswalks, sidewalks and handicap curb ramps along Historic US Hwy 441 at its intersection with State Route 17/117 and the contiguous parking areas along Washington Street at the Square; (b) upgrade of signs and roadway markings, providing information for State Routes, local businesses/points of interest and identification of new pedestrian/bicycle pathways; (c) increase/enhance tree and shrub plantings along Washington Street and the adjacent parking areas of the Square; (d) directional and educational signs along the pedestrian/bicycle pathway starting at the Square and continuing throughout the Rocky Branch Greenway to the Soque River.

Soquee River Project- This project is approximately 37.1 miles in length and begins at the Appalachian Trail at the Habersham/Towns county line in northwest Habersham County. It extends southeasterly along the Soquee River thru Clarkesville and then turns southwesterly where it connects with the Chattahoochee River at the Habersham/White county line in southwest Habersham County.

Chattahoochee River Project- This project is approximately 16.67 miles in length and begins in west central Habersham County at the Habersham/White County line. It continues south along the Habersham/White county border and ends at the Habersham/Hall/White County border in southwest Habersham County.

Mud Creek Project- This project is approximately 10.85 miles in length and begins in downtown Cornelia. It extends west along Nancy Towns Creek thru Cornelia over to Mud Creek. It then turns south on Mud Creek and ends at the Habersham/Hall County line.

Hazel Creek Connector- This project is approximately 10.99 miles in length and begins in downtown Demorest at the Tallulah Falls Rails-to-Trail project. It extends northwesterly to the Soquee River where it terminates. The project could be extended to include connections to Cornelia and Mount Airy via Camp Creek and its tributaries in the event that the Tallulah Rails-to-Trails project fails to develop.

On-Road Bicycle Projects

On-road bicycle facilities (paved bike-safe lanes or shoulders) are proposed for the following facilities. Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study- GMRDC recognizes the Multi-county study completed for Habersham County in 2003 by Day-Wilburn and Associates, Inc.:

a. Bike facilities through Alto on Gainesville Highway.
b. Bike facilities on Gainesville Highway through Baldwin.
c. Bike facilities northwest on US441 through Clarkesville.
d. Bike facilities east along SR197 to Mount Airy and Lake Russell Recreation Area.
e. Bike facilities on loop from US441 around Gorge Overlook to US 441.

SR 115 - This project is approximately 6.84 miles in length and begins at the Habersham/White county line in west Habersham County. It extends easterly along SR 115 where it intersects with SR 17 just west of Clarkesville. It continues east on SR 17where it ends at SR 365 Business (US 441 Bus)/197 on the north end of Clarkesville.

SR 365 Bus (US 441 Bus.)/SR 197- This project begins in downtown Clarkesville. It extends south along SR 365 Bus. (US 441 Bus.) and passes thru Clarkesville where it connects with SR 197 where it turns east on SR 197 and ends at the proposed Tallulah Falls Rails-to-Trails project.

Habersham Bike Shop By-Pass: Cyclists identified a need for a wide paved shoulder on one side of Highway 365 from the bike shop in Alto to Wilbanks Road in order for local cyclists to access the bike shop without having to cross or join traffic on Highway 365.

SR105 (US 441 Bus.)/CR 432 (County Line Rd)- This project begins in downtown Cornelia on SR 105 (US 441 Bus.). It continues south on SR 105 to CR 432 (County Line Rd). At CR 432 it turns southwesterly and continue along the Banks/Habersham/Hall County lines where it ends just north of Lula.

CR 132 (Rock Road)- This project is approximately 3.29 miles in length and begins at SBR 85/Savannah River Run. It extends south along CR 132 and ends at the Habersham/Stephens county line just south of US 123.

Pedestrian Projects

Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study- GMRDC recognizes the Multi-county study completed for Habersham County in 2003 by Day-Wilburn and Associates, Inc.:

a. Pedestrian facilities for higher-use Baldwin community centers on Gainesville Highway.
b. Pedestrian facilities to improve existing connections for City Hall and Wilbanks Park.
c. Pedestrian facilities to improve existing connections for school and Pitts Park.
d. Pedestrian facilities to improve existing connections to elementary school, Clarkesville community centers and city park.

e. Pedestrian facilities to improve existing connections for City Center.
f. Pedestrian facilities to connect US441 Business with multiple school locations and County Fairgrounds.
g. Pedestrian facilities to extend connection from community center to city park.
h. Pedestrian facilities to create a network connecting existing city center walkways.
i. Pedestrian facilities to improve existing connections for elementary school and US129.
j. Pedestrian facilities to improve existing connections to Demorest community centers.
k. Pedestrian facilities for Mount Airy community centers.
l. Pedestrian facility needed to serve students and faculty crossing SR197.
m. Pedestrian facilities for Alto Community Center.

This study also wishes to recognize and support the recommendations made in the 2001 study of Cornelia by Jordan, Jones and Goulding. An extensive list of recommendations was made for downtown historic district improvements including sidewalks, landscaping, and completion of the Tallulah Rails-to-Trails project.

Hart County

Multi-Use Trail Projects

Several utility line easements were identified that offered east/west connections through the county. After closer examination it was determined that a number of unprotected crossing existed with several major roadways and there was also a lack of good destination points amongst the easements making them undesirable. Two railroad corridors were also identified for future conversion to a trail: one parallel to SR 17 (Norfork Southern) and one parallel to SR 61 (Hartwell Railroad). Currently, only the Norfork Southern line is active. The inactive status of the Hartwell line presents an excellent opportunity for converting it into a Rails-to-Trails Project.

On-Road Bicycle Projects

On-road bicycle facilities (paved bike-safe lanes or shoulders) are proposed for the following highways:

SR 8 (US 29)- This project is approximately 19.41 miles in length and begins in downtown Royston at the Hart/Franklin county line. It extends easterly along SR 8/US 29 to the City of Hartwell where it connects with SBR 85/Savannah River Run at SR 77. It continues thru downtown Hartwell where it picks up back on SR8/US 29 and travels east to the South Carolina state line. The project is a potential connection with Anderson, South Carolina.

SR 17- This project is approximately 3.04 miles in length and begins at the Franklin/Hart county line just north of Bowersville. It extends south along SR 17 and zigzags in and out of Hart County as it passes thru Bowersville and Canon where it ends at the Franklin/Hart county line.

Sidewalk Projects

Due to the moderate to high concentration of school-aged children living in close proximity to three schools in Hartwell, sidewalks are recommended within a one-mile radius of all three schools, linking to residential neighborhoods.

The City of Hartwell has requested sidewalks be added to all State Routes through their City.

Lumpkin County

Multi-Use Trail Projects

Yahoola-Appalachian Connector Project- This project is approximately 18.72 miles in length and begins at the Appalachian Trail at the Union County line (Woody Gap) in north Lumpkin County. It extends south along the Woody Creek where it connects with the Yahoola Creek. It continues south along the Yahoola Creek to the new the reservoir (just northeast of downtown Dahlonega) where it connects into existing and proposed trails. It then continues south from the reservoir to the Chestatee River where it ends at SR 60 just south of Dahlonega.

Dahlonega Connector- This extension of approximately .62 miles in length begins at the north end of Yahoola Creek Reservoir and follows south along CR 189/Wimpy Mill Road into downtown Dahlonega and from the south end of the reservoir and follows an unknown creek into downtown Dahlonega.

Chestatee River Project- This project is approximately 9.84 miles in length and begins at the Lumpkin/White county line in eastern Lumpkin County. It continues southwest thru Lumpkin County and ends at Lake Sidney Lanier in south Lumpkin County just east of GA 400.

Morrison Moore Parkway– This project is approximately 3.3 miles in length. It begins at the intersection of Wimpy Mill Road and US Highway 19 and follows US 19 Morrison Moore Parkway to the intersection of US 19/Morrison Moore Parkway and SR52.

On-Road Bicycle Projects

On-road bicycle facilities (paved bike-safe lanes or shoulders) are proposed for the following highways:

SR9 (US 19) & CRs 66/190/49 (Cavendar Creek Rd)/46 (Grindle Bridge Rd)- This project is approximately 6.86 miles in length and begins just north of downtown Dahlonega at SBR 90/Mtn Crossing at SR 9/US 19. It extends south along SR 9/US 19 to Cavendar Creek Road where it turns easterly. It continues east on Cavendar Creek to Grindle Bridge Road where it ends at the Lumpkin/White county line.

SR 11 (US 129)/SR 9 (US 19N)/CR 134 (Damascus Church Rd)- This project is approximately 13.83 miles in length and begins at the Lumpkin/Union county line in north central Lumpkin County. It extends south along SR11/US 129 to SR 9/US 19. It continues south on SR 9 to CR 134 where it turns southeast and eventually ends at the Lumpkin/White county line.

Ranger Camp/Airport – Camp Wahsega Road- This project is approximately 13 miles in length. It begins at the intersection of Business 10 and Camp Wahsega Road and ends at the Camp Frank D. Merrill Ranger Camp.

US19 Wimpy Mill to Stone Pile Gap– This project is approximately 7.6 miles in length. It begins at the intersection of business 19 and Wimpy Mill Road and travels North to Stone Pile Gap or the 19/60 split.

Business 19 Connector– This project is approximately .30 miles in length. It begins at the intersection of Business 19 and 19/60, including sidewalks.

Sidewalk Projects

Three schools were identified in Dahlonega with 51-100 school-age children per square mile. These three schools should have sidewalk connections to the schools within a one-mile radius of the schools.

Rabun County

Multi-Use Trail Projects: Proposed

Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study- GMRDC recognizes the Multi-county study completed for Rabun County in 2003 by Day-Wilburn and Associates, Inc.:

The 57-mile Tallulah Falls Rail-to-Trails corridor from the Depot in Cornelia in Habersham County, through Rabun County to the North Carolina border.

Saddle Gap Project- This project is approximately 2.24 miles in length and begins in downtown Clayton. It extends east along CR 219 (Warwoman Road) and ends at the Bartrum Trail.

Stakoa Creek Project- This project is approximately 9.05 miles in length and begins in north Clayton at US 441 N. It extends south thru Clayton down to the Rabun County schools southeast of Tiger.

Persimmon Loop– Cyclists identified a need for bike lanes on an approximate 6-mile loop from to Mellie Keener Road to Persimmon Creek Road. The project is located north of Highway 76 west of Clayton.

On-Road Bicycle Projects

On-Road bicycle facilities (paved bike-safe lanes or shoulders) are proposed for the following highways:

Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study- GMRDC recognizes the Multi-county study completed for Rabun County in 2003 by Day-Wilburn and Associates, Inc.:

a. Bicycle facilities east along Hwy.76 toward GA/SC state line.
b. Bicycle facilities west along Hwy.76 towards Towns County.
c. Bicycle facilities east and southeast along Hwy.76.
d. Bicycle facilities west from US441 to elementary school.
e. Bicycle facilities west from US441 to Black Rock Mtn. State Park.

CR 217 (Tiger Connector Project)- This project is approximately 7.6 miles in length and begins in downtown Tiger at Historic 441. It continues west along CR 217 where it terminates at CR 97.

Lake Burton Loop Project- This project is approximately 24.26 miles in length and begins on CR 97 at CR 217. It continues on CR 97 south and west to SBR 90/Mtn Crossing via CR 218. It then turns north on SR 197 and goes to SR 2 (US 76 W). From US 76 it continues north on CR 104 (Popcorn Rd) to CR 103 (Plum Orchard Rd). Then east on CR 103 to CR 86 (Tallulah River Rd). Next it turns onto CR 216 (Persimmon Rd) where it returns to US 76 W. Finally, returning to CR 97 where it ends at CR 217.

Appalachian Trail Connector (North)- This project is approximately 8.31 miles in length and begins at the Appalachian Trail in Northwest Rabun County at the Rabun/Towns county line. It continues east along CR 103 (Plum Orchard Rd)- west of CR 104 (Popcorn Rd)- where it ends at CR 103/104 intersection. Intended to be an alternative to US 76 West.

Appalachian Trail Connector (South)- This project is approximately 0.00 miles in length and begins at the Appalachian Trail in Southwest Rabun County near the Habersham/Towns/Rabun county lines. It extends east from the Appalachian Trail along CR 229 (Wildcat Rd) to SR 197.

Pedestrian Projects

Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study- GMRDC recognizes the Multi-county study completed for Rabun County in 2003 by Day-Wilburn and Associates, Inc.:

f. Pedestrian facilities for City Center links.
g. Pedestrian facilities for US 441 to Dillard House, middle and high schools.
h. Pedestrian facilities for US441.
i. Pedestrian facilities for Mountain City community centers.
j. Pedestrian facilities for pavilion to proposed City Hall.
k. Pedestrian facilities for Tallulah Falls Community Centers.
l. Pedestrian facilities for Tiger post office.
m. Pedestrian facilities for Rabun County Senior Center.

Stephens County

Multi-Use Trail Projects

Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study- GMRDC recognizes the Multi-county study completed for Stephens County in 2003 by Day-Wilburn and Associates, Inc.:

a. Bicycle facilities northeast from Toccoa to Traveler's Rest Historic Site, Georgia Baptist Assembly and Tugaloo Heritage Center.

Middle Broad Fork River Project- This project is approximately 2.27 miles in length and begins at the Habersham/Stephens county line. It extends south to the Habersham/Banks/Stephens county lines.

North Fork Broad River Project- This project is approximately 13.49 miles in length and begins in downtown Toccoa. It extends south along the river corridor and ends at the Stephens/Franklin county line.

Truett-McConnell Connector- The Broad River project could be extended to include a connector to Truett-McConnell College via Freeman Creek. The project is approximately 4.65 miles in length and extends from the college campus south to Stonecypher Lake and continues south along Freeman Creek to the North Fork Broad River.

On-Road Bicycle Projects

On-road bicycle facilities (paved bike-safe lanes or shoulders) are proposed for the following facilities:

Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study- GMRDC recognizes the Multi-county study completed for Stephens County in 2003 by Day-Wilburn and Associates, Inc.:

a. Bicycle facilities from Toccoa City Hall to Community Center.
b. Bicycle/pedestrian facilities for North Georgia Technical College to City Hall.

Toccoa Falls Connector- This project begins on CR 416 & CR 183 at SR 17 Alt/SBR 85 and extends west through campus.

CR 146- This project begins at SR 184 north of Toccoa and extends south along CR 146 to SR 365 where it terminates.

CR 418/SR 184(North)- This project begins at the Tugaloo State Park in northeast Stephens County along CR 418. It extends south along CR 418 to SR 184 north of Toccoa. The project also continues north along Yonah Dam Road to Panther Creek Road and Panther Creek Trail (US Forest Service Road 182). The trail then continues south on SR 184 into downtown Toccoa where it ends at SR 17 Alt/SBR 85.

CR 569/224 and SR 184(South)- This project is approximately 11.11 miles in length and begins at the Habersham/Stephens county line in west Stephens County. It extends southeasterly along SR 184 where it intersects with SR 184 and turns south to CR 224. It continues on CR 224 where it ends at the Banks/Stephens County line.

SR 365 (US 123)/SR 419 - This project begins at the South Carolina State line. It extends west along SR 365 thru downtown Toccoa where it turns south on SR 419. It follows SR 419 to SR 184 (South) where it terminates.

SR 63/106 Connector- This project serves as a connector between SR 365 project and SR 17Alt/SBR 85.

Pedestrian Projects

Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study- GMRDC recognizes the Multi-county study completed for Stephens County in 2003 by Day-Wilburn and Associates, Inc.:

a. Pedestrian facilities for Bell Street Park links.
b. Pedestrian facilities for Emory Johnson Park links.
c. Pedestrian facilities for Alewine Park to downtown Toccoa.
d. Pedestrian facilities for Town Center along SR17.
e. Pedestrian facilities for City Center to Doyle Street Park.
f. Pedestrian facilities for Welcome Center links.
g. Pedestrian facilities for neighborhood links.

Towns County

Multi-Use Trail Projects

Brasstown Creek Project- This project is approximately 8.33 miles in length and begins at the North Carolina State line in northwest Towns County. It extends south just to the west of Young Harris. The project ends at the Towns/Union county line.

Hiawasse River Project- This project is approximately 13.74 miles in length and begins at southeastern most portion of Lake Chatuge near US 76 E and SR 288. It extends south to the Appalachian Trail near Unicoi Gap at the Towns/Union county line.

Hightower Creek Project- This project is approximately 8.83 miles in length and begins at US 76 E at the Hiawassee River. It extends east parallel to US 76 and terminates at the Appalachian Trail in northeast Towns County at the Rabun/Towns county line.

On-Road Bicycle Projects

On-road bicycle facilities (paved bike-safe lanes or shoulders) are proposed for the following highways:

SR 2 (US 76)- This project is approximately 20.59 miles in length and begins at the Rabun/Towns county line. It extends west along US 76 thru Hiawassee and Young Harris and terminates at the Towns/Union county line. This project is a logical termini connection project w/Rabun County as proposed under the Rabun County Multi-modal Transportation Study (April 2003).

Lake Chatuge Project & Jack Rabbit Connector- This project is approximately 10.32 miles in length and begins at the North Carolina State line on SR 515. It extends south on SR 515 to US 76 West and follows US 76 West to SR 288. At SR 288 it proceeds south to US 76 East. It returns on US 76 East to downtown Hiawassee where it connects with SR 75 north to CR 77 (Bell Rd) and ends on CR 164 at the North Carolina State line.

Union County

Multi-Use Trail Projects

Nottely River Project- This project is approximately 9.6 miles in length and begins at the southern end of Lake Nottely southwest of Blairsville. It extends south to SR 348 just north of the White/Union county line.

Little Creek Project- This project is approximately 4.24 miles in length and begins north of Blairsville from Ivy Log Mountain south thru Blairsville and connects with the Nottely River project where it terminates.

Brasstown Creek/Towns County Connector Project- This project is approximately 4.39 miles in length and begins at the Union/Towns county line. It extends south to Brasstown Bald area where it terminates.

On-Road Bicycle Projects

SR 2 (US 76)/ SR 515/CR 341(Blue Ridge Hwy) - This project is approximately 15.81 miles in length and begins at the Towns/Union county line in east Union County. It extends westerly along US 76 where it intersects with SR 515 in downtown Blairsville and turns onto CR 341 (Blue Ridge Hwy. It continues west on CR 341 where it ends at the Fannin/Union county line.

SR 11 (US 19/129)- This project is approximately 3.28 miles in length and begins at the Lumpkin/Union county line. It extends north to SBR 90/Mtn Crossing where it terminates.

SR 348 (Richard Russell)- This project is approximately 6.86 miles in length and begins at the White/Union county line. It extends north along SR 348 to SBR 90/Mtn Crossing where it terminates.

White County

Multi-Use Trail Projects

Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study- GMRDC recognizes the Multi-county study completed for White County in 2003 by Day-Wilburn and Associates, Inc.:

Bicycle facilities from W.O.W. Park to Truett McConnell College.

Tesnatee Creek Project- This project is approximately 10.51 miles in length and begins at the Lumpkin/White county line. It extends northeast to the City of Cleveland where it terminates in downtown.

Chattahoochee River Project- This project is approximately 8.72 miles in length and begins in downtown Helen. It extends south from Helen to the White/Habersham county line where it parallels the county line south all the way the to the Hall/Habersham/White county line.

Mossy Creek Project- This project is approximately 10.25 miles in length and begins in downtown Cleveland. It extends southeast to the Hall County line where it terminates at the Chattahoochee River.

Helen's Unicoi/Chattahoochee Regional Trail: an extension of the Unicoi State Park Trails (Mountain Bike and Volksmarch Trails) southwest past the library, joining Pete's Park Road, then across Chattahoochee Street and south along the east side of Eidelweisstrasse through Riverside Park, past the Visitor Center then continuing south to the Hardeman property along the Nacoochee Bend.

Hardeman Farm Property to the Sautee Nacoochee Community Center through the proposed Nacoochee Village Development. The route would follow the old Hardman Road to Rabun Road linking into Bean Creek Road. The route would then follow Bean Creek Road to SR 255 and south to the SN community center.

On-Road Bicycle/Pedestrian Projects

On-road bicycle facilities (paved bike-safe lanes or shoulders) are proposed for the following highways:

Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study- GMRDC recognizes the Multi-county study completed for White County in 2003 by Day-Wilburn and Associates, Inc.:

a. Bicycle facilities east from SR75 along SR17 to Sautee Community Assn.
b. Bicycle facilities from SR356 along SR75 to SR17.

SR 348 (Richard Russell)- This project is approximately 6.48 miles in length and begins at the White/Union county line. It extends south along SR 348 to SBR 55/Appalachain Gateway where it terminates.

CR 104/105 (Chimney Mtn Rd)/CR 207 (Tray Mtn Rd)- This project is approximately 6.74 miles in length and begins at SR 356. It extends east along CR 105 to CR 104 and then north on CR 207 to the White/Towns county line. It later returns to the west on CR 207 and proceeds south to SR 75 where it terminates.

CR 103 (Sky Lake Rd) and CR 106 (Bean Creek Rd)- This project is approximately 19.43 miles in length and begins at the SR 356 on CR 103. It extends south along CR 103 to CR 106/Bean Creek Rd where it turns north and returns to SR 356 where it terminates.

CR 145/200/SR 115- This project is approximately 15.56 miles in length and begins at the White/Lumpkin county line. It extends south along CR 145 to CR where it turns east and proceeds to SR 115. At SR 115 it continues east thru Cleveland and on to the White/Habersham county line where it terminates.

CR 147- This project is approximately 2.02 miles in length and begins at the White/Lumpkin county line. It extends east along CR 147 to CR 200 where it terminates.

Sidewalk Projects

Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study- GMRDC recognizes the Multi-county study completed for White County in 2003 by Day-Wilburn and Associates, Inc.:

a. Pedestrian facilities for proposed Riverwalk Area.
b. Pedestrian facilities to connect primary and elementary school and SR115.
c. Pedestrian facilities for City Center to W.O.W. Park links.
d. Pedestrian facilities for City Center links.
e. Pedestrian facilities for City Center to the Hardeman Estate.
f. Pedestrian facilities for City Center to W.O.W. Park links.

Forsyth and Hall Counties

Per instructions from the Georgia Department of Transportation, both Forsyth and Hall Counties were excluded from official project recommendations. Both communities already have an official bicycle and pedestrian planning process via Metropolitan Planning Organizations (MPOs). Forsyth County has been designated as part of the Greater Atlanta MPO and Hall County is a part of the Gainesville-Hall MPO. Per federal requirements every MPO must develop a regional bicycle and pedestrian plan and establish an official planning process for such projects.

In an effort to maintain continuity and logical termini, GMRDC has identified several potential projects that could be established within these communities, which will connect into the proposed projects in this regional plan. These projects are suggestions only and are not intended to be binding in any form to either of these two communities. GMRDC encourages both communities to study the feasibility of these suggested projects and make a determination as to how best to establish regional connection. The regional projects are identified in the regional bicycle project map attached in Appendix II of this plan.

Georgia Mountains Region Proposed Implementation Strategy

	DESCRIPTION	PROGRAM YEAR					LIKELY PROJECT INVOLVEMENT	ESTIMATED COST	POSSIBLE FUNDING SOURCES
		2006	2007	2008	2009	2010			
PLANNING & IMPLEMENTATION ROGRAMS									
1	Fund a full-time Bicycle and Pedestrian Coordinator position at the regional level to work with local governments to develop detailed plans for the top priority projects in the region: identify funding, build public support and assist with grant applications.(e.g. City of Helen Bicycle & Pedestrian Plan, and Tallulah Rails to Trails). Establish a pilot Regional Bicycle/Pedestrian TCC to coordinate implementation strategies, track/publish regional progress, and prioritize projects for grants and local funding. Plan Safe Routes to Schools within a one-mile radius of 1 or 2 targeted schools per year in higher density areas (e.g. Hall County/Gainesville). Identify implementation strategies for sidewalk/ crosswalk/bicycle path construction projects.	X	X	X	X	X	RDC, Local citizens, businesses, Local governments, school districts, funding authorities, GDOT, etc.	$100,000/yr	GDOT, Other State and Federal Programs, Local match
2	Establish an annual outreach training course for local government officials (elected, appointed, and planning staff) about the need and benefits of bicycle and pedestrian planning in our communities including safety, public health, public policy best practices, and sharing facilities for motorized/non-motorized users of the region.		X	X	X	X	RDC, Local Governments, Boards of Education, Local Police and Sheriff's Offices, Health and Fitness Providers, Chambers of Commerce, CVBs	$40,000/yr	GDOT, Other State and Federal Programs, Local

This page intentionally left blank.

CHAPTER 8
REFERENCES AND RESOURCES

Our thanks to the planners and engineers who have come before us to lay the foundation for this publication. The following publications were resources for the Georgia Mountains Regional Bicycle and Pedestrian Plan.

References

The Banks, Franklin, Jackson County Multimodal Transportation Study, by TEI Engineers and Planners under contract to the Georgia Department of Transportation, June 2004

Bicycle and Pedestrian Planning Guide for Utah, by Julie Eldridge, Senior Planner, Parsons Brinckerhoff, August 1998

Bicycle and Pedestrian Planning Tool, Atlanta Regional Commission, 2002

Developing a Georgia Statewide Pedestrian Plan: State of the Practice Review by K. Dixon,P.E. A. Amekudzi, PhD., and W. Shephard, Georgia Institute of Technology under contract to the Georgia Department of Transportation, February 2004

Georgia Bicycle and Pedestrian Plan Statewide Route Network, Georgia Department of Transportation, August 1997, July 1998

Georgia Department of Transportation Bicycle and Pedestrian Crash Data, 2000-2003

Georgia Rails-to-Trails Workshop, published by the Rails-to-Trails Conservancy and the Governor's Office of Energy Resources, March 1995

Georgia Toll of Motor Vehicle Crashes, 2003 and *Bicycle and Pedestrian Fatality Rates 1991-1996*, The National Highway and Transportation Safety Administration (NHTSA) Surface Transportation Policy, Project Fatality Analysis Reporting System and Fiscal Management Information System 2002.

Georgia Trail Corridors and Greenways Plan, published by the Georgia Department of Natural Resources, June 1993

Guide for the Development of Bicycle Facilities, *AASHTO,* latest edition.
ITE Technical Committee 6A-55, *Review of Planning and Design Standards for Bicycle Facilities*, 1997.

Habersham, Rabun, Stephens, and White Counties Multi-modal Transportation Study by Day-Wilburn and Associates, Inc. under contract to the Georgia Department of Transportation, April 2003

Livable Centers Initiative and Grants to Local Governments, Atlanta Regional Commission (ongoing)

Manual on Uniform Traffic Control Devices, Section 9, USDOT, latest edition.

Manual of Uniform Traffic Control Devices, U.S. Department of Transportation, Federal Highway Administration, Washington, D.C. 1988.

Oregon Bicycle and Pedestrian Plan, Oregon Department of Transportation, 1995.

Philadelphia Bicycle Facility Design Guidelines, Philadelphia Department of Streets,1998.
The State of Smart Growth in the Atlanta Region by the Atlanta Regional Commission and the Regional Business Coalition, August, 2004

Safe Routes to Schools and Walkability Checklist from the Pedestrian and Bicycle Information Center and Partnership for a Walkable America and the U.S. Department of Transportation.

The Statewide Railroad Industry Context published by The Trust for Public Land and The Georgia Department of Natural Resources, September 1991

Thirteen Points For Effective Pedestrian Design by Duany-Plater Zyberck (website)

APPENDIX I: MAPS

The following maps are attached in this appendix:

1. 2005 Existing Land Use Map (Region)
2. 2005 Projected Land Use Map for 2025 (Region)
3. Georgia Mountains Regional Bicycle and Pedestrian Plan Maps (Existing and Proposed Projects)

APPENDIX II: PUBLIC INVOLVEMENT DOCUMENTATION

Minutes of Public Meetings
Public Comments Received on the Draft Plan
Copies of Sign in Sheets