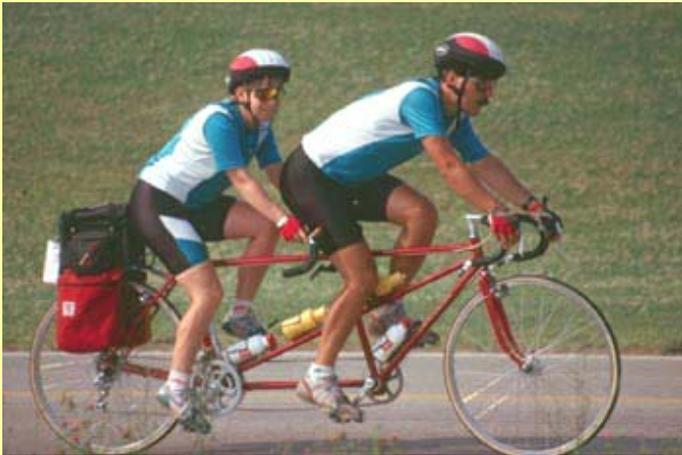


CSRA Bicycle and Pedestrian Plan



June 2005

Prepared by:

CSRA Regional Development Center

For:

Georgia Department of Transportation

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Bicycle and pedestrian transportation issues have grown in significance throughout the 1990s and 2000s. People today recognize the value of non-motorized travel and local, state and federal agencies are scrambling to accommodate the travel modes within the overall transportation system. Both bicycling and walking are popular recreational activities and are increasingly becoming important as alternatives to motorized transportation.

The goals of the *CSRA Bicycle and Pedestrian Plan* are:

- To provide an action plan to create viable and efficient bicycle and pedestrian networks.
- To outline a strategy to encourage bicycle and pedestrian transportation throughout the region.
- To identify and meet the diverse needs of bicyclists and pedestrians.
- To actively involve residents in the planning of bicycle and pedestrian projects and programs.
- To promote bicycle and pedestrian safety and reduce the number of injuries and fatalities.

The CSRA Bicycle and Pedestrian Plan is both a policy plan and technical document. It provides a comprehensive framework with which to develop and enhance bicycle and pedestrian facilities and details specific projects aimed at achieving this goal. Included are recommendations for incorporating bicycle and pedestrian considerations into land use decisions, improving facilities and maintenance, and better integrating improvements into roadway design.

Key recommendations of the Plan include:

- Designation of several state highways as bicycle routes, to include paved shoulders and share the road signs.
- Bicycle support facilities in high-use areas.
- Resurfaced and new sidewalks in residential and commercial areas within the municipalities.
- Curb ramps as part of new construction or resurfacing projects.
- Streetscape projects for the cities of Lincolnton, Crawfordville, Washington, Thomson, Sparta, Sandersville, Warrenton, Gibson, Louisville, Wrens, Waynesboro, and Millen.
- Traffic calming in high traffic neighborhoods.
- Directional signage in high-use bicycle and pedestrian areas.
- Lighting along pedestrian corridors within the municipalities.
- Bicycle and pedestrian safety and promotion efforts through media outreach and coordination among local and state agencies.
- Changes to land development codes to promote bicycle and pedestrian transportation.



1.1 Introduction

Bicycle and pedestrian transportation issues have grown in significance throughout the 1990s and 2000s. People today recognize the value of non-motorized travel and local, state and federal agencies are scrambling to accommodate the travel modes within the overall transportation system. Both bicycling and walking are popular recreational activities and are increasingly becoming important as alternatives to motorized transportation.

Numerous state bicycle and pedestrian design manuals have been drafted to guide facilities development. At the same time, planners and engineers are more familiar with and better equipped to apply bicycle and pedestrian planning and design principles in cities and towns throughout Georgia. Local and regional jurisdictions are responding by engaging in bicycle and pedestrian planning and implementing new programs.

1.2 Vision Statement and Goals

Vision Statement

The CSRA will become a place where people choose to make bicycling and walking part of their everyday lives. Residents and visitors will be able to bicycle and walk with confidence, comfort and safety in every community.

The goals of the *CSRA Bicycle and Pedestrian Plan* are:

- To provide an action plan to create viable and efficient bicycle and pedestrian networks.
- To outline a strategy to encourage bicycle and pedestrian transportation throughout the region.
- To identify and meet the diverse needs of bicyclists and pedestrians.
- To actively involve residents in the planning of bicycle and pedestrian projects and programs.
- To promote bicycle and pedestrian safety and reduce the number of injuries and fatalities.

1.3 Enabling Legislation and Policy Context

1.3.1 *Intermodal Surface Transportation Efficiency Act (1991)*

The passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) ushered in a new era in transportation planning. For the first time, bicycle and pedestrian travel was recognized as a form of transportation no different from motorized travel.

The new vision of an intermodal transportation system created by ISTEA is spelled out in a declaration of policy in section 2 of the law [P.L. 102-240, 2), which states:

It is the policy of the United States to develop a National Intermodal Transportation System that is economically efficient and environmentally sound, provides the foundation for the Nation to compete in the global economy, and will move people and goods in an energy efficient manner.

The National Intermodal Transportation System shall consist of all forms of transportation in a unified, interconnected manner, including the transportation systems of the future, to reduce energy consumption and air pollution while promoting economic development and supporting the Nation's preeminent position in international commerce.

ISTEA requires each state incorporate long-range bicycle and pedestrian planning in its transportation plan, and requires each state department of transportation fund a bicycle and pedestrian coordinator position. Funding for transportation infrastructure projects would be partially dependent on bicycle and pedestrian travel provisions.

As part of ISTEA, Congress ordered a national study to determine current levels of bicycle and pedestrian transportation and to develop a plan for increased use and enhanced safety. Having determined that commuting trips made by bicycling and walking accounted for no more than 4.4% of total transportation, the U.S. Department of Transportation adopted a new transportation policy to “encourage planners and engineers to accommodate bicycle and pedestrian needs in designing transportation facilities for urban and suburban areas”, and to “increase pedestrian safety through public information and improved crosswalk design, signaling, school crossings, and sidewalks”.

The Federal Highway Administration and Federal Transit Administration have issued Interim Technical Guidance for bicycle and pedestrian planning under ISTEA. The Technical Guidance includes the following key points:

- Plan elements should include goals, policy statements and specific programs, and projects whenever possible.
- Plans should identify financial resources necessary for implementation.

1.3.2 Transportation Equity Act for the 21st Century (1998) and Safe, Accountable, Flexible and Efficient Transportation Equity Act (2004)

Like ISTEA, its successors, the Transportation Equity Act for the 21st Century (1998) (TEA-21) and Safe, Accountable, Flexible and Efficient Transportation Equity Act (2004) (SAFETEA) encourage states to incorporate bicycle and pedestrian transportation in their long-range plans. The legislations authorize Federal Surface Transportation programs for highways, highway safety, transit, and other surface transportation programs. Among the many bicycle and pedestrian programs included, TEA-21 and SAFETEA require that a

certain percentage of the highway funds in the Surface Transportation Program component be used for enhancement activities, which include bicycle and pedestrian facilities. Additionally, approximately \$15-\$20 million annually is programmed for the Recreational Trails Program.

The legislation also prevents state and local jurisdictions from ignoring bicycle and pedestrian needs by explicit provision: “The Secretary shall not approve any project or take any regulatory action that will sever an existing major nonmotorized route or adversely affect safety of nonmotorized traffic and light motorcycles, unless a reasonable alternate route exists or is established”.

1.3.3 Clean Air Act Amendments (1990)

The Clean Air Act Amendments of 1990 (CAAA) is a federal law established to regulate air pollutants including ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, lead, and particulate soot. It set a national agenda for identifying areas with unhealthy air quality and establishes specific responsibilities for government and industry to promote healthy air quality nationwide. The law allows states to maintain stronger pollution controls but provides minimum standards that must be met nationwide. States are required to develop State Implementation Plans (SIPs), outlining a regulatory framework to clean up polluted areas.



The CAAA seeks to integrate transportation and air quality planning through SIPs. Preparation of SIPs must be coordinated with transportation planning processes that include a non-motorized transportation element. Failure to do so results in non-attainment designation as well as limits on funding for projects and programs.

1.3.4 Americans with Disabilities Act (1990)

The Americans with Disabilities Act (ADA) is civil rights legislation designed to protect people with mental or physical disabilities from discrimination. The ADA requires places of public accommodation and commercial facilities to be designed, constructed and altered in compliance with the ADA Accessibility Guidelines. Public accommodations include nearly all pedestrian facilities.

The ADA has significant implications for the provision and design of facilities to serve pedestrians. Access to transit services and public / private sites, and the location and design of pedestrian facilities are just some of several transportation-related issues.



State and local governments are required to follow specific architectural standards in new construction and alteration of their buildings. They also must relocate programs or provide access to inaccessible buildings, and communicate effectively with people who have hearing, vision, or speech disabilities. While public entities are not mandated to take actions that would result in undue financial and administrative burdens, they are required to make reasonable modifications to policies, practices, and procedures where necessary to avoid discrimination.

1.3.5 Georgia Department of Transportation Policy

Conducting continuous, cooperative, and comprehensive bicycle and pedestrian planning is a major priority in Georgia. The Georgia Department of Transportation (GDOT) relies in large part on the local planning process for statewide planning outputs.



Pedestrian planning goals and guidance are provided in the Georgia Department of Transportation *Pedestrian Facilities Guidebook* (2004). These include:

- Encouraging economic development that enhances pedestrian mobility.
- Promoting non-motorized transportation as a means of congestion mitigation.
- Promoting non-motorized transportation as an environmentally friendly means of mobility.
- Promoting connectivity of non-motorized facilities with other modes of transportation.

Bicycle transportation policy was established in the Georgia Bicycle and Pedestrian Plan State Route Network (1995). GDOT is in the process of updating the Plan, which will provide more thorough bicycle planning policies.

In 2001, the Georgia State Transportation Board (GSTB) resolved to “direct more financial and staff resources towards programs that will increase the use for non-motorized modes of transportation to and from schools; make routes to school safer for those modes; reduce motor vehicle congestion; improve student health and fitness; and work with local government entities to foster transportation-related improvements and programs for the safety of students”.

1.3.6 Georgia Planning Act (1989)

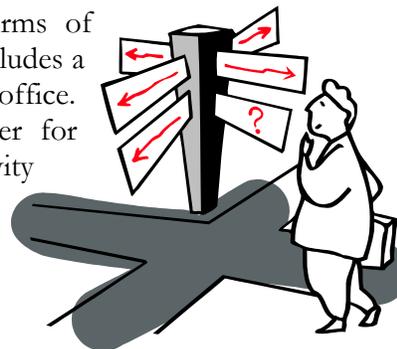
The Georgia Planning Act (1989) provides local governments with a guide for minimum planning standards and procedures for local comprehensive planning. Comprehensive plans are required of all cities and counties, of which a transportation component must be included. While no specific provision mandates bicycle and pedestrian elements, local



jurisdictions are strongly encouraged to include bicycle and pedestrian planning in the community facilities section of their plan.

1.4 The Need for Bicycle and Pedestrian Planning

Bicycling and walking are the oldest and most basic forms of transportation. Virtually all travel at one point or another includes a pedestrian element. For some, it's a walk from home to the office. For others it could be a four or five mile jog. Whether for recreation or transport, bicycle and pedestrian activity contributes to the CSRA's quality of life. The benefits of nonmotorized transportation include:



1.4.1 Health

The health benefits of bicycling and walking are well-documented, and include reduced:

- Risk of stroke
- Heart diseases
- Diabetes
- Obesity
- Cholesterol
- Osteoporosis
- Stress

1.4.2 Transportation and Land Use

Bicycle and pedestrian transportation reduces roadway congestion and wear and maintenance needed along roadways. Many streets and highways carry more traffic than they were designed to handle. Walkways reduce the need for short vehicle trips, impacts along roadways, and the need for parking facilities. The National Personal Transportation Survey (1995) found that approximately 40% of all trips are less than 2 miles in length, representing a 30-minute walk. And a Rodale Press survey (1995) found that over 40% of U.S. adults would use non-motorized travel if safe conditions were available.

Proper bicycle and pedestrian planning and design can also result in more efficient land use patterns. Good planning helps to integrate road corridors in a way that facilitates bicycle and pedestrian transportation opportunities. City designs that include a comprehensive network of adequate street widths, sidewalks, crosswalks, and traffic calming devices reduce the need for motorized



transportation by offering safe and convenient access to employment and activity centers. Such designs lessen the need for wider and higher capacity roads, and render the provision of public services more cost-effective, offering both choices in transportation and improved personal mobility.

1.4.3 Economic

Bicycle and pedestrian travel are affordable transportation modes. They reduce automobile expenses, and the costs associated with maintenance of multi-use trails, sidewalks and crosswalks are considerably lower than road maintenance.

Bicycle and pedestrian facilities also have an impact on attracting business and tourists. In cities and towns where people can regularly be seen out bicycling or walking, there is a sense that these are safe and friendly communities. For tourists, driving and parking in crowded, unfamiliar areas is less attractive than bicycling and walking between activity nodes.

1.4.4 Environmental

Bicycling and walking are pollution-free transportation modes. Reducing auto trips improves both air quality and water quality. Motor vehicles are one of the greatest sources of air pollution. Transportation is responsible for over 80% of carbon monoxide and nearly 50% of nitrogen oxide emissions throughout the nation. Particulate emissions and polluting fluids that accumulate on roadway surfaces are carried to surface waters or to soil surfaces where they often percolate into groundwater systems. Bicycle and pedestrian transportation can reduce these non-point source pollutants in water resources.

Under the CAAA, non-attainment areas are required to reduce ozone and carbon monoxide emissions. Bicycle and pedestrian facilities are approved Traffic Control Measures (TCMs) for attainment. The Atlanta metropolitan area has already been designated a non-attainment area under the CAAA. The Augusta region is on the verge of being added to that list. Encouraging bicycle and pedestrian transportation will contribute to meeting clean air requirements.

1.4.5 Safety

Whether walking for recreation or transportation, safety is a concern for all CSRA residents. In many areas, the lack of a continuous network of sidewalks forces pedestrians to walk in the street, in effect sharing already narrow roadways with motor vehicles. A safe pedestrian network reduces automobile-pedestrian accidents, and enhances the quality of life for residents.

1.5 Plan Development Process

The CSRA Bicycle and Pedestrian Plan is both a policy plan and technical document. It provides a comprehensive framework with which to develop and enhance bicycle and pedestrian facilities and details specific projects aimed at achieving this goal. Included are recommendations for incorporating bicycle and pedestrian considerations into land use decisions, improving facilities and maintenance, and better integrating improvements into roadway design.

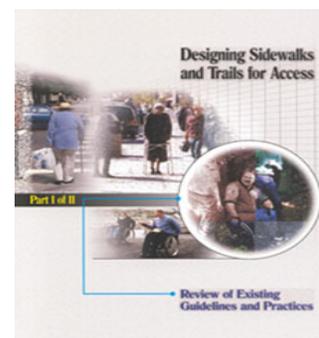
The Plan also serves as a tool to share a transportation vision with others, guide future planning efforts, and provide a basis for coordinated decision-making. Maintaining, improving, and expanding existing bicycle and pedestrian facilities will enhance local transportation systems and ultimately make the CSRA a more attractive place to live and visit.

The Plan is a stand-alone document, separate from other planning documents, such as the transportation element of local comprehensive plans and short-term work programs. But it is hoped that recommendations contained in this Plan will be incorporated into future comprehensive and long-range transportation planning efforts.

1.5.1 Plan and Design Guide Review

Staff collected and reviewed numerous transportation plans throughout the state. These included MPO bicycle and pedestrian plans, long-range transportation plans, the transportation element of the most thorough comprehensive plans, *the Georgia Pedestrian Facilities Design Guidebook*, and the Atlanta Regional Commission's *Best Design Practices*. Staff also reviewed the *CSRA Regional Plan* and local government development ordinances, federal planning guides and best practice publications from professional organizations. These include:

- *AASHTO Policy on Geometric Design of Highways and Street*
- *Design and Safety of Pedestrian Facilities, A Recommended Practice*
- *Residential Street Design and Traffic Control*
- *Creating Pedestrian and Bicycle Systems in Conjunction with New Development*
- *Uniform Federal Accessibility Standards*
- *ADA Accessibility Guidelines for Buildings and Facilities*
- *Designing Sidewalks and Trails for Access, Part I and II*



Plans reviewed included different levels of detail, ranging from broadly defined goals and objectives to detailed policies addressing site planning and design standards. The approach taken for this plan was to adopt the best of each plan within the context of what is relevant to the rural CSRA.



1.5.2 Inventory

Staff gathered inventories of existing bicycle and pedestrian facilities, including an analysis of accessibility, conditions, and barriers to transportation. The purpose was to analyze the rural CSRA's facilities and needs, and assist in public outreach efforts.

1.5.3 Coordination

Staff worked closely with city and county officials throughout the planning process, particularly planning and public works departments. Local governments also contributed valuable information such as zoning and land use documents, current and projected funding levels, and rules and regulations.

Local government departments' involvement throughout the development of this plan helped to guide its focus and recommendations in a direction that will maximize its chances of being implemented.

1.6 Public Participation

The Plan's development was subject to a comprehensive stakeholder and public involvement process. Public involvement serves to educate community leaders about bicycle and pedestrian issues and build constituency support, both necessary ingredients for any successful action plan. Each person at the table represents many others and offers insight on something overlooked by planners. By involving the public as a partner throughout the planning process, the message sent is that people's ideas matter. And if a known and quantifiable effect on the Plan is seen and people feel the plan is theirs, not just something imposed by a regional planning agency, they are likely to become advocates for its implementation.

1.6.1 Public Workshops / Public Information Meetings

Workshops were scheduled to provide an opportunity for residents to become familiar with the bicycle and pedestrian planning effort and to guide the decision-making process. Staff consulted with various community organizations, including groups that had been under-represented in the decision-making process in the past. The workshops were advertised throughout local communities with public service announcements.

Participants were asked to help conceptualize what the bicycle and pedestrian plan should look like.



Participants formulated goals and objectives, and provided input on existing conditions and needs.

1.6.2 Advisory Committee

A bicycle and pedestrian advisory committee was formed to assist in the development of the Plan. The committee represented various community organizations and city and county staff. The committee was invaluable in formulating goals and objectives, generating ideas, and identifying solutions to problem areas. Membership on the committee was open to all residents.

The committee analyzed bicycle and pedestrian needs and provided solutions to promote bicycle and pedestrian transportation. Emphasis was placed on infrastructure and aesthetics, as these were viewed as major factors affecting bicycle and pedestrian activity. The committee also investigated additional opportunities that would promote safe bicycling and walking, which included outreach programs.

2.0 Regional Overview

The Central Savannah River Area (CSRA) encompasses an area of over 5,000 square miles - one of the largest political regions in the State of Georgia. Located in the east-central part of State, the CSRA planning region consists of 13 counties: Burke, Columbia, Glascock, Hancock, Jefferson, Jenkins, Lincoln, McDuffie, Richmond, Taliaferro, Warren, Washington, and Wilkes.

According to the 2000 U.S. Census, the CSRA had a population of 417,970. Approximately 289,063 persons, or 69.1% resided in the urbanized areas within Richmond and Columbia Counties. Most of the region's growth has occurred in and around the Augusta metropolitan area.

Interstate Highway 20 and numerous of State and U.S. Highways serve the CSRA. U.S. Highways 1, 301, 25, 221, 278, and 378 cross several regions and serve as major development corridors. Major metropolitan areas within easy driving distance of the center of the region include Atlanta (139 miles), Athens (87 miles), Savannah (125 miles), Columbia, SC (75 miles), and Charlotte, NC (167 miles).



The CSRA planning area encompasses two broad physiographic provinces - the Southern Piedmont, and the Coastal Plain. Counties classified as Southern Piedmont include Columbia, Hancock, Lincoln, McDuffie, Taliaferro, Warren, and Wilkes. Southern Piedmont is characterized by steep to gently rolling thin, well-drained red soils. The Coastal Plain Counties of Burke, Glascock, Jefferson, Jenkins, Richmond, Washington are characterized by gently sloping, well-drained sandy loam to sandy soils.

The CSRA's spread and diverse landscape both accommodates and presents obstacles to biking and walking. The region's rivers, hills and the Fall Line help define two sub-regions but also impede travel within and among those regions, making interregional bicycle travel challenging. On the other hand, the region's bucolic backdrop provides opportunities for tourism and economic development related to biking as seen by the number of Bicycle Ride Across Georgia (BRAG) visits to the region.

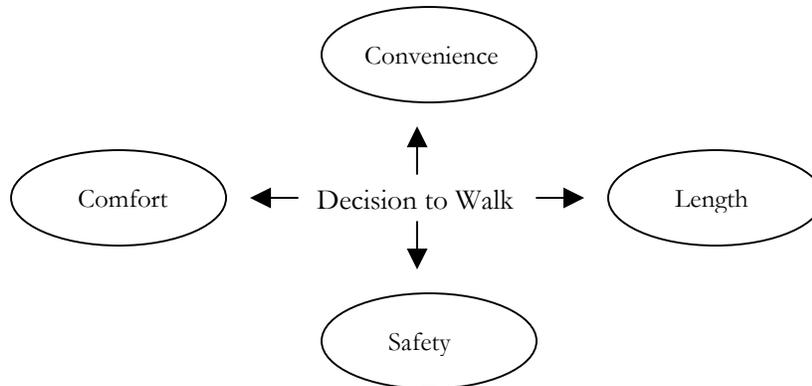
CSRA communities already contain several key components that, when taken collectively, form the core of a promising bicycle and pedestrian network. These include:

- Low traffic volumes along main roadways.
- City business districts with extensive pedestrian facilities.
- Active *Main Street* and *Better Hometown* programs.
- County commissions and city councils responsive to community initiatives.

2.1 Commuting Statistics

The decision to bicycle or walk can be broadly conceptualized as encompassing the following criteria (Fig. E-1):

Figure E-1: Decision to Bicycle or Walk



Bicycle and pedestrian usage in the CSRA is difficult to quantify. U.S. Census journey-to-work data is available, and is the most comprehensive measurement of travel to work. However, an inherent weakness is that it captures only the primary mode of travel to work and does not take into secondary bicycling or walking trips.

Other sources for evaluating bicycle and pedestrian usage in the CSRA include surveys and questionnaires completed as part of transportation plans and actual counts conducted by local and state agencies. Surveys and questionnaires summarized in transportation plans are typically based on a limited sampling size and may not necessarily be statistically valid indicators of usage. Nevertheless, local surveys do provide useful information and supplement journey-to-work data.



Table E-1 presents transportation mode splits from the 2000 U.S Census and highlights the prevalence of the automobile as the primary mode of transportation in the rural CSRA.

Approximately 74.3% of commuters drive an automobile to work, an increase of over 7% from 1990. Carpool riders account for 19.7% of commuters and transit riders total another 0.46%. Non-motorized transportation comprises the third largest share of commuters, but at a relatively low 1.8% percent.



Table E-1: Means of Transportation to Work, 2000

County	Drove Alone	Carpooled	Public Transport	Bicycle or walked	Motorcycle	Worked at Home
Burke	79.0%	15.5%	0.7%	1.6%	2.0%	1.2%
Glascock	62.4%	29.8%	1.8%	1.7%	3.4%	0.9%
Hancock	73.5%	19.6%	0.3%	1.8%	0.7%	4.1%
Jefferson	74.4%	19.3%	0.2%	2.1%	2.9%	1.1%
Jenkins	77.2%	17.5%	0%	1.5%	1.3%	2.5%
Lincoln	77.2%	17.5%	0%	1.5%	1.3%	2.5%
McDuffie	79.1%	16.8%	0.4%	1.7%	0.5%	1.4%
Taliaferro	72.0%	23.0%	0.1%	2.3%	0.4%	2.2%
Warren	69.7%	23.5%	0.2%	1.4%	2.3%	3.0%
Washington	79.4%	16.0%	1.0%	1.6%	0.7%	1.3%
Wilkes	74.0%	18.7%	0.4%	2.2%	1.3%	3.4%
Georgia	77.5%	14.5%	2.3%	1.9%	1.0%	2.8%

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

Public transportation usage is low due to the limited service provided. Some rural CSRA jurisdictions have county operated transit services. The typical transit agency has 2 or 3 buses, is funded primarily with Georgia Department of Transportation (GDOT) and Georgia Department of Human Resources (GDHR) funds, and offers morning and evening trips from the unincorporated area to the county seat or the Augusta metro area. Counties with high carpool rates correlate with very limited industry. Residents of Glascock, Taliaferro and Warren Counties (the only jurisdictions where carpool rates exceed 20%) travel outside their county for work at higher rates than the region average. A significant share of the CSRA region’s working population (approximately 60%) travels to work outside their county of residence. Close to a quarter of those commuters travel to a neighboring county for work (10 to 30 miles away) while others travel as far as 60 miles to major employment centers in Augusta, Savannah and Statesboro.

Surprisingly, few residents bicycle or walk to work even though county seats are major employment generators throughout the region. Residents and advisory committee members pointed to two issues concerning local employment. First, the largest employer in most municipalities is the local Board of Education. A significant share of those employees (both teaching and administrative staff) commutes from other jurisdictions. Secondly, county government employment preferences encourage residents to reside away from city centers in many cases. Although official policies requiring county employees to reside in the county for which they are employed are no longer institutionalized, it is still considered “good politics” for those employees to reside in those jurisdictions. As such, distances are too great in many cases to bicycle or walk to work.

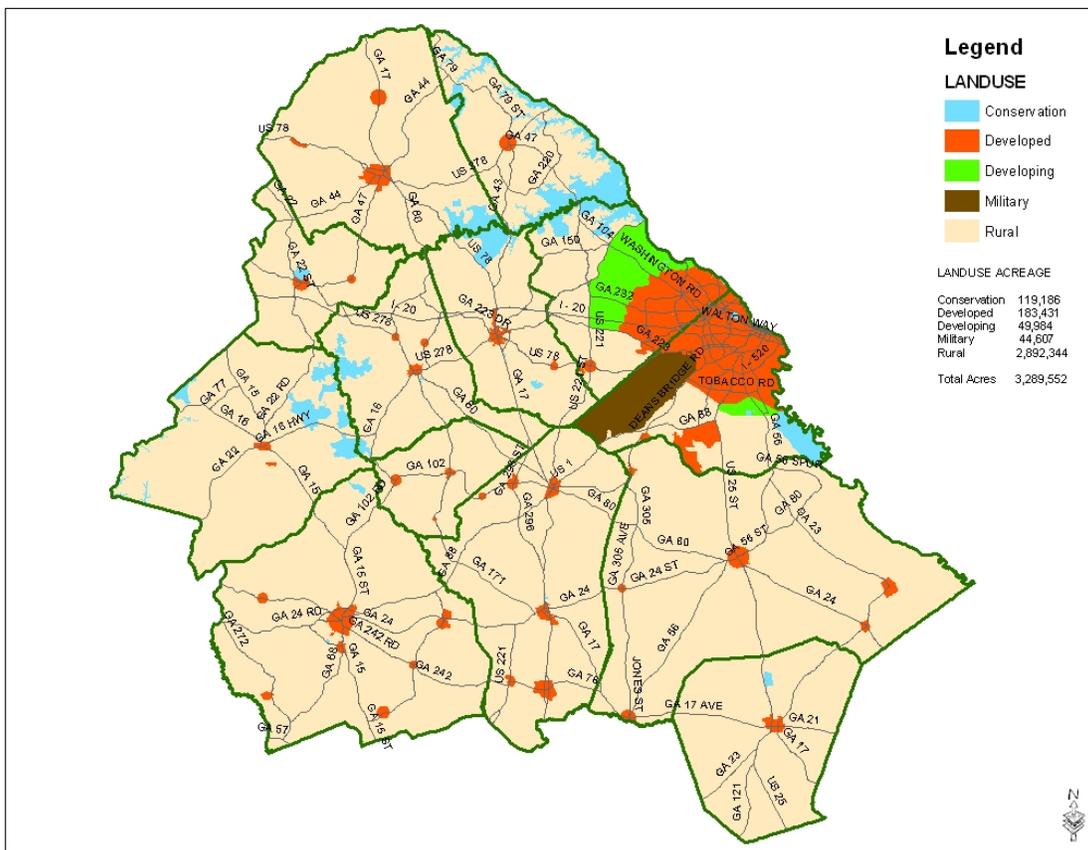
2.2 Land Use and Patterns of Development

To analyze development trends in the CSRA, staff compiled and reviewed local government land use maps and accompanying aerial photography. A detailed examination of current land



use was completed as part of the CSRA Regional Development Center’s 2004 Regional Plan Update. The study found that much of the region is characterized by low-density, agricultural land-use patterns (Fig E-2). Less than 7% of the region’s land use is developed or developing, highlighting one of the impediments of bicycling and walking as viable transportation modes. Future land use is projected to remain relatively unchanged, with little growth expected to occur outside the Augusta metropolitan area. The region’s major challenge will be to persuade transportation agencies to fund projects when, increasingly, those agencies consider the relationship between populations served and the cost of the infrastructure in decision-making.

Figure E-2: Current Land Use in the CSRA, 2004



Source: CSRA Regional Development Center; County Governments

Based on an examination of local government comprehensive plans, primary land use patterns include:

Developed City Centers

Typical land use is primarily small-scale, mixed-use development with surrounding residential and office/service sectors and well-developed infrastructure. City centers are served by major roads and infrastructure, and are viewed as the center of bicycle and pedestrian



activity within a municipality or county. Examples of town centers include Waynesboro (Burke County), Gibson (Glascock County), Sparta (Hancock County), Lincolnton (Lincoln County), and Thomson (McDuffie County).



Developing Suburban Areas

Typical land use is residential with low-intensity retail/office development and some vacant developable land available. Suburban areas are served by major and minor arterials with limited alternative modes of transportation. Land use patterns are typically low-density and distances between uses render bicycle and pedestrian transportation difficult. Examples of suburban areas include parts of Columbia, Lincoln and McDuffie Counties.

Rural Areas

Typical land use is sparsely developed, primarily rural landscape with small and scattered communities and freestanding residential and commercial developments. Little developed infrastructure is available. Examples of rural areas include most CSRA unincorporated areas.

As noted, most of the region's growth has occurred in and around the Augusta metropolitan area. This trend is projected to continue through 2025, with 87.3 % of the region's growth occurring within the urbanized area (Table E-2). The rural CSRA (excluding Richmond and Columbia Counties) is forecast to grow approximately 9.5% percent to 141,148 residents through 2025. Growth projections vary within the region from a low of -8.2% in Jefferson County to a high of 25.7% in Burke County. The fastest growing counties (Burke, Lincoln and McDuffie) all about the Augusta metro area.

Table E-2: CSRA Population Projections, 2000-2025

County	Population 2000	Population 2025	% Change
Burke	20,579	25,861	25.7%
Glascock	2,556	2,774	8.5%
Hancock	10,076	10,839	7.6%
Jefferson	17,266	15,845	-8.2%
Jenkins	8,575	8,243	-3.9%
Lincoln	8,348	10,388	24.4%
McDuffie	21,231	24,587	15.8%
Taliaferro	2,077	2,133	2.7%
Warren	6,336	6,027	-4.9%
Washington	21,176	24,094	13.8%
Wilkes	10,687	10,357	-3.1%
Total	128,907	141,148	9.5%
Urban CSRA	289,063	373,209	29.1%

Source: Woods & Poole Economics, 2003





The distance between where people live and work continues to grow. Within the rural CSRA, the average trip to work has increased steadily over the last several decades and this trend is projected to continue. The disconnect between home and work is shown in the number of workers who travel from one sub-area to another for work (Table E-3, Fig. E-3). Between 1990 and 2000, 14.1% more commuters traveled from the sub area they live to other parts of CSRA and surrounding regions for work. Less than 38% percent of

workers commute to jobs within their own county.

Table E-3: Workers Commuting Outside County of Residence, 1990-2000

County	1990		2000		1990-2000 % Change
	Number	%	Number	%	
Burke	2,531	16.8%	3,186	18.6%	25.9%
Glascock	634	4.2%	762	4.4%	20.2%
Hancock	1,854	12.3%	1,822	10.6%	-1.7%
Jefferson	1,399	9.3%	1,924	11.2%	37.5%
Jenkins	370	2.5%	448	2.6%	21.1%
Lincoln	1,332	8.8%	1,540	9.0%	15.6%
McDuffie	2,956	19.6%	3,209	18.7%	8.6%
Taliaferro	489	3.2%	524	3.1%	7.2%
Warren	1,253	8.3%	1,251	7.3%	-0.2%
Washington	1,241	8.2%	1,552	9.0%	25.1%
Wilkes	994	6.6%	953	5.6%	-4.1%
Total	15,053	32.5%	17,171	38%	14.1%

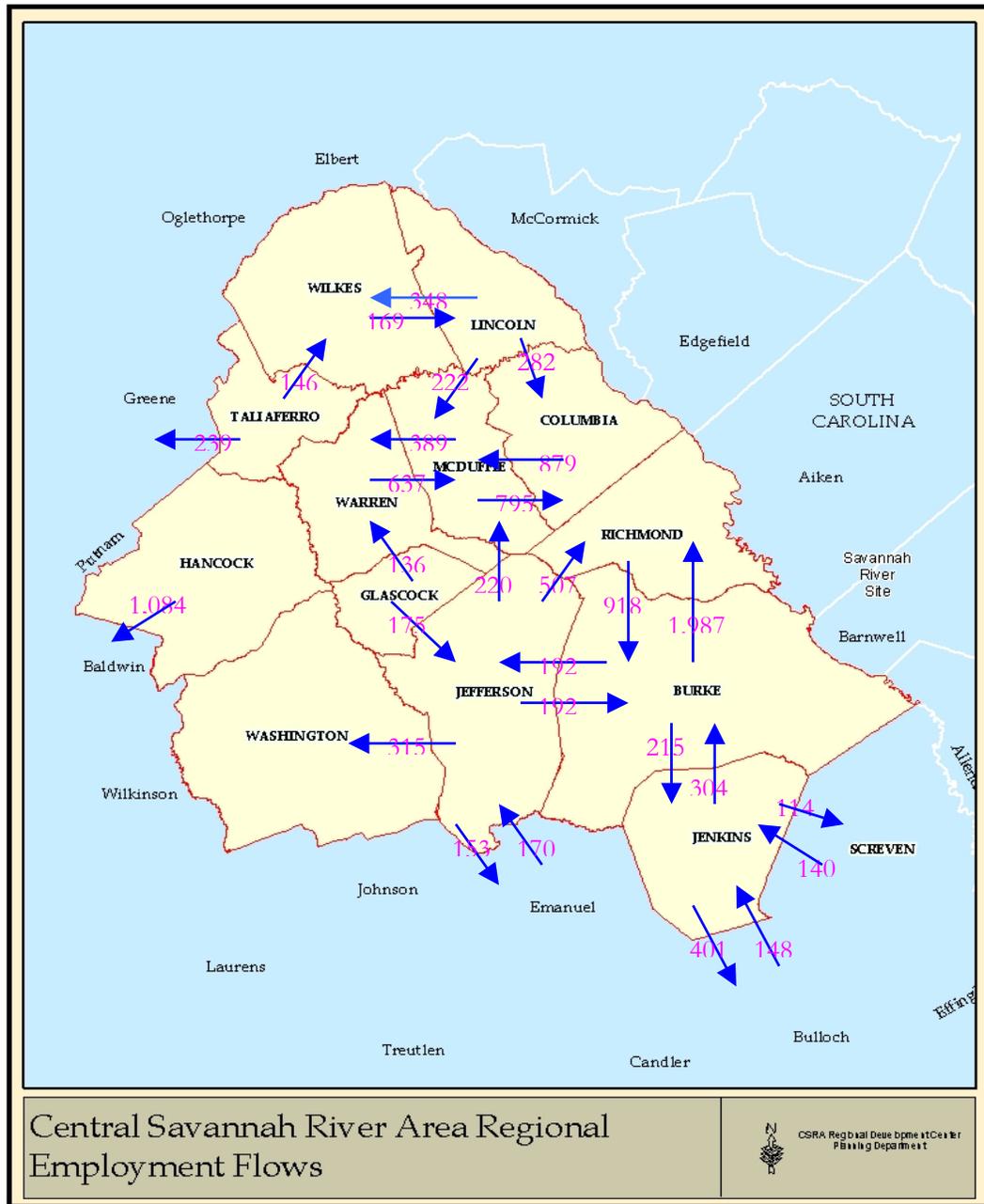
Source: U.S. Bureau of the Census, 1990-2000

Development patterns remain a significant determinant of bicycle and pedestrian transportation. Densely developed communities are more reliant on bicycle and pedestrian transportation and can justify the cost of facilities. In dense, mixed-use developments, for instance, residents may find driving unnecessary, while in more typical suburban subdivisions, they will need to use an automobile to reach most destinations.

Denser developments are found almost exclusively in the municipalities. The settlement patterns of most midsize communities (i.e. Millen, Warrenton, Louisville etc.) reflect their origin as railroad stops in the 19th and early 20th centuries. Their design highlights the pedestrian orientation and smaller scale common during that period. Denser development and shorter blocks meant that more residents were within walking distance to their jobs and street life was much more common.



Figure E-3: Number of Workers Crossing County Lines for Work

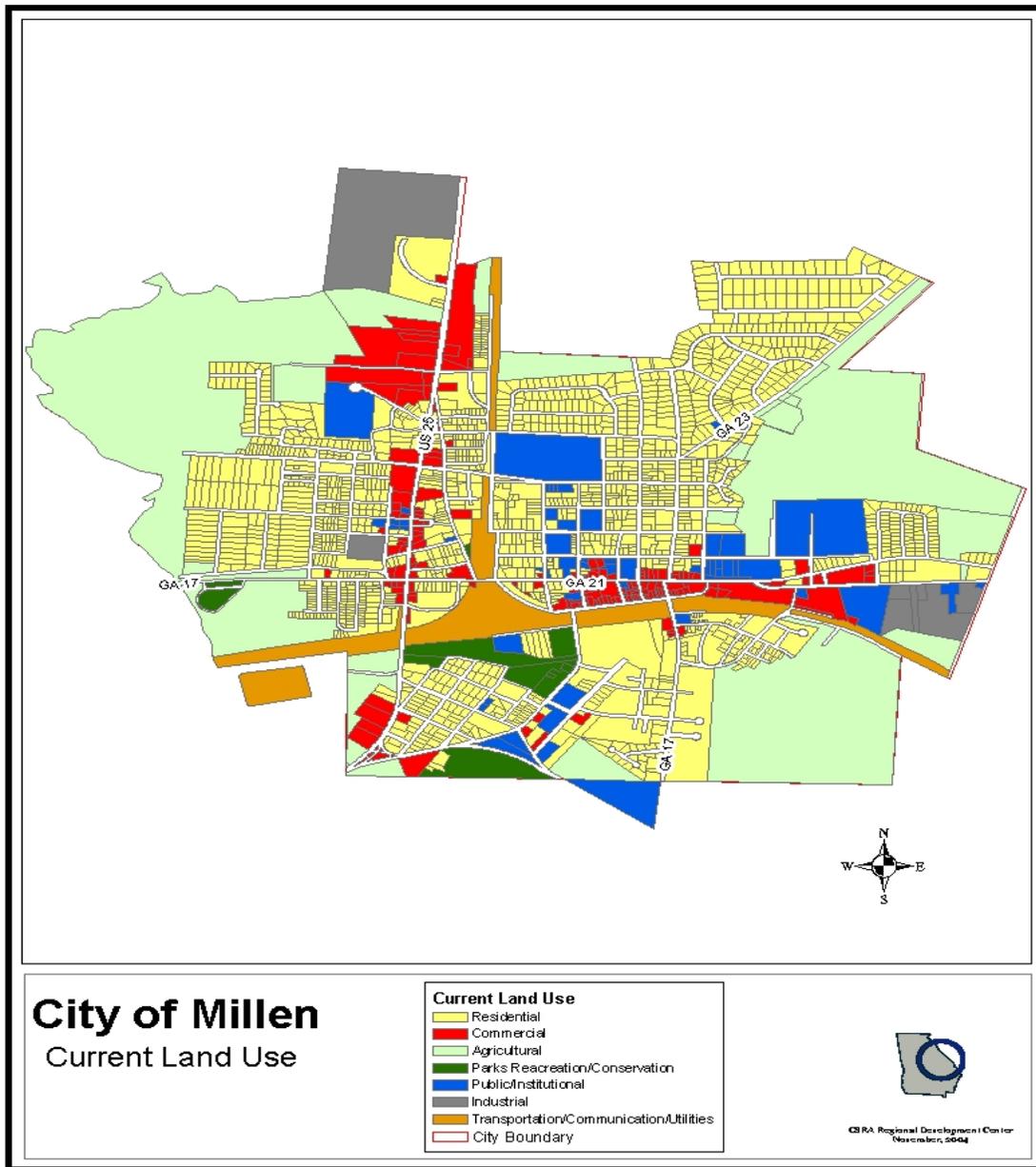


Source: U.S. Bureau of the Census County-to-County Flows, 2000

Figure E-4 presents current land use in Millen. Land patterns in Millen are typical of other municipalities: overwhelmingly residential at the core with commercial development along major arterials and public/institutional uses imbedded within other land uses. This relatively dense type of development is conducive for both bicycle and pedestrian transportation.



Figure E-4: City of Millen Current Land Use, 2004



Source: Millen-Jenkins County Comprehensive Plan, 2004

After the introduction of the automobile in the later part of the 20th century, residents began commuting from primarily residential neighborhoods to jobs in predominantly commercial and industrial areas in the larger Augusta metro area. One effect of this has been the decline of cities and growth of population in the unincorporated areas as it became more cost effective to live outside the cities. Table E-4 traces the population decline of CSRA municipalities.



Table E-4: Population Change in CSRA Municipalities, 1980-2000

City	Population 1980	Population 2000	% Change
Crawfordville	594	572	-3.7%
Gibson	730	694	-4.9%
Lincolnton	1,406	1,595	13.4%
Louisville	2,823	2,712	-3.9%
Millen	3,988	3,492	-12.4%
Sparta	1,754	1,522	-13.2%
Thomson	7,001	6,828	-2.5%
Sandersville	6,137	6,144	0.1%
Warrenton	2,172	2,013	-7.3%
Washington	4,661	4,295	-7.9%
Waynesboro	5,760	5,813	0.9%
Total	37,026	35,680	-3.6%

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

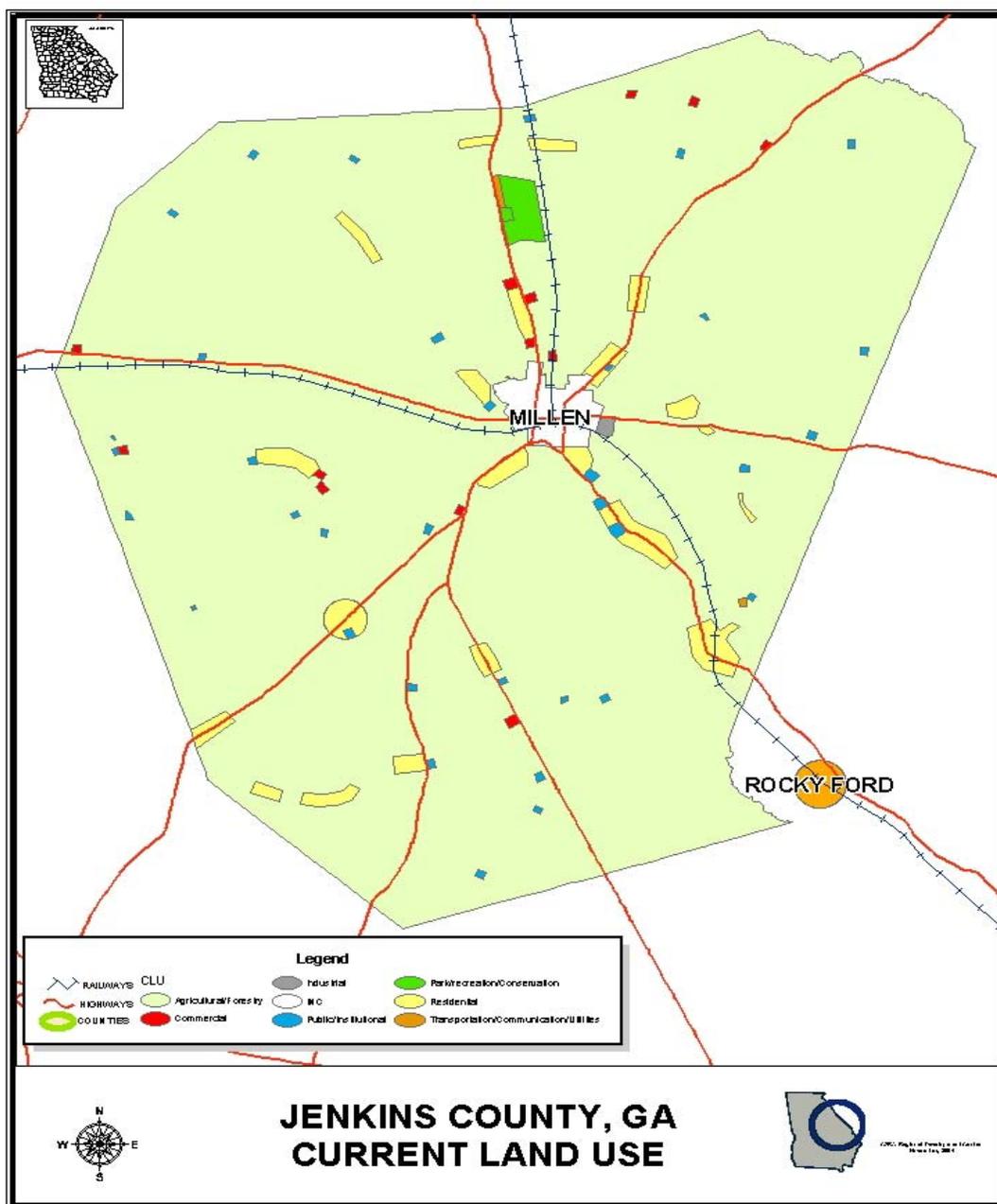
The nature of employment also changed as large-scale manufacturing resulted in a concentrated workforce at a single location in the unincorporated areas near I-20 and other major highways. This is more evident in counties such as Jenkins, Warren and McDuffie where significant resources have been invested in regional parks along major highways. As housing development shifted to low-density unincorporated areas, higher acreage levels were absorbed and the cost of providing bicycle and pedestrian facilities could not be justified. Figure E-5 presents current land use in Jenkins County, highlighting sprawled residential areas away from major employment centers in Millen. This renders nonmotorized transportation, particularly walking, very difficult.

For communities abutting the Augusta metro area (Lincoln, McDuffie etc.) development also involved a process of suburbanization. Standards that guided the design of new residential development near the metropolitan area assumed that residents would depend more and more on motorized transportation. In addition, and in line with development patterns of the Augusta area, the increased size and scale of new retail and commercial areas assumed primary access by motorized transportation modes. Increasingly, more developments, both residential and commercial, were built without sidewalks.

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



Figure E-5: Jenkins County Current Land Use, 2004



2.3 Major Trip Generators/Attractors

Trip generators are a major determinant of bicycle and pedestrian usage. Ease of access to major trip generators through the development of bicycle and pedestrian networks that

consider land use and are integrated with the rest of the transportation system have traditionally been linked with higher non-motorized transportation use levels.

Major trip generators in the CSRA include employment centers, tourism facilities, and places of worship. The rural CSRA economy is dependent on large-scale manufacturing, which accounts for close to half of all sector employment in many jurisdictions. The location of traffic generators are found in either concentrated areas around county seats (due to infrastructure availability) or in proximity to major transportation corridors away from populated areas.



Major tourism facilities such as Clarks Hill Lake (Lincoln County) and Magnolia Springs State Park (Jenkins County) are located in proximity to midsize cities such as Lincolnton and Millen. Businesses and places of worship, by contrast, are scattered throughout the unincorporated areas of most counties. Thus relatively low bicycle and walking trips in the rural CSRA are partly due to the absence of available destinations. Bicycle and walking levels in Atlanta, Athens and Savannah are higher than other urban areas in the state due to a concentration of colleges, higher densities, and more developed networks of facilities.



As noted, most bicycle and pedestrian activity within CSRA jurisdictions occurs in and around the municipalities' downtown areas. With the exception of recreational bicycling and walking in parks and neighborhoods, there are no other concentrated areas of bicycle and pedestrian activity in the unincorporated areas.

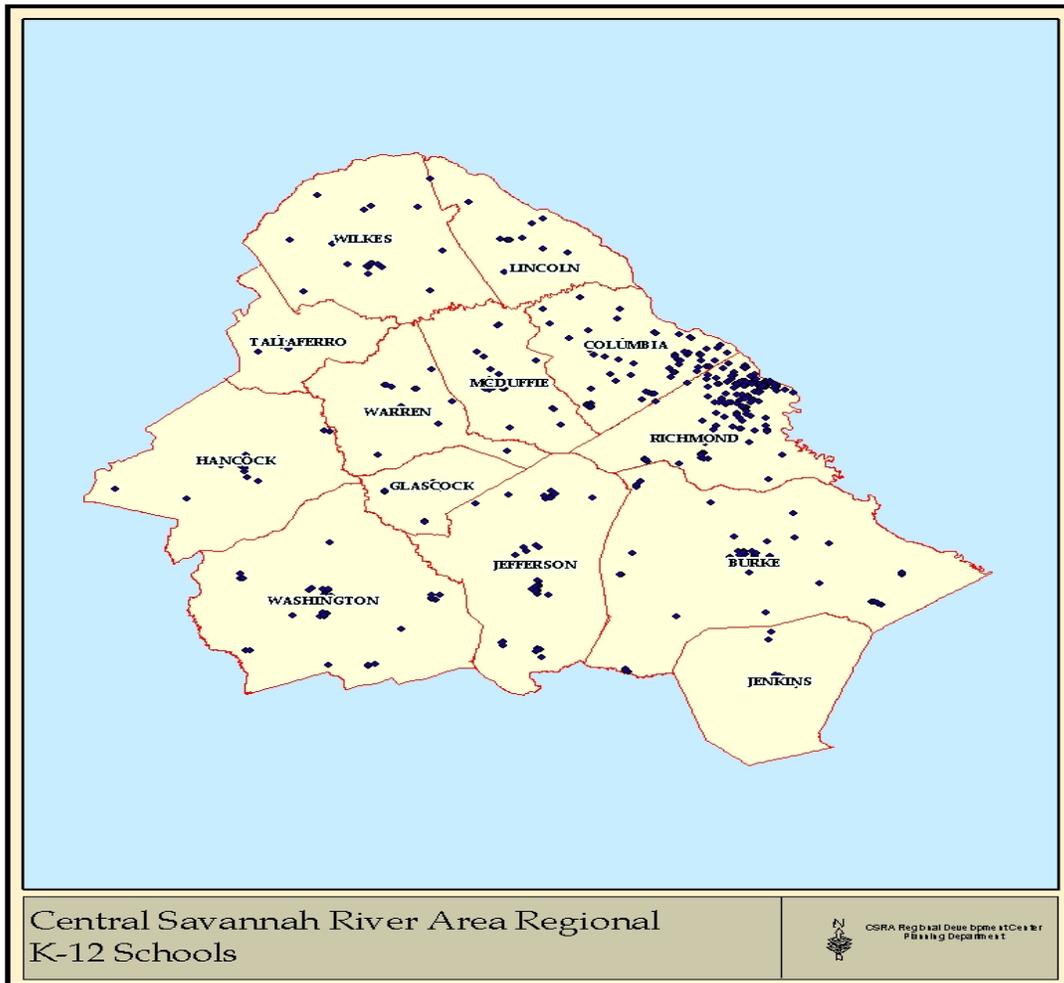
Schools have the potential to be among the largest generators of bicycle and pedestrian activity but the modes are currently underutilized. Like other traffic generators, many schools are located away from populated areas, which render providing bicycle and pedestrian facilities difficult (Fig E-6).

Table E-5 contains inventories of area schools and the availability of bicycle and pedestrian facilities. Approximately 42% of schools are located within a mile of populated areas, most of which have sidewalks, crosswalks and other pedestrian facilities. None of the schools provide bicycle facilities or lockers.

Different schools take different approaches to facilitate bicycle and pedestrian transportation. Some schools have no interest in supporting nonmotorized transportation. They view children walking or biking to school as inherently unsafe and will not participate

in project development. Other schools, primarily those located in municipalities, support bicycle and pedestrian transportation and actively coordinate with local governments to provide such facilities. In one case, a school funded pedestrian projects on its grounds. Currently, none of the schools participate in Safe Routes to School or other related programs.

Figure E-6: K-12 Schools in the CSRA, 2004



Source: Georgia Department of Education

Table E-5: Bicycle and Pedestrian Facilities within 1-mile of K-12 Schools

County	Number of Schools	Number within 1-mile of Neighborhood	Number with Facilities
Burke	9	3	2
Glascock	1	1	1
Hancock	4	1	0
Jefferson	9	2	2



County	Number of Schools	Number within 1-mile of Neighborhood	Number with Facilities
Jenkins	3	3	3
Lincoln	4	3	3
McDuffie	7	2	2
Taliaferro	1	1	0
Warren	3	1	0
Washington	7	2	2
Wilkes	4	3	3
Total	52	22	18

Source: Compiled by the CSRA RDC

2.4 Connections to Other Transportation Modes

Transit and non-motorized transportation are mutually supportive. Most transit riders use nonmotorized access for part of their transit trip. Likewise, transit service provides an extension of bicycle and pedestrian transportation.

Transit service is limited in the rural CSRA. Some local governments operate their own public transit systems (Burke, Lincoln, McDuffie, Warren Counties) while others (Jefferson, Glascock, Hancock, Taliaferro, Wilkes) rely on a combination of GDHR/GDOT coordinated transportation and private providers for service. The service is open to all residents but is based on a home-destination structure. Only Augusta has a comprehensive public transportation system, with some buses equipped for quick loading and unloading of bicycles. Augusta Public Transit does not extend beyond Richmond County boundaries.

2.5 Safety

Unsafe conditions deter people from bicycling and walking. It is generally agreed that the availability of facilities is not enough: design that allows bicyclists and pedestrians to travel safely and comfortably will encourage people to take short trips to multiple destinations within their reach.

A survey of CSRA communities found that speeding traffic, lack of safe crossing locations, and stretches of roadway where pedestrians have been struck by automobiles are typical problems faced by various communities. Data compiled by GDOT in 2002 reveals 10 bicycle crashes reported outside the MPO. Of the 10 crashes, 8 included injuries but none involved fatalities. Approximately 60% involved contact with a motor vehicle.

While no pedestrian crashes were reported in 2002, pedestrian crashes have occurred in practically every midsize municipality in the past 5 years. The most common cause was the improper crossing of a road and children darting onto the roadway. Consistent with national trends, intersections were the site of most crashes in the rural CSRA.



EXISTING CONDITIONS

Bicycle and pedestrian crashes are a major transportation problem throughout the United States. In 2000, 4,379 pedestrians were killed in traffic crashes nationwide and an additional 78,000 were injured. The number of bicycle and other pedalcycle fatalities was approximately 700, with an additional 51,000 injuries. While the number of crashes and fatalities has declined consistently in the last ten years, bicyclists and pedestrians represent a disproportionate number of total traffic crashes. The most common crash types are summarized below.

→ *Dart-out*: Bicyclist or pedestrian enters the street in the middle of a block and either runs into or is hit by a moving vehicle.

Primary errors:

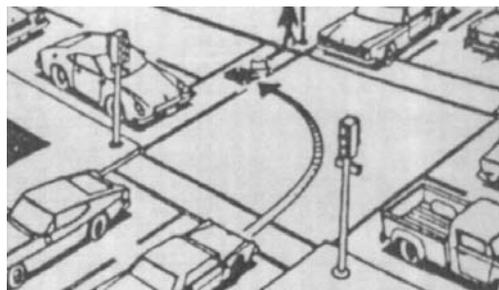
- Bicyclist or pedestrian fails to search for traffic.
- Bicyclist or pedestrian fails to yield right-of-way.
- View of bicyclist or pedestrian is obstructed.



→ *Vehicle turn-merge*: Driver is turning and merging with traffic while the bicyclist or pedestrian is riding/walking. Because the driver is looking the other way or has an obstructed view, the vehicle strikes the pedestrian.

Primary errors:

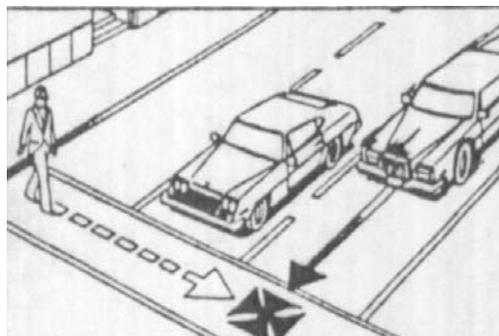
- Motorist fails to search and detect the bicyclist or pedestrian.
- Bicyclist or pedestrian fails to search for traffic.



→ *Intersection dash*: Driver does not see bicyclist or pedestrian riding/walking across an intersection in time to stop.

Primary errors:

- Bicyclist or pedestrian ignores walk/don't walk sign.
- View of bicyclist or pedestrian obstructed.
- Bicyclist or pedestrian runs instead of walks into intersection.



→ *Backing vehicle*: A vehicle is backing up and strikes a bicyclist or pedestrian who is crossing behind it. This crash usually occurs because the driver does not see the bicyclist or pedestrian or the bicyclist/pedestrian does not realize the vehicle is backing up.

Primary errors:

- Bicyclist or pedestrian's failure to search for and detect backing vehicles.
- Motorist's unsafe backing practices.
- Motorist's failure to anticipate and search for bicyclists or pedestrians.



Source: adapted from NHTSA (1994)

Residents and committee members identified motorists who do not respect the right of way of bicyclists and pedestrians as the major issue related to safety. The most common complaint is that motorists turn without looking for bicyclists or pedestrians. When asked why they believe motorists do not look before turning, residents responded that little, if any, enforcement occurs.

2.6 BICYCLE TRANSPORTATION

2.6.1 Users Defined

Bicyclists operate at different levels. It is important to understand the range of bicyclists' abilities and preferences. In the 1994 report *Selecting Roadway Design Treatments to Accommodate Bicyclists*, the Federal Highway Administration classified bicyclists in three categories to assist in the planning and design of facilities:

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

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

Group C - Children: Pre-teen riders whose roadway use is initially monitored by adults. They prefer access to key destinations surrounding residential areas, including schools and



recreation facilities, with low motor vehicle speed limits and volumes, and well-defined separation of bicycles and motor vehicles along streets or separated bike paths.

Trips made by bicycling and walking that serve a purpose other than recreation or exercise are utilitarian trips. National studies performed by the Federal Highway Administration have been able to determine factors which influence the individual decision to bicycle for utilitarian trips (FHWA Case Study No. 1). Among the more significant individual factors observed are distance, traffic safety, convenience, cost, time, physical condition, and peer acceptance.

2.6.2 Existing Facilities

Staff inventoried roadways to rate the condition of roads regarding safety and desirability for bicyclists by examining factors such as pavement conditions, intersections, width and shoulders, and speed limits, to have a better understanding of where recommendations should be made for future bike routes and other facilities. Due to the scale of roadways in the CSRA - some 4,500 miles region wide - inventories could not be compiled using windshield surveys. Staff relied on information provided by GDOT, local governments, and residents.

Typically, bicycle facilities include:

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

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

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

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

Shared Use Path: Commonly referred to as *Class I Bikeway*, a shared use paths are multipurpose facilities, which are physically separated from motorized vehicular traffic by an

open space or barrier. Shared use paths can provide recreational opportunities or, in some cases, can serve as a direct commute routes.

Bicycle Parking: Bicycle parking is a dedicated area specifically suited for storing and locking a bicycle. Bicycle parking areas are usually required by large city land development codes.

Outside of the state park system, the only bicycle facilities available in the rural CSRA are three state bicycle routes that cross through the region (Fig. E-7)

- State Bicycle Route 35: Passes through the southern part of the CSRA (Jenkins, Burke, Jefferson and Washington Counties), connecting Atlanta and Savannah.
- State Bicycle Route 85: A south to north link through Jenkins, Burke, Jefferson, Warren, McDuffie and Wilkes Counties, connecting Savannah with northeastern Georgia.
- State Bicycle Route 50: Connecting Augusta with SBR 85 through Richmond and Columbia Counties.

Both SBR 50 and 85 have been signed as bicycle routes but do not contain paved shoulders and other facilities from start to end point. Shoulders and facilities will be added to these routes during reconstruction or widening projects.

There is little evidence that bicyclists use these routes and most residents do not know the network exists. Those who use bicycles for transportation outside the Augusta metro area are generally confined to local roadway networks. And overall, the study area has a well-developed network of state highways that can be used by bicyclists. Many roadways carry motor vehicle levels so low that they serve as ideal bicycle routes. In addition, some roads have wider travel lanes, making it easy to accommodate bicyclists. Most county and roads, however, are not paved, too narrow, and inappropriately aligned for safe bicycling use.

2.6.3 Existing Road Network

Unpaved local roads constitute the principal component of many rural communities' transportation system. According to GDOT 400 Series Reports, approximately 50% of CSRA roads are unpaved (Table E-6).

Table E-6: County Road Unpaved Mileage, 2004

County	Total Mileage	Unpaved Mileage	%
Burke	810.2	434.8	53.6%
Glascock	182.4	89.38	48.9%
Hancock	503.6	257.2	51%
Jefferson	563.7	277.7	49.2%
Jenkins	414	236.7	57.1%
Lincoln	258.1	110.9	42.9%

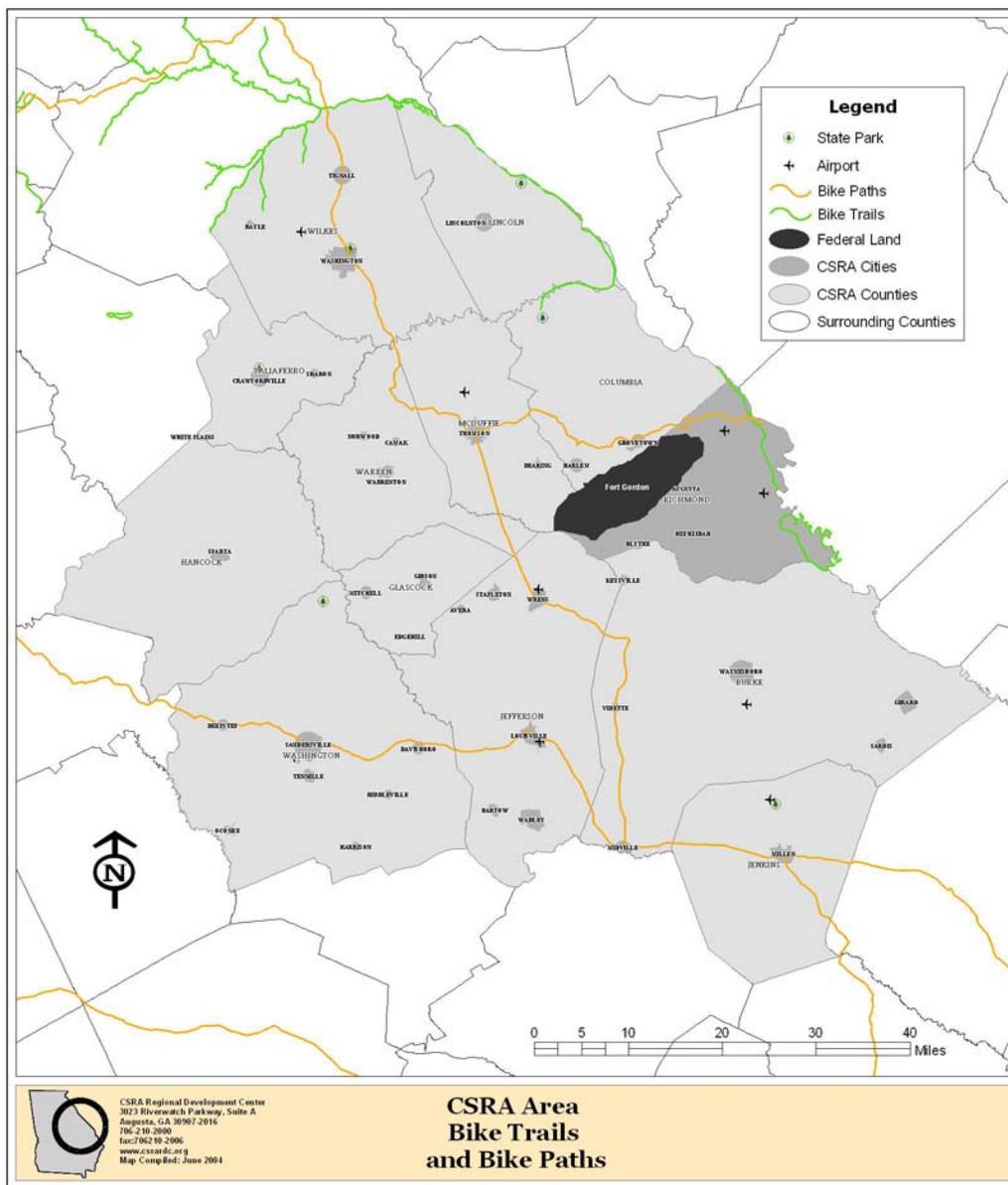


EXISTING CONDITIONS

County	Total Mileage	Unpaved Mileage	%
McDuffie	361.8	107.5	29.7%
Taliaferro	167.7	101.8	60.7%
Warren	316	168.9	53.4%
Washington	724.3	406.3	56%
Wilkes	417.8	186.9	44.7%
Total	4,719.6	2,378	50.4%

Source: Georgia Department of Transportation, Series 400 Reports

Figure E-7: Existing CSRA Bicycle Routes

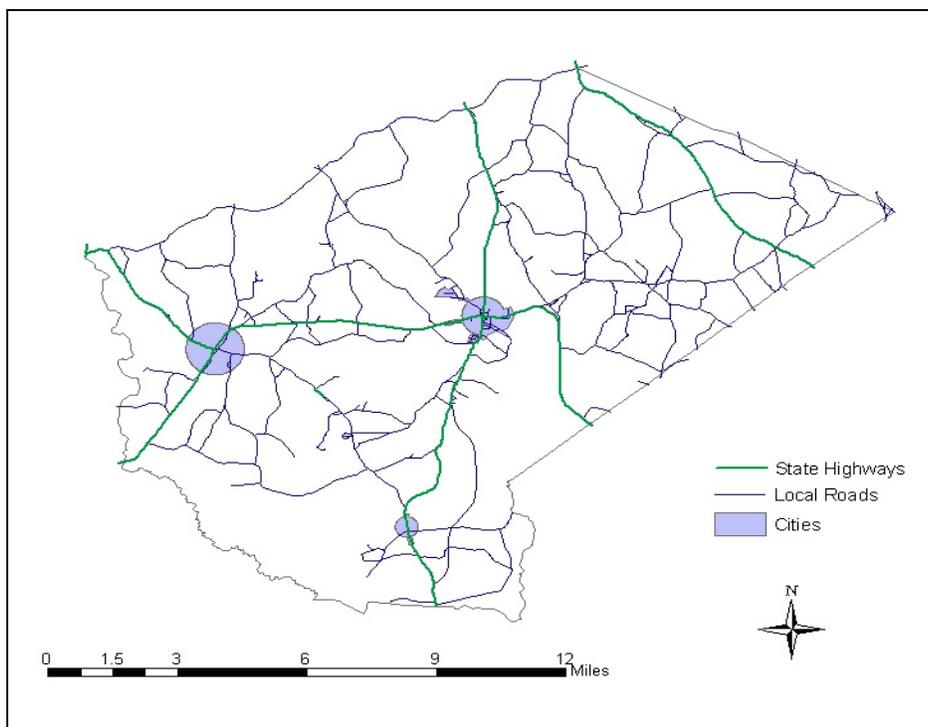


Source: Georgia Department of Transportation, 2004



The county road system is not always ideal for bicycling because of pavement conditions and linkages. There are numerous examples of county roadways, both paved and unpaved, that do link to population centers or where the densities are so small that there is virtually no demand for bicycling. Figure E-8 outlines Glascock County’s road network as an example. Most roads do not link to populated areas or to the state highway system.

Figure E-8: Glascock County Road Network



Source: CSRA GIS Database, 2004

Paved roads with low volumes of vehicular traffic (less than 2,000 vehicles per day) are natural bikeways. Because these roads, mostly state highways, are often winding, narrow, and tree-lined, they are suitable for low-speed vehicular traffic, rendering them ideal for bicycling.



Arterial roadways in the rural CSRA pose safety concerns and, in many cases, act as barriers to bicycle transportation. The function of arterial roadways is to move traffic between communities and activity centers and to provide connections to expressways. There is thus a conflict between the need to move high volumes of traffic at high speeds and bicyclists’ desire to travel along these roadways. Typically, significant community, retail, commercial, and industrial facilities are located along arterials to take advantage of visibility and

connectivity. The range of Annual Average Daily Traffic (AADT) along CSRA arterial roadways is typically between 2,000 and 15,000.

Table E-7 contains a summary of projects identified in GDOT’s 2004-2006 State Transportation Improvement Program relevant to bicycle and pedestrian transportation.

Table E-7: CSRA STIP Projects, 2004-2006

Project Type	Number of Projects	Miles
New Road Construction	1	7.5
Widening	13	130.1
Resurface & Maintenance	9	62
Bridge Replacement or Rehabilitation	18	N/A
Total	41	199.6

Source: Georgia Department of Transportation, 2004
N/A: Not Applicable

2.6.4 Recreational and Scenic Trails (Off Road Networks)

Recreational trails, mostly found along creeks and greenways in the Augusta metro area, are broadly classified as local or regional:

Regional Trails: Typically more than five miles in length and crosses into more than one county jurisdiction. Regional trails link bicyclists to destinations via long, street separated trails that can be used for both commuting and recreational rides.

Local Trails: Shorter trails used for local recreation. Less than five miles and serve a community or a single neighborhood. A second type of local trail is an internal trail within a local, state or national park. It is not linked to a larger bikeway system, although it may offer the opportunity for linkages in the future.



Recreational and scenic trails serve four potential purposes:

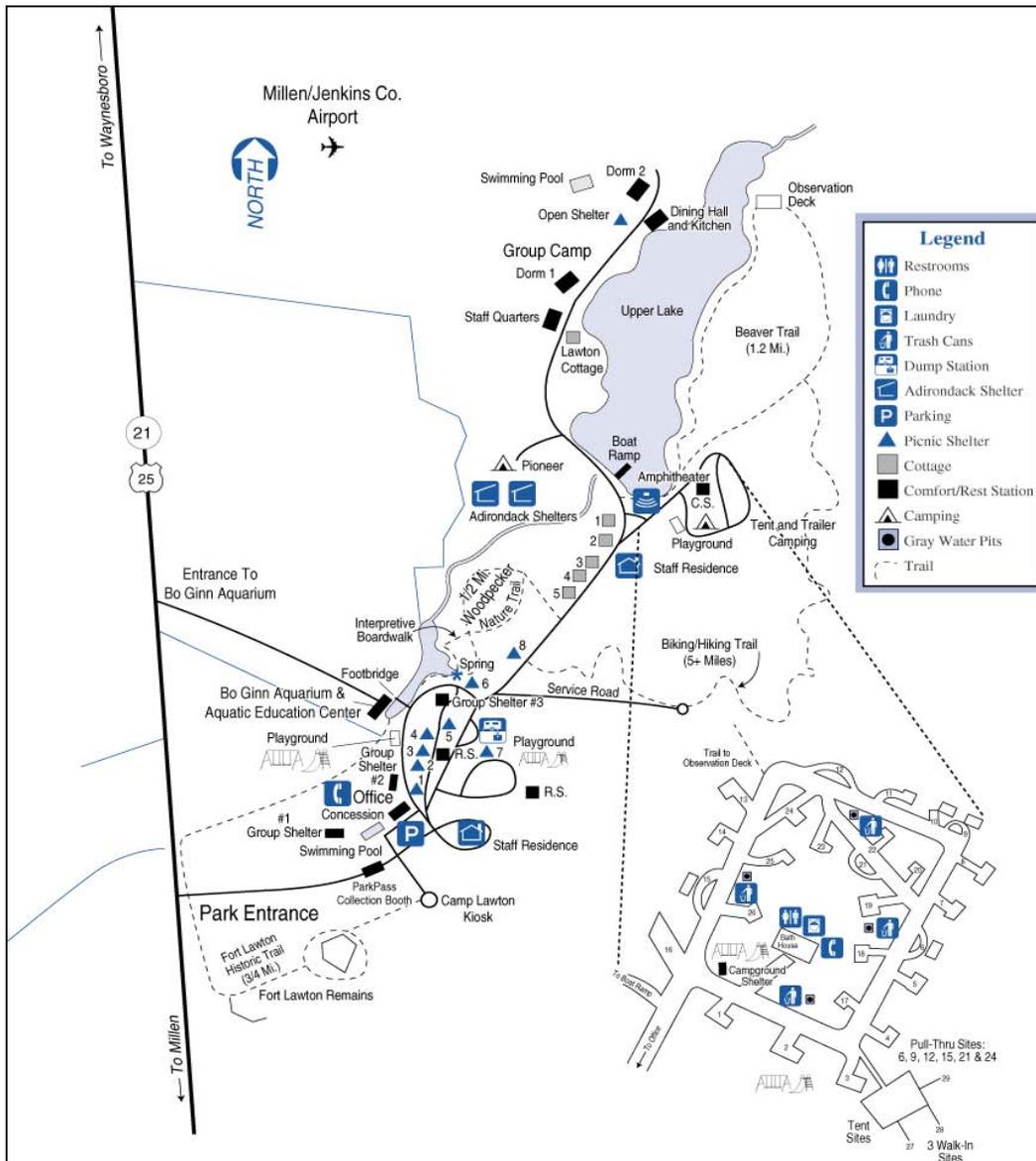
- To encourage local residents bicycle and walk;
- To promote areas as destinations for tourists;
- To provide transportation alternatives; and
- To help preserve land by allowing public use with minimal impacts.



EXISTING CONDITIONS

There are two State Parks in the CSRA with local recreational trails. Magnolia Springs State Park (Jenkins County) contains over 10 miles of trails that pass through both heavily wooded areas and open space (Fig E-9). Elijah Clark State Park (Lincoln County) contains 3.75 miles of trails and nature trails. Both trail networks are open to bicyclists in addition to pedestrians, hikers, and others. According to State Park officials, they are significant generators of bicycle use. They are also enjoyed by less experienced bicyclists who are not comfortable riding along roads in and around Lincolnton and Millen.

Figure E-9: Magnolia Springs State Park Facilities Layout, 2004



Source: Georgia Department of Natural Resources



While these trails are used primarily for recreational purposes, trails within Magnolia Springs also provide a transportation function as they link the State Park with neighboring Bo Quinn Aquarium and other destinations.

Various CSRA communities are participating in the Georgia Scenic Byways Program. Georgia Scenic Byways is a community-driven effort, which seeks to preserve Georgia's legacy of remarkably diverse scenic heritage woven together by an extensive system of roads and highways in a way that enhances economic development. State Highway 16 between Putnam and Hancock Counties is already designated a scenic byway route and several others are in the process of seeking designation.

2.6.5 Other Issues Identified by Bicyclists

Obstacles to bicycle transportation in the rural CSRA can be separated into two broad groups: natural and physical impediments. Natural barriers include rivers and lakes that divide one area from another. Physical barriers include pavement conditions, drainage grates, narrow bridges etc. that render bicycling difficult.

2.6.6 Natural Barriers

There are two significant natural barriers affecting bicycling in the rural CSRA. First, the Ogeechee River is a 245-mile blackwater river originating in Green County that crosses the western and southern half of the CSRA region. The Ogeechee has few crossings, most of which are not conducive to bicycling, thus limiting access between the east and west sides of the region. Specifically, the river hampers bicycling in the unincorporated areas of Taliaferro, Hancock, Warren, Jefferson and Jenkins Counties. Another barrier is the topography of Piedmont region, which covers approximately half the CSRA's local jurisdictions. The rolling hills are steep enough in certain sections that only Class A bicyclists are comfortable riding along these routes.

Another major barrier is Interstate 20, a limited access highway with very few bicycle crossings. Coupled with the Ogeechee River, I-20 severely limits access between the north and south sides of the region and key destinations. Arterial street crossings where no traffic control devices are present pose problems such as requiring bicyclists to take longer, alternate routes or divert to heavily traveled roads. Solutions to these problems may be costly and require difficult decisions be made.

2.6.7 Pavement

There are thousands of miles of paved roadway surface in the CSRA. Although GDOT has responsibility for maintaining a considerable portion of these roads, most are the responsibility for maintenance lies with city and county governments.

Potholes, broken and fractured pavement, and debris are obstructions and hazards for bicyclists. Beyond causing an unpleasant ride, pavement surface is a major safety issue. Gaps between pavement slabs or overlay faults that run parallel to the direction of travel can trap a bicycle wheel and cause a fall, and holes and bumps can cause bicyclists to swerve into the path of motor vehicle traffic while attempting to avoid these hazards. Residents in almost every county complained of poor pavement condition along county roadways. Rural CSRA communities do not currently have hazard identification programs.

An additional issue identified by residents is rumble strips along state highways. Bicyclists complain about discomfort as well as damage to their bicycles.

2.6.8 Lack of Facilities

As noted, the lack of bicycle facilities is a defining characteristic of the CSRA's transportation network. Paved shoulders, wide curb lanes, bicycle lanes and paths, and bicycle parking facilities are notably absent. Some communities have attempted to add bicycle facilities by working with GDOT:

- Jenkins County was successful in obtaining wider lanes as a part of the Savannah River Parkway widening project along U.S. 25. This project aims to connect Magnolia Springs State Park with Millen.
- The City of Waynesboro successfully obtained Transportation Enhancement funds for trails connecting schools and the downtown area.
- Other CSRA communities have obtained TE funds to complete streetscape projects that include facilities conducive to bicycling.

Often overlooked are the simple, inexpensive facilities that support bicycling. A field review revealed a lack of bicycle racks throughout the region. Bicyclists visiting stores, restaurants, places of employment, and community facilities are largely left to their own devices to temporarily store their bicycles.

The lack of bicycle parking facilities is a result of many factors, including a perceived lack of need and a view on the part of some that bicycle transportation is a low priority in their overall transportation system. When adequate parking facilities are not provided, people may choose not to ride bicycles. Those that do ride are forced to find various fixtures to secure their bicycles such as poles and trees. This haphazard approach not only frustrates bicyclists and shop owners but also reduces the aesthetics of storefront entryways.

2.6.9 Attitudes

One aspect of bicycle transportation that is difficult to measure but widely identified during advisory and public meetings is the attitude of many motorists toward bicyclists. In many places throughout the CSRA, roadways used for motorized transportation also function as important bicycle routes. The region's roads have not been designed with bicyclists in mind,

resulting in a number of functional issues. Numerous public comments were heard concerning the lack of courtesy among motorists using the same roadway.

2.6.9a Intersections

As noted, intersections represent one of the primary collision points for nonmotorized transportation users. Generally, the larger the intersection, the more complicated the crossing. On-coming vehicles from multiple directions make it difficult for motorists to see bicyclists. Examples include intersections along SR 223 in Thomson and McDuffie County, and SR 88 and 15 in Sandersville.

Unsignalized intersections are also of concern. Residents in Millen and Sandersville complain that the lack of signalized intersections along some state highways creates a difficult crossing environment.

2.6.9b Drainage Grates and Utility Covers

Drainage grates and utility covers are problematic for bicyclists. When many roadways were designed, grates and covers were not kept out of a bicyclist's expected path, and in some cases utility covers were not flush with the surrounding paved surface of the road. This problem is more an issue along city/county roads than state highways. Drainage grate inlets can trap the front wheel of a bicycle, which can result in injury to bicyclists. Bicyclists attempt to avoid drainage grates because they make for a bumpy, unstable ride and can damage tires.

2.6.9c Bridges

Existing bridges discourage bicycling. Throughout the region, bridges are too narrow to accommodate bicyclists. In the Piedmont region, many bridges are located along relatively steep curves, rendering it difficult to see oncoming traffic. The problem is most evident along the region's scenic byway routes where bridges are the primary impediment in developing effective bicycle networks. This design issue has affected the implementation of other plans. The Piedmont Byway Commission, for example, has delayed implementing a major component of its Byway Corridor Management Plan due to bridge design constraints.

2.6.9d Lack of Signage

An attractive and effective system of signage encourages bicycling by promoting destinations and directing traffic to them. Commonly associated with trail way finding, the purpose of signage is to direct bicyclists and provide information about destinations, directions and distances. When applied consistently, signage can link communities and provide coherent visual indicators to direct bicyclists.

With the exception of SBR 50 and 85, there is a lack of signage throughout the region. Advisory committee members involved with tourism complained that the lack of signage hampers tourism efforts by failing to direct traffic to appropriate locations. Directional graphics, interpretive signage and cautionary/regulatory signs are important ingredients in the bicycling experience.

2.6.9e Aesthetic Considerations

Residents indicated that they are very aware and appreciative of the beauty of the environment that they are traveling through. The ability to experience the landscape is one of the reasons that people choose to bicycle in the rural CSRA. Scenic and rural countryside views were commonly cited reasons for recreational biking. Significantly higher levels of bicycle traffic can be expected in these areas. The lack of significant development ensures that these attributes will be preserved. An indirect benefit of scenic areas is their traffic calming effect as they discourage high-speed vehicular traffic. Some residents complained that widening projects throughout the region and clear cutting are limiting the very aspects that make bicycling enjoyable.



2.6.9f Connections to the Existing Metropolitan Bicycle Network

The Augusta Regional Transportation Study (ARTS) recently completed an update to their Regional Bicycle and Pedestrian Plan. The Plan included recommendations aimed at significantly expanding the existing bicycle network, primarily by designating existing roadways as bicycle routes, with some regional infrastructure projects proposed.

Connecting the rural network with the ARTS Plan is inheritably difficult. The MPO boundary in Columbia County includes only the urbanized portions of the county, rendering direct connection to rural counties difficult due to the number of bridge crossings. Secondly, the existing state route system, which accounts for most regional connections, is not conducive to linking the MPO with the rural areas:

- SR 104 linking Columbia and Lincoln Counties is narrow and includes a lengthy bridge over Clark Hills Lake.
- U.S. 25 and SR 56 linking Burke County with Augusta contain extreme slopes that even Class A bicyclists avoid.
- U.S. 1 linking Jefferson County with Augusta leads to several interchanges and I-520.



Currently, SBR 50, which connects Augusta with Thomson, is the only link between the Augusta metropolitan area and the rural CSRA.

2.7 PEDESTRIAN TRANSPORTATION

2.7.1 Pedestrian Behavior Defined

Similar to bicyclists, pedestrians operate at different levels.

Children: Young pedestrians repeatedly make basic mistakes because they do not understand the traffic system, have a limited attention gap and peripheral vision. Crashes involving this group typically happen close to home and are usually caused by children crossing the street without looking.

Adults: Adult pedestrians generally do understand the basics of the traffic system. In many cases, however, they are unwilling to operate within that system. Adult pedestrians have difficulty crossing at high-speed crossings or multi-lane streets that lack median refuge islands.



Seniors/People with Disabilities: More than any other pedestrian group, seniors and people with disabilities have an excellent understanding of the traffic system, though they have a higher risk of injury because of motor vehicle inattention. Visible warnings, tactile indications, and audible indicators are necessary for people with seniors and pedestrians with disabilities. Crashes involving this group typically occur at intersections.

2.7.2 Pedestrian Use of Streets

The following classification of pedestrian routes includes all midsized CSRA municipalities. Some streets, particularly among the larger municipalities, may fall under more than one classification.

- *Historic and Scenic Streets:* Streets that have historic and/or scenic significance. These streets play a significant role in community life and provide special uses including parades and festivals.
- *Main Streets:* Streets that typically include major shopping and entertainment locations. Such streets generally have retail and services on both sides and extend for numerous blocks.
- *Pedestrian Connectors:* Streets that provide direct access to pedestrian districts. These routes play an important role in integrating neighborhoods and to downtown districts.

- *Activity Centers:* Streets that are in proximity or lead to community facilities. They are typically located in proximity to major neighborhoods and have a higher probability of attracting pedestrians.

2.7.3 Existing Facilities

Sidewalks and crosswalks are fundamental and the most basic transportation facilities for pedestrians. Located primarily in the CSRA’s downtown areas, sidewalks provide critical connections between neighborhoods, schools, parks and other important local destinations.

The presence of an adequate and interconnected pedestrian network can reduce the number of trips that need to be made with a vehicle, thus reducing traffic congestion, noise, and pollution. As the key component of urban pedestrian circulation systems, functional and accessible sidewalks enrich the quality of life in a community. Besides providing a transportation function, sidewalks can also serve as desirable design elements, contributing to the character and strengthening the identity of an area by adding social spaces.

There is currently no complete inventory of sidewalks and other pedestrian facilities in the region, which makes it difficult to assess the extent and condition of existing pedestrian networks. Some local plans have been developed but deal only with a single city or neighborhood.

Sidewalks located in historic downtowns are typically older and extend from storefront to street. They include support facilities that tend to encourage pedestrian transportation, such as benches, pedestrian-scale lighting, and pedestrian oriented signs. These features help attract business people, shoppers, and tourists.

Sidewalk coverage in the unincorporated rural CSRA areas is non-existent. Low densities and distance between areas does not render it practical to provide pedestrian facilities. Almost of all the municipalities have some sidewalk coverage. The smaller municipalities (i.e. Mitchell, Sardis, Davisboro) have them only in their downtown districts. Larger cities (i.e. Louisville, Thomson, Sandersville, Waynesboro) have fairly complete networks that extend beyond the downtown area. Some cities, including Louisville, have incorporated pedestrian-friendly facilities such as “bulb-outs,” which reduce the distance pedestrians must cross at intersections. Sandersville has developed a network of crosswalks and traffic calming along its downtown roadways. The state of pedestrian facilities in CSRA cities is extremely variable. Some neighborhoods have extensive facilities while others are missing sidewalks and crosswalks all together. Midville, for example, has several isolated sidewalks scattered and significant sidewalks gaps. Several reasons explain this trend. First, some neighborhoods were



developed in the 1950's when most cities' policies did not require sidewalks. Furthermore, some areas were annexed by cities after they had already been developed without any pedestrian facilities. Finally, most zoning and subdivision regulations do not require sidewalks and other pedestrian facilities.

Nearly all major arterials within the rural CSRA contain sidewalks. Most roadways have sidewalks built directly adjacent to travel lanes, but some roads in Sandersville, Washington and Waynesboro include sidewalks separated from adjoining travel lanes by planting strips.

Only Sandersville among CSRA municipalities has attempted to retrofit sidewalks into already developed areas, both as stand-alone projects and as part of site redevelopment projects. Other municipalities have discouraged this practice due to financial constraints.

State agencies have added and/or repaired sidewalks as part of infrastructure improvements and highway resurfacing projects. Examples include SR 56 in Midville where the Georgia Department of Community Affairs provided funding to close a sidewalk gap linking downtown to the city park, and Lincolnton where sidewalks were added to roadways adjacent to U.S. 378 as part of a Georgia Department of Transportation resurfacing project.

A major pedestrian facilities challenge for CSRA municipalities is the jurisdiction of the streets. Most highly traveled roads are neither owned nor maintained by the municipalities, but are under the jurisdiction of GDOT.

Many suburban areas lack pedestrian facilities entirely, a cause for concern for a growing number of area residents. Connections between neighboring developments are often only provided by roadways with no pedestrian improvements. Commercial areas are often designed as singular destinations and do not include connections to adjacent developments. In areas where this is the case, emphasis should be placed upon establishing networks that facilitate pedestrian movement between adjacent developments. Where demand exists, improvements should also be made to residential areas that connect separated neighborhoods with one another.

2.7.4 Physical Obstacles

A common problem along many sidewalks is utility poles, fire hydrants and other obstacles located within the travel lane. Vegetation and trashcans obstruct travel lanes in Millen's historic downtown district and a major component of their recently granted TE project involves removing such obstacles.

Overhanging trees and hedges encroaching the sidewalk or path can make walking uncomfortable and unsafe. Some cities, such as Washington, deal with these issues through an aggressive maintenance schedule while other municipalities respond upon residents' complaints.

2.7.5 Pedestrian Crossings

A pedestrian crossing is defined as any location where the pedestrian leaves the sidewalk and enters the roadway. Pedestrians are at risk whenever they cross the roadway. The degree of risk depends upon the complexity of vehicular and pedestrian traffic patterns and the design of crossings. A pedestrian crossing linking a major city district and technical college at the intersection of SR 88 and SR 15 in Sandersville highlights the dangers pedestrians face. A typical crossing requires approximately 30 seconds and there are no refuge islands or curb extensions to minimize exposure to vehicular traffic.

Other dangerous crossings identified by pedestrians include flush medians that cause confusion between pedestrians and motorists. Located throughout the region, flush medians are deceptive in that they encourage pedestrians to use them as ordinary medians, unaware that their ability to regulate vehicular traffic is minimal.

2.7.6 Use of Sidewalks by Bicyclists

The use of sidewalks by bicyclists introduces many safety problems, such as speed differentials between bicyclists and pedestrians, conflict at driveways and where drivers do not expect fast-moving bicyclists on sidewalks. Residents indicate that they do not want bicycles on sidewalks.

2.7.7 Signage

Pedestrians require information that is specifically directed to their own needs because their sightlines, viewpoints, and travel speeds are substantially different from that of motorists. Most pedestrians use visual cues to obtain information about traveling safely, including traffic signals and street signs, as well as from traffic itself. With the exception of historic district markers, pedestrian signage is all but nonexistent in the region.

2.7.8 Traffic Signals

Traffic signal timing is an important aspect of pedestrian crossing safety. Some pedestrians, especially people with mobility impairments and the elderly, need additional crossing time. Longer crossing times should be considered in areas expected to serve less mobile pedestrians, such as near retirement homes. However, increased pedestrian crossing time must be balanced with traffic flow operation such that the increased crossing time does not come at the expense of excessively long wait times for motorists. This balance has challenged many municipalities and few have found solutions to the problem.

2.7.9 Streetscapes

In some areas, a higher level of attention to the details of the pedestrian environment is justified by expected high pedestrian use and to encourage pedestrian activity. Streets where the elements are scaled to human rather than vehicle scale are attractive to pedestrians. Streetscape improvements such as public art, benches, drinking fountains, trash receptacles, and pedestrian-scaled lighting fixtures are amenities that help balance the pedestrian-motorist environment.



Local governments throughout the rural CSRA have invested significantly in streetscapes. In the 2004 round of Transportation Enhancement (TE) funding, nearly 4/5ths of the over \$4,000,000 obtained in TE funds went towards streetscape improvements (Table E-8). Waynesboro, Warrenton, Thomson, Louisville, and Millen are counting on streetscape improvements to increase pedestrian traffic in their downtown areas. Previously funded projects include sidewalk restoration projects (Lincolnton and McDuffie County), and activity area revitalization (Louisville and Gibson). This marks a significant departure from previous TE awards that focused on historic preservation.

Table E-8: CSRA Pedestrian Transportation Enhancement Projects, 2004

Jurisdiction	Project
Louisville	Downtown Gateway Improvements, Streetscape, Crosswalk, & Walking Trail, 500,000
Millen	Cotton Avenue Streetscape & Greenspace Preservation, \$ 500,000
Warren County	Warren County Depot Rehabilitation and Streetscape, \$ 190,000
Sandersville	Downtown Streetscape Extension & Kaolin Park Sidewalks, \$ 500,000
Thomson	Downtown Walkway Revitalization Plan. \$ 500,000
Washington	City of Washington Pedestrian Enhancement Project \$ 140,000
Waynesboro	Greenway, \$600,000

Source: Georgia Department of Transportation, 2004

2.7.9a Lighting

Good street lighting is one key to pedestrian safety. Traffic safety is improved when proper lighting is provided. Good lighting of also increases the comfort and perception of personal safety of pedestrians, and these factors can influence their choice of route or their decision whether or not to walk.



Very few local jurisdictions contain pedestrian-scale lighting. The only exceptions are historic districts and neighborhoods where TE funds were obtained to provide for such lighting.

2.7.9b Lack of Traffic Calming Measures

Traffic calming is a term applied to a variety of physical measures intended to reduce the speed of automobile traffic. Techniques involve the use of physical changes to the roadway to reduce vehicle speeds. These techniques serve to safely balance the needs of all users, including pedestrians. By slowing traffic speeds, traffic calming devices increase the reaction time available to motorists and pedestrians, thereby creating more opportunities for all users to share the roadway. Traffic calming also allows communities to enhance the aesthetic elements of a roadway and increase the livability of streets.

Common traffic calming techniques include:

- Roundabouts
- Lane Width Reduction
- Additional street landscaping and furniture
- Center islands and Pedestrian refuges at crossing locations
- On-street parking
- Bulbouts at crosswalks to reduce distances for pedestrian crossings
- Enhanced roadway lighting
- Separated sidewalks and curbing
- Textured pedestrian crossings (paved brick, cement concrete, granite pavers etc)
- Pavement Markings
- Raised Crosswalks

Textured pedestrian crossings, pavement markings and bulb outs are found in Louisville, Sandersville and Washington but few other CSRA jurisdictions contain any traffic calming.

2.7.9c ADA Considerations

With a few exceptions (Washington and Sandersville) most CSRA cities do not have curb ramps at intersections. Designed prior to the Americans with Disabilities Act (ADA), most of the CSRA's sidewalk networks did not include pedestrian facilities for people with disabilities. Individual property owners have built ramps leading to their parking spaces and for many people with disabilities this is the only access to sidewalks.

Some municipalities have voiced concern over possible legal action should they fail to provide these facilities but costs are prohibitive. Every streetscape project receiving TE funds include curb ramps and local governments are counting on the combination of grants and GDOT's willingness to provide such facilities during resurfacing projects to make neighborhoods and downtown districts more accessible to residents with disabilities.

2.8 Regulatory Environment

CSRA communities have developed numerous master plans in the past decade. With the exception of Design Team Reports prepared by the University of Georgia and the Georgia Department of Community Affairs, all plans were developed pursuant to state and federal requirements.

2.8.1 Local and Regional Plans and Regulations

CSRA Regional Plan

The CSRA Regional Plan 2025 was developed as a concentrated effort to focus policy and action in preparing the region for future growth. The Plan was developed as a guide for public and private actions and decisions, and provides a regional system of information and data to local governments and the general public. The issues, goals, and directions generalize what the CSRA region hopes to achieve over the next 20 years are included and set forth guidelines that local agencies could follow to ensure that regional issues are embraced in everyday local activities.

The transportation section of the Regional Plan section contains an analysis and action plan for major highway projects but does not address bicycle and pedestrian transportation needs.

CSRA Comprehensive Economic Development Strategy

As a federally designated Economic Development District by the Economic Development Administration of the U.S. Department of Commerce, the CSRA RDC is responsible for developing, monitoring, and updating the region's Comprehensive Economic Development Strategy (CEDS).

CEDS is prepared on the basis that a well-planned, coordinated strategy for public priorities in economic development is critical at local, state, and federal levels for sound use of public dollars. CEDS is used to guide grant awards for water and sewer infrastructure systems, technology training centers, telecommunications facilities, research parks, and other major public-works projects.

The only bicycle and pedestrian project contained in the CSRA's CEDS is a bike lane project along U.S. 25 linking Magnolia Springs State Park with the City of Millen.

Augusta MPO Long Range Transportation Plan

The Augusta Regional Transportation Study (ARTS) Long Range Transportation Plan focuses on creating a transportation network to support the safe and efficient movement of people and goods. The Plan makes numerous references to bicycle and pedestrian transportation but does not detail specific projects.

Augusta MPO Bike and Pedestrian

The ARTS Bicycle and Pedestrian Plan was created to specifically address bicycle and pedestrian needs. Intended as a long-range twenty-year plan, the Plan focuses on identifying facilities and the creation of a multi-county bicycle network within the urbanized areas of the CSRA. Key objectives in this plan include integrating bicycle and pedestrian elements into all county and region wide planning processes, the development of an extensive bicycle network, and education and encouragement programs aimed at increasing bicycle and pedestrian transportation.

Local Comprehensive Plans

In April of 1989, the Georgia Legislature passed the Georgia State Planning Act, guiding coordinated planning at the local, regional, and state level. Local planning began in the CSRA in 1990. By 1995, the cities and counties of the CSRA each adopted a local comprehensive plan intended to guide growth and decision making over the coming 20 years. These plans considered five central elements: population, economic development, community facilities and infrastructure, housing, and natural resources. Each plan included an inventory and analysis of the present local situation, an identification of local issues and goals, as well as specific strategies and policies for plan implementation.

Similar to the regional plan, the transportation element of local comprehensive plans considered only major highway project central to economic development efforts.

Local Transportation Plans

With the assistance of the CSRA RDC, the Cities of Midville, Millen and Sandersville developed pedestrian plans. Each plan provides a framework for implementing strategies and actions to enhance the pedestrian environment. The plans includes a series of specific recommended actions addressing community and site development, design and maintenance of pedestrian facilities, education, encouragement, and enforcement. Recommendations were prioritized (short term and long term) for implementation. All municipalities have implemented key components of their respective plans, including:

- Closing sidewalks gaps (Midville)
- Streetscape Improvements (Millen and Sandersville)
- Coordinating with GDOT on bicycle projects (Millen)

Better Hometown Charrette Reports

In 2002, a design team sponsored by the University of Georgia's School of Environment and Design and the Georgia Department of Community Affairs (DCA) conducted a charrette to develop an action plan for Millen's neighborhoods. The team took photographs, walked the

streets and parks of the city and developed design recommendations and concept drawings that were explained at a public presentation. A report was prepared summarizing the team’s suggestion for Millen and is illustrated with drawings produced during the week.

The report contains various design and aesthetics recommendations that can facilitate bicycling and walking but does not address functional transportation issues such as preferred routes for bicyclists and pedestrians safety considerations.

Georgia Downtown Design Team Reports – Louisville and Sandersville

The Georgia Downtown Design Team is an interagency council on community design that includes the Georgia Department of Community Affairs, the Georgia Department of Natural Resources, the Georgia Association of the American Institute of Architects and other local and regional agencies. The Team completed reports for Louisville and Sandersville, with the focus of promoting sensitive rehabilitation in historic downtown commercial districts and to encourage the communities’ streetscape activities.

Numerous recommendations related to walking and bicycling were contained in the documents, including suggestions for street furniture. Both cities implemented sections of the report using Transportation Enhancements funds.

Piedmont Scenic Byway Corridor Management Plan

Hancock and Putnam Counties completed a scenic byway Corridor Management Plan (CMP) as part of the Georgia Scenic Byway designation process. The CMP provides a comprehensive long-term vision of the byway and an understanding of the byway’s importance to the surrounding areas. The CMP lays out management strategies to promote economic development along the corridor while balancing preservation of valuable resources.

Numerous recommendations were included to render the byway route bicycle and pedestrian-friendly, including streetscape work in downtown Sparta and Eatonton, bridge designs conducive to regional biking, and trail development along scenic areas and major historic sites. Thus far, only the trails recommendations of the CMP have been implemented.

2.8.2 Land Use Regulatory Controls

Land use regulations have the ability to shape a development’s physical layout. The manner in which land is developed and regulated can have a profound effect on the accommodation of bicycle and pedestrian transportation. Many communities throughout the state require the provision of bicycle and pedestrian facilities as part of zoning and subdivision regulations. Zoning and subdivision ordinances have been adopted in most rural CSRA municipalities



but in less than half the counties. Uniformly, these ordinances do not contain provision requiring bicycle or pedestrian facilities.

2.9 Design Guidelines for Bicycle and Pedestrian Facilities

Design guidelines for projects along state highways and local projects funded with state and federal funds are established by GDOT. GDOT has adopted bicycle design standards developed by the American Association of State Highway and Transportation Officials (ASSHTO) and uses pedestrian facilities design standards contained in the Georgia Pedestrian and Streetscape Guide. None of the rural CSRA's local governments have developed their own facilities standards.

2.10 Existing Coordination Mechanisms

Coordination of bicycle and pedestrian transportation facilities projects occurs primarily among local governments and the GDOT Office of Planning and district offices. Local governments typically include bicycle or pedestrian facilities in their Short-Term Work Program (STWP) and petition GDOT to include these projects during resurfacing or widening projects.

2.11 Existing Education Programs

None of the CSRA's local governments have any formal education, promotion or safety programs related to bicycling and walking. The CSRA RDC and non-profit organizations, such as the Georgia Chapter of the American Cancer Society, provide periodic bicycle safety training to elementary school children.

3.0 Introduction

The existing conditions section paints a mixed picture on the future of bicycle and pedestrian transportation in the CSRA. On the one hand, general conditions and recent investments in infrastructure, particularly within the municipalities, are strengths that provide incentives for bicycling and walking. On the other, costs and poor condition of essential infrastructure pose significant challenges.

The CSRA Bicycle and Pedestrian Plan vision promotes a bicycle and pedestrian-centered approach, recognizing that nonmotorized transportation is important to the economic vitality and livability of the CSRA. Bicycle and pedestrian activity and the resulting personal interactions between people help build a sense of community. To support this vision, programs and facilities must ensure:



- Comfort
- Convenience
- Efficiency
- Safety

Effective bicycle and pedestrian planning contributes to multimodalism and supports transportation demand management. Travel Demand Management (TDM) is an area of transportation planning that promotes alternative forms of transportation by influencing traveler behavior. The primary purpose of TDM is to reduce motor vehicle use while providing a range of mobility options to those who wish to travel. TDM efforts are being implemented in urban, and increasingly, in larger rural areas across the nation in order to reduce traffic congestion and air pollution, and to render the transportation system more efficient. Alternative forms of transportation include, among others, carpooling, walking, bicycling, and transit. To accomplish these types of changes, TDM programs rely on incentives, such as bicycle and pedestrian facilities funding, to encourage nonmotorized transportation.

In the CSRA, the supply side of transportation is becoming increasingly constrained by economic and physical barriers. Limited funds for new roads and future development likely away from currently established populated areas will require local governments address the demand side of transportation.

In developing this plan, several residents and advisory committee members noted the need to avoid unrealistic requirements and expectations. To date, no GDOT policies have been developed to fund large-scale bicycle and pedestrian projects statewide. Since state agencies manage the majority of federal transportation funds, it is essential that local government planning efforts occur within GDOT's policy framework.

3.1 System Needs

System needs encompasses not only facilities projects but also a broad spectrum of programs aimed encouraging nonmotorized transportation.

There are many different kinds of bicyclists and pedestrians in the CSRA, each with different needs. For some, biking or walking is solely for recreation. For others, particularly for low-income residents that reside near places of work, bicycling or walking trips are utilitarian. One goal of this Plan is to accommodate all those who wish to bicycle or walk, striking a balance between encouraging investment in areas with already high usage and areas with currently low usage but high potential.



3.1.1 Bicycle Network

Residents and advisory committee members used several criteria to analyze and select roadways for proposed bike routes. After the selection was made each route was included in the CSRA Bicycle Route Map (Fig. N-1). The criteria include:

- Direct and continuous routes
- Access to major traffic generators
- Safety
- Comfort

The Long-Range Facilities and System Map serves two primary purposes:

- To identify potential facilities and improvements.
- To provide a view of potential facilities and improvements at a regional system level.

The bicycle network map designates certain roadways as bicycle corridors. The corridors have been identified as priority routes that serve to connect activity centers. Proposed is that the entire network include paved shoulders along with share the road signs. Clearly marked paved shoulders are the preferred bicycle facility in rural areas. This approach to a regional network offers several advantages. First, it responds to the wishes of bicyclists who prefer a network of on-road facilities. Second, the required infrastructure is already in place along many roadways. Finally, it takes into account local and state government budgetary considerations in that paved shoulders can be added during routine GDOT widening or resurfacing



Perhaps the biggest impediment to bicycling identified by residents and advisory committee members was rumble strips along roadways. Bicyclists complain about discomfort as well as damage to their bicycles. Residents who bicycle on a regular basis noted that a significant number of roadways in the region contain rumble strips. GDOT officials have developed a balanced approach to accommodate both motor vehicle safety and bicycle transportation. GDOT will install rumble strips along all rural highways with posted speed limits of 50mph or above, but the standard design includes 12' gaps so that bicyclists can enter and exit the paved shoulder area comfortably.



Another important consideration is the bridge replacement and rehabilitations projects. Many of the 18 scheduled projects in the next two years are located along roadways identified as part of the network. The importance associated with bridges is underscored by the problems the Historic Piedmont Scenic Byway Commission encountered in implementing a portion of its Corridor Management Plan. In attempting to designate State Route 16 between Sparta and Eatonton a bicycle route, the Commission was advised by GDOT engineers that the bridge design would have to be altered to accommodate bicyclists.



This highlights a major deficiency (single, motorized use) associated with bridge design of the 1950s and 1960s. Even in cases where bridges accommodate bicyclists, little consideration was given as to how bicyclists would negotiate once off the bridge. Future road improvements or maintenance along bridges should consider shoulder width and related design issues that could improve the roadway's usefulness and safety as a bicycle travel route.

3.1.2 Sidewalks

Sidewalks are vital component of an effective pedestrian network. When properly designed and maintained, sidewalks increase pedestrian mobility, safety, and accessibility. Residents and advisory committee members identified the long-term need to invest in pedestrian infrastructure throughout the municipalities. Without adequate facilities there is little incentive for residents to walk in these areas.

Several obstacles stand in the way of creating effective municipal pedestrian networks. When considering the high cost of providing facilities funding is difficult to obtain. Providing pedestrian facilities away from business districts, where pedestrian use is relatively low, is difficult to justify for elected officials. Furthermore, most CSRA neighborhoods are already developed, which complicates providing facilities in areas with insufficient right-of-way.

As noted, sidewalks in many cities are generally in poor condition. Broken pavement, encroaching vegetation, and the lack of curb ramps limit residents' willingness to use alternatives to motor vehicle transportation. These conditions are hazardous for all residents but pose additional challenges to users in wheelchairs and pedestrians with strollers. Eliminating these hazards so people can travel safely from one point to another are improvements that will promote walking and potentially attract new pedestrians.



Many areas lack pedestrian facilities entirely. The absence of pedestrian facilities in some residential neighborhoods and commercial areas are causes for concern for a growing number of CSRA residents. Connections between neighboring developments are often only provided by roadways with no pedestrian facilities. Commercial areas are often designed as a singular destination and do not include connections to adjacent developments.

Residents identified high use corridors currently underserved by sidewalk facilities as the most needed improvement to enhance the CSRA's various municipal pedestrian networks. These corridors include numerous sections of cities such as Thomson, Sandersville and Washington. Adding sidewalks along these roads not only extends current networks to serve significant population pockets but also eliminates numerous sidewalk gaps.

Like bicycle routes, sidewalks should connect popular destinations and should provide direct, continuous routes. Emphasis should be placed on establishing pedestrian networks that facilitate pedestrian movements between adjacent developments.

Currently, there is little coordination between local officials, the CSRA RDC and GDOT on sidewalk projects off the State Route network. Local governments, particularly municipalities, should coordinate with GDOT to construct/resurface-needed sidewalks along and off state routes during future resurfacing or widening projects. This has been successfully accomplished in Lincolnton and Midville and other cities should follow suit in pushing for these improvements.

No specific pedestrian volume standards have been established by GDOT as warrants for the actual construction of new sidewalks. That decision is generally left up to the discretion of GDOT project designers and guidance provided in the Georgia Pedestrian and Streetscape Guide, which recommends installing new sidewalks under various situations. Ideally, sidewalks on both sides of the road should be constructed or maintained wherever significant pedestrian activity is expected. In addition to actual or potential pedestrian demand, factors that also must be considered include the availability and/or cost of any needed right-of-way acquisition and the long-term commitment to maintenance by local governments. This seems to be the approach taken by GDOT in Sandersville where such considerations were factored into GDOT's decision to provide crosswalks along a high-volume state highway.

It is recommended that municipalities develop bicycle and pedestrian plans. These plans may focus on specific local needs that can feed into the regional network. Plans should include an inventory of existing sidewalks, locations without sidewalks, potential attractors and other factors, and a plan to fund and implement needed facilities. Sidewalk condition information could also be integrated into a Pavement Management System database in order to more easily identify pedestrian-related problems and to incorporate appropriate solutions into improvement projects.

Data collected as part of pedestrian planning process has useful purposes beyond local government transportation plans. Other agencies (schools boards, health organizations etc.) and programs (i.e. Livable Centers Initiative) can make use of this data in decision-making and coordinated projects with overlapping interests.

The key to successful facilities development is coordinated projects. Where feasible, all new development or redevelopment should include sidewalks along both sides of the street.

3.1.3 Traffic Calming

The essential bicycle and pedestrian transportation crossing issue is the relationship between design and travel behavior. Poor design - design that does not take into account pedestrian convenience - results in unpredictable behavior. Pedestrians will often ignore traffic signals if they feel they have already waited enough or if the distance to a traffic signal is too far. Similarly, pedestrians will only use crosswalks if they feel motorists will stop.



Traffic calming is a term applied to a variety of physical measures intended to reduce the speed of automobile traffic. Techniques involve the use of physical changes to the roadway to reduce vehicle speeds. These techniques serve to safely balance the needs of all roadway users. By slowing traffic speeds, traffic calming devices increase the reaction time available to motorists and pedestrians, thereby creating more opportunities for all users to share the roadway. Traffic calming also allows communities to enhance the aesthetic elements of a roadway and increase the livability of streets.

Common traffic calming techniques include:

- Roundabouts
- Lane Width Reduction
- Additional street landscaping and furniture
- Center islands and Pedestrian refuges at crossing locations
- On-street parking
- Bulbouts at crosswalks to reduce distances for pedestrian crossings

- Enhanced roadway lighting
- Separated sidewalks and curbing
- Textured pedestrian crossings (paved brick, cement concrete, granite pavers etc)
- Pavement Markings
- Raised Crosswalks



From all the above-mentioned options, crosswalk pavement markings are the most affordable alternative to more infrastructure-intensive techniques. Crosswalks define locations where pedestrians have a legal right of way when crossing streets. They can be at intersections or mid-block, at controlled or uncontrolled intersections, be marked or unmarked, and be raised or at street level. Each configuration has different implications for bicycle and pedestrian transportation.

Most crosswalks are at street level. Different pavement markings are used to draw attention to the crosswalk. Standard crosswalks are delineated with a single stripe at either edge of the crosswalk and are appropriate for signal-controlled intersections. Zebra or ladder crosswalks are used when it is desirable for other types of crossings due to their improved visibility. In raised crosswalks, vehicular traffic is raised to the level of the sidewalk, slowing down oncoming traffic. Crosswalks should be wide enough to accommodate the bicycle and pedestrian flows and be designed to blend in with the surrounding environment.

Most bicycle and pedestrian crossings in CSRA cities occur along state highways. In other areas of the CSRA, corridors with concentrated nodes of activity (schools, libraries, local government offices, etc.) are locations where crossings will likely occur.

In general, there is an inverse relationship between traffic volumes/speeds and the effectiveness of crossings. This often leads to conflicting goals when determining priorities for future roadways. While some designs reduce bicycle and pedestrian crossing safety for increased motor vehicle capacity, other designs that facilitate crossings may reduce capacity. In designing new roadways, local governments should examine designs that maximize multiple objectives, including safe bicycle and pedestrian crossings.

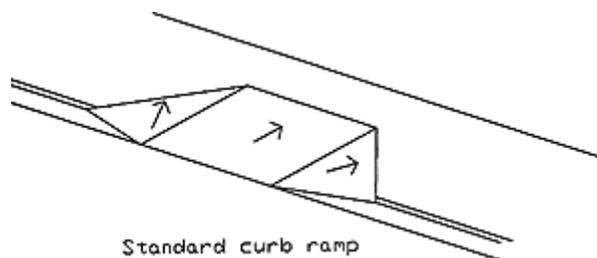
Local governments should examine various forms of traffic calming around important business districts, pedestrian districts (particularly in concentrated pedestrian crossings where no intersections exist), and established school crossings.

3.1.4 Curb Ramps

Curb ramps provide a gradual transition between the level of the sidewalk and the street. They provide access for people who use wheel chairs or crutches, who would otherwise be excluded from certain types of pedestrian travel because of the barrier created by the curb. Curb ramps also benefit pedestrians pushing strollers or other wheeled devices. Curb ramps

should be provided at each corner of an intersection that aligns with pedestrian crossings. Where feasible, all new development or redevelopment should include curb ramps.

Broadly, three types of curbs are commonly employed, distinguished by their structural design and position relative to the sidewalk and street.



- *Perpendicular curb ramp*: one that is aligned so that the ramp is generally perpendicular to the curb and users will be traveling perpendicular to vehicular traffic at the bottom of the ramp.
- *Diagonal curb ramp*: a single curb ramp that is located at the apex of the corner at an intersection with a straight path of travel down the ramp leading diagonally into the center of an intersection.
- *Parallel curb ramp*: two ramps leading down towards a center level landing at the bottom between both ramps with a level landing at the top of each ramp.

All three types have their advantages and disadvantages and all are acceptable so long as they meet design standards and do not place users directly in front of the intersection. A common design error is ramps that are not oriented in the same direction of travel as the path. When angled towards the middle of an intersection, the risk of pedestrian-motor vehicle accidents is significantly higher.

3.1.5 Directional Signage

The majority of bicycle and pedestrian information is conveyed through signs and signals in the public right-of-way that are directed primarily at motorists. Although these signs affect bicyclists and pedestrians, they are not always positioned for their use. Examples of this include street name signs on many arterials hung at the center of the intersection, and traffic signals along streets that are often missing. Bicyclists and pedestrians need their own signs because sight lines, viewpoints, and travel speeds are substantially different from those of motorists.

Signs are a relatively inexpensive way to encourage greater use of bicycle and pedestrian facilities by making users feel more secure. By giving directions to nearby destinations, signs can make it easier, and thus more appealing, to bicycle and walk. Signs are also important to alert motorists to the presence of people walking and bicycling, especially at crossings, and of their need to share the road.



Directional signage should be provided along main arterials to indicate points of interest, such as business districts, schools and recreation areas. Care is needed to ensure signs are placed in locations that do not limit the effective width of sidewalks or block the clear path of travel.

All signs should be consistent in format and location, enabling residents to learn to identify the information and meaning, including pedestrians with cognitive impairments. The Manual on Uniform Traffic Control Devices (MUTCD) emphasizes uniformity in traffic control devices to protect the clarity of their meaning. A uniform device conforms to regulations for dimensions, color, wording, and graphics.

3.1.6 Lighting

Like signs, lighting can encourage greater use of bicycle and pedestrian facilities by making users feel more secure and increase their safety considering that a significant number of Georgia's pedestrian crashes occur at night when lighting is inadequate. Lighting is especially useful where facilities and streets meet to help bicyclists and pedestrians see where to turn and to help motorists see users.

Local governments should provide pedestrian-scale lighting in high-use areas. Shorter light poles, with attractive fixtures that are effective in illuminating the travel way but not obstructive, are preferable.



3.1.7 Street Furniture and Support Facilities

Creating a bicycle or pedestrian-friendly environment encompasses more than developing a continuous system of bicycle routes and sidewalks. It should also include, depending on surrounding uses, benches, water fountains, and trash receptacles. Street furniture are important sidewalk amenities that provide pedestrians with an opportunity to sit, rest, and socialize. The addition of these other support facilities can be especially important in commercial areas, whether older downtowns or newer shopping districts, to encourage people to bicycle and walk among the various businesses and other activities within them.

Cities such as Louisville, Sandersville and Washington have successfully incorporated these principles into the redevelopment of their existing central business districts and have created vibrant shopping districts. Street furniture should be provided in high-use areas, where sidewalks widths are adequate. In general, they should be installed in the curb zone a minimum 2 feet from the curb, or in the building zone as long as they



do not obstruct the pedestrian path of travel.

Bicycle parking was also identified as an important need to support bicycle transportation. Bicycle parking should be located in high activity areas such as schools, work places, business districts, government offices, public parks, and other significant traffic generators.

3.1.8 Landscaping

Bicyclists and pedestrians are more sensitive to the quality of the surrounding environment, and are willing to walk further when passing through more attractive surroundings. To promote bicycle and pedestrian activity, networks need to be aesthetically appealing. The attractiveness of the pedestrian network can range from visually attractive with environmental enhancements to an experience of discomfort and intimidation, associated with absence of amenities.

Landscaping was an important recommendation in the Millen, Louisville and Sandersville Downtown Design projects and a major component of all TE funded streetscape projects. And many cities have invested in landscaping in their downtowns.

The Design projects paid particular attention to trees. Trees serve as a visual and auditory buffer between pedestrians and automobile traffic. They also support the aesthetic appearance of a street and provide shade in warm climate.



Local governments should continue to invest in landscaping efforts and include them as a standard component of all streetscape TE projects, particularly along high-use bicycle and pedestrian corridors. Landscaping and tree features should be kept consistent to boost the visual coherence along roadways and sidewalk systems.

3.2 Design Guidelines and Considerations

Numerous bicycle and pedestrian design guides are available to guide planning of facilities. Among the more commonly used are the American Association of State Highway and Transportation Officials (ASSHTO) *A Policy on Geometric Design of Highways and Streets* (1990), Institute of Transportation Engineers, *Design and Safety of Pedestrian Facilities, A Proposed Recommended Practice* (1993), and Federal Highway Administration, *Designing Sidewalks and Trails for Access* (2001) and *Guide for the Development of Bicycle Facilities* (1994). The federal government has also developed accessibility standards in *Uniform Federal Accessibility Standards (UFAS)* and the *Americans with Disabilities Act Accessibility Guidelines (ADAAG)* to guide facility development for pedestrians with disabilities.

GDOT requires that all transportation improvements conform to *ADAAG* standards. All future facilities should be constructed following the design guidelines contained in these guides. Specific attention should be paid to minimum width requirements for the most common bicycle and pedestrian facilities:

- Paved shoulders (6.5')
- Bicycle lanes (5')
- Sidewalks (5', or 6' grass median if right-of-way permits)

Regardless of the type of improvement, it is critical that designers be cognizant of the needs of bicyclists and pedestrians and consider the implications of site design decisions on bicycle/pedestrian movements. Sensitive Site Planning (SSP) occurs when bicyclists and pedestrians are recognized as a significant factor in shaping the arrangement of onsite facilities and the relationship of those facilities to others. SSP considers the full range of bicyclists and pedestrians - from children and the elderly to people with disabilities. It is essential that public works and utilities departments participate in the design process as these entities influence both the functional and aesthetics aspects of transportation facilities.

3.2.1 Environmental Considerations

Surprisingly, few residents want to see bicycle paths or multi-use trails along the Ogechee River, citing river-disturbing concerns. The use of non-motorized transportation corridors can have a positive impact and benefit on the environment including the conservation of resources and reduction of air pollution. However, bicycle and pedestrian facilities can also negatively impact the environment if not planned and designed appropriately. With the intense pressures put on natural landscapes by development, it is important to protect and preserve the native wildlife and vegetative communities that may accompany paths or trail development.



Local governments interested in developing trails or paths along stretches of the river are strongly encouraged to consider these environmental considerations and perform the necessary environmental analysis when planning facilities. Coordination with the Georgia Department of Natural Resources and the State Historic Preservation Office will be needed.

3.3 Maintenance

Forethought must be given to the practicality of future maintenance. Accessible designs will not improve bicycle and pedestrian convenience if maintenance is neglected and shoulders or sidewalks are allowed to degrade to a state where they cannot be used or must be avoided.

There are two aspects to maintaining bicycle and pedestrian facilities that are important: keeping them structurally sound and clean. Examples of design features to be avoided include blind corners that can accumulate debris and restricted areas that cannot accommodate sweepers or other power equipment. Local governments should include maintenance strategies in the preliminary planning stages of new construction and alterations, and develop a plan that clearly specifies the frequency of maintenance activities and how reported maintenance concerns will be addressed.

Most of the maintenance for bicycle and pedestrian facilities is the responsibility of local transportation maintenance professionals. Not all, however, have specific knowledge of bicycle and pedestrian needs. In most college-level transportation planning and engineering programs, attention is paid only to the automobile mode, with the odd elective course offered on transit planning. No provision is made for studying the needs of bicyclists and pedestrians. Education and special training for these workers, to make them aware of maintenance considerations, is an important step toward meeting the needs of users. Educational workshops and conferences focused on professional development are the most common methods of achieving this.

When planning bicycle and pedestrian facilities it is important to conform to design criteria contained in the guides mentioned in the previous section. Tort liability and negligence claims related to poor facilities design such as sidewalks and crosswalks are on the rise. Courts employ the concept of “reasonable care” - the level of care that a reasonably experienced and prudent professional would have taken in the same or similar event - as the basis for determining negligence and often examine whether designs conformed to standard practice contained in these guides. Beyond design elements the following actions should be taken:

- *Continuous inspections:* Pedestrian signs pointing towards a designated historic district, for example, imply reasonably safe travel conditions and the cities should ensure that hazards are removed. Reports of hazardous conditions received from police and other government departments should be thoroughly investigated.
- *Documentation:* Local governments should maintain logs and reports of surface conditions and response actions. A formal record-keeping structure designed to chronicle maintenance activities will be significant should liability claims occur.

GDOT and the CSRA RDC are currently working on a district-wide project to collect data on bicycle and pedestrian facilities. Local governments should coordinate with these entities to collect and incorporate sidewalk condition information into a Pavement Management System (PMS) database in order to more easily identify bicycle and pedestrian-related problems and make necessary improvements. The data collection program can be used as performance measures to track the success and failures of the Plan, and promote better transportation planning.

3.4 Education

While planning and design techniques can contribute to solving safety problems, other issues will require more than a design solution. The physical environment cannot address all of the challenges associated with bicycle and pedestrian transportation. For example, safe roadway crossings are clearly a critical part of any bicycle and pedestrian network. While there are a variety of crossing treatments, design alone cannot compensate for driver or bicyclist/pedestrian poor judgment. Continuous public education and enforcement are part of the solution.

Several residents indicated that drivers frequently fail to see or acknowledge the presence of bicyclists and pedestrians. Many motorists consider bicyclists and pedestrians a nuisance whenever they are encountered. While relatively few crashes result from such attitude, the intimidation felt by users is significant and deters many bicyclists and pedestrians from venturing out.

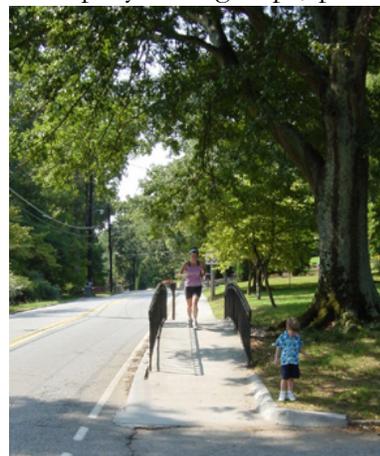
In general, the scope of most bicycle and pedestrian education programs is geared to elementary school children. Effective education programs need to be designed with a clear understanding of the diverse needs of various user groups. Children, adults, and people with disabilities all have different skill levels, experience, and perception of risks.

Promoting bicycling and walking is necessary to increase awareness that alternatives to motorized transportation are viable and efficient, and can offer many benefits. A cooperative and comprehensive community effort is required in successful encouragement programs. Coordination is required among many groups at different levels. The following are some of the most common programs:

3.4.1 Community-Based Programs

Community-based programs are the broadest attempt to reach bicyclists and pedestrians on encouragement and safety. They include resources and sponsorship by civic groups, police departments, and planning commissions. The RDC, in particular, can provide educational materials and coordinate with media and interested organizations to promote bicycle and pedestrian issues.

The media is an important partner in community-based programs. Television stations include bicycle and pedestrian issues as topics in newscasts and special series. Radio stations include bicycle and pedestrian issues as talk show topics and play public service announcements. Newspapers cover biking and walking events. Themes can range from health benefits to crime reduction. All media campaigns increase the visibility of bicycling and walking in the



community, thereby promoting the transportation modes.

One of the most innovating programs was developed by the National Highway Traffic Safety Administration (NHTSA). Entitled *Pedestrian Road Show*, the program is designed to assist local leaders in making their communities more pedestrian-friendly and in addressing their particular safety needs. The leaders' focus is to identify and advocate for solutions to problems that affect their communities.

3.4.2 School-Based Programs

School-based programs focus on a specific segment of the bicycle and pedestrian traveling population. Their major benefit is that it is easy to influence children at an early age to bicycle/walk and do it safely. The NHTSA has developed several curriculum kits to assist teachers and safety organizations with bicycle and pedestrian issues. The videos *Stop and Look With Willy Whistle* and *Keep on Looking* are used nationwide.

The *Safe Routes to Schools* program has also been successful. This program investigates routes taken by children to and from school and levels of supervision by adults. The level of safety along those routes is then assessed and an action plan is prepared that includes recommendations to improve safety.



Local governments should coordinate with the CSRA RDC to provide safety instruction. Strong, well-designed bicycle and pedestrian safety education programs for children develop responsible roadway users and emphasize self-reliance rather than protection. Programs should equip youngsters for independence by creating within themselves a safety consciousness that effectively guides their behavior through many real life traffic situations. Children should learn good habits and practice for situations that may suddenly become dangerous. This includes learning to identify hazardous situations, assess problems accurately, calculate the risks involved, and respond in an efficient and timely manner.

School district and local jurisdiction policies and actions could facilitate bicycle and pedestrian access to and from schools. Once schools understand the difficulties students face in getting to school, they will be better able to take advantage of existing funding sources such as the Safe Routes to School Program. Safe Routes to School funding is designed to improve bicycling and walking conditions in the vicinity of schools. Successful projects build continuous facilities to and from schools, and educate parents and students about safe bicycling and walking routes and on how they can help improve conditions in their community.

3.4.3 Business-Based Programs

Business-based programs encourage employees to bicycle or walk to work. The economic benefits to the employer are numerous. They include minimized parking requirements, reduced congestion, and in some cases, tax credits for providing a bicycle or pedestrian-friendly environment. Both employer and employee also benefit from increased physical activity. Local governments can assist by providing tax breaks to employers who encourage their employees to walk to work.

3.5 Law Enforcement

Enforcement is a critical component of bicycle and pedestrian safety programs. Visible enforcement efforts remind both drivers and bicyclists/pedestrians to follow the rules. A common complaint among pedestrians and motorists is that the other does not adhere to traffic laws and that police officers do not enforce existing rules and regulations. Among the many reasons cited:

- *Social and peer pressure:* Bicycle and pedestrian infractions are not viewed as "real" crime. Fellow officers and the general public will ask why an officer is issuing a citation instead of stopping burglaries or assaults.
- *Police administration:* In the hierarchy of police matters, bicycle and pedestrian law enforcement is not a priority. With limited budgets, police departments cannot afford to dedicate much time to such "minor" violations.
- *Personal responsibility:* Bicyclists and pedestrians are not a "real" threat to anyone else. If they disregard traffic laws and get hurt, they only hurt themselves.



Despite these beliefs, police officers must enforce bicycle and pedestrian laws. One compromise approach commonly used is to target certain infractions frequently involved in crashes. This targeted enforcement approach is both time efficient and prevents accidents. The following are violations that should be the focus of bicycle and pedestrian-oriented law enforcement.

Targeted Bicycle and Pedestrian Violations

- Dart out (fail-to-yield).
- Jaywalking (mid-block crossing between signalized intersections).
- Bicyclists and pedestrians on controlled-access highways.
- Flagrant violations of traffic signals.

Targeted Motorist Violations

- Unsafe passing (driver on multi-lane road passing a car stopped at a crosswalk).

- Failure to stop and yield on a right turn on red.
- Failure to yield to a bicyclist or pedestrian in a crosswalk.

Many enforcement options are available to decrease the number of infractions. An effective positive reinforcement, particularly among children, is for police officers to reward adherence to traffic laws by a nod or other congratulatory sign. Negative reinforcements include verbal warnings, written warnings and citations. It is preferable to use verbal and written warnings before issuing citations.

3.6 Land Use Regulations

Local governments play the principal role in shaping land use and development through zoning and subdivision regulation. Density controls, building setback requirements, site plan review requirements and provisions for mixing or segregating land use all affect bicycling and walking conditions. Throughout the CSRA, transportation and land use planning need to become better integrated in order to improve bicycle/pedestrian access and mobility.

Distance is perhaps the greatest obstacle to bicycle and pedestrian transportation. Compared to automobiles, bicycling is usually limited to a few miles. Pedestrians generally are willing to walk a quarter mile to a mile for utilitarian trips. Reducing distances between origins and destinations could have the greatest impact on shifting trips to bicycling and walking. More direct bicycle and walking routes to activity centers could reduce the time or distance needed to travel to and from these places. Alternatively, the development of mixed use areas near bicycle routes or in areas with well-developed pedestrians networks could take advantage of those facilities and encourage more walking and bicycling.



Much attention is now paid to Neo-traditional design. Emphasizing compact development and mixed land use helps make short non-motorized trips more feasible. Neighborhood-oriented commercial districts, parks, and schools located within safe and easy walking or bicycling distance from residential areas make bicycling and walking efficient. These activities are also central to economic development and housing activities. The goal of encouraging nonmotorized transportation can provide a framework for coherently linking transportation, land use, economic development, and housing objectives. When these goals are pursued separately, additional resources are required and costs increase significantly.

The cities of Thomson and Washington are in the process of drafting redevelopments plans centered on neo-traditional design practices. The redevelopment projects are expected to encourage investment. Both are expected to continually apply for TE grants to help fund these projects.

Local governments are urged to follow Thomson and Washington's lead. Current land use policies in other parts of the region will result in sprawl and encourage disproportionate motor vehicle use. Incremental development along arterials, with multiple access points for automobiles and large parking lots around buildings, often result in inconvenient and unsafe conditions for bicyclists and pedestrians. A sustained effort to plan ahead and seriously examine policies such as infill-development and more intermingled land uses is vital to developing adequate bicycle and pedestrian networks.

Bicycle and pedestrian considerations are one of a multitude of factors involved in the development process and must compete with other design and financial priorities. However, when integrated into the development plans from the outset, bicycle and pedestrian facilities can be added with relatively low costs, and can improve the marketability of a property.

3.6.1 Zoning

The success of any bicycle and pedestrian plan, and its implementation, rests on how well it is integrated with an area's land use regulations. There is a range of planning and regulatory tools available to support bicycle and pedestrian transportation. In the rural CSRA, they revolve around zoning and subdivision regulations.

The overall intent of including bicycle and pedestrian facility provisions in zoning regulations is to ensure that new development or redevelopment of land includes these facilities in the appropriate design and location. References to bicycle and pedestrian access can be included to define the types of facilities that are required and establish standards for facility design. Most zoning regulations have a basic set of sections in common that describe the purposes for which the regulations are adopted, define terms used in the regulations, establish zones for different uses, set requirements for development in each zone, and establish guidelines for applications, site plans, and the application process. References to the development of bicycle and pedestrian facilities can be included in each of these components of the regulations. The decision on where to add language related to bicycle and pedestrian access will be predicated on the degree of control the community wishes to exert over these facilities. Language in the zoning regulations can include the following:

- Recommend that bicycle and pedestrian access be included as part of all development proposals.
- Require that bicycle and pedestrian access be provided in all new development proposals within specific areas.
- Require that bicycle and pedestrian access be provided as part of some specific types of new development.
- Provide some general guiding principals for facilities design.
- Require that bicycle and pedestrian access be provided in accordance with specific design standards.
- Offer some regulatory bonuses or relief from regulatory burdens for developments that include bicycle and pedestrian provisions.

Figure N-1 illustrates the different options communities have to incorporate bicycle and pedestrian transportation provisions in their zoning codes.

Table N-2: Bicycle and Pedestrian Provision in Zoning Regulations

Action	Minimum	Advanced
Bicycle and pedestrian access as part of new development	Recommend	Require
Bicycle and pedestrian access as part of specific types of new development	Recommend	Require
Provide guiding principals for facility design	General	Detailed
Site plans show proposed bicycle and pedestrian amenities	General	Detailed

Zoning requirements can help ensure that bicycling and walking access are considered for all types of new developments. Increased densities of housing or commercial areas can shorten distances between home or work and various destinations, while a greater mix of land uses can also bring shopping closer to shoppers.

Zoning regulations can be crafted to provide incentives that will encourage development in areas targeted for growth. Since a major factor that affects which zones are attractive for development is costs associated with new roads and other facilities, regulations can include incentives to help minimize or offset costs to construct bicycle and pedestrian facilities as part of site development. There are several approaches local governments can take to provide incentives for development. These include:

- Release from some zoning requirements (i.e. reduce parking space requirement in exchange for street trees and landscaping).
- Bonuses for site design that is beneficial for the historic district. (i.e. extra square footage in exchange for more pedestrian access).
- Tax credits to provide bicycle and pedestrian facilities.
- Low-interest loans to provide bicycle and pedestrian facilities.
- Impact fees to offset the cost for the city to provide bicycle and pedestrian facilities.

In addition, zoning regulations can establish overlay zones for special purposes. If a community has established a primary area or areas where it wants bicycle and pedestrian facilities to be located, then the zoning regulations can establish a bicycle/pedestrian access overlay zone that encompasses those areas.

Care is needed to ensure that codes are not too restrictive. Restrictive zoning codes can result in sidewalks that are fractured by parking lot exits and entrances. For example, local businesses may build large parking lots between their storefronts and the street to accommodate minimum parking requirements. This creates additional barriers for pedestrians. Minimum lot sizes, setback requirements, and minimum parking requirements hamper the development of pedestrian friendly areas and should be avoided.



3.6.2 Subdivision Regulations

The purpose of addressing pedestrian facilities within subdivision regulations is threefold:

- To provide access within developments not addressed in zoning regulations.
- To ensure bicycle and pedestrian circulation is considered both within a site as well as between a site and surrounding developments.
- To promote consistency of access among multiple new developments.

General provisions of subdivision regulations are similar to those included in zoning regulations. Requirements for approval, application requirements, and design standards are included and guide the development of bicycle and pedestrian access provisions.

Design standards established for bicycle and pedestrian access can ensure that the quality of facilities constructed is consistent. This is particularly important to ensure design continuity. The provision of clear standards also reduces confusion on the part of site developers as to requirements.

In sum, the language to require safe and adequate bicycle and pedestrian access within zoning and subdivision regulations can have the effect of facilitating the design of new bicycle and pedestrian-friendly places and provide consistently designed corridors. Local governments should examine the current body of land use regulation documents and incorporate regulations that facilitate bicycle and pedestrian policies contained in this plan.

3.6.3 The Role of Private Developers

Increasingly, developers are a more integral part of transportation planning process. Bicycle and pedestrian access and facilities are one of a multitude of factors involved in the development process and must compete with other projects. Partnerships between a local jurisdiction and private developers can facilitate coordinated development of bicycle and pedestrian facilities in a process that is cost-effective for all parties involved. A survey of local developers indicates that, generally, developers prefer to add bicycle and pedestrian facilities because they add to the marketability and value of a property.

From developers' perspective, there are several issues related to facilities provision:

- Traditional zoning categories are numerous and complex. Developers argue that using fewer, more general zoning categories provides more flexibility for development and promotes integration of different activities.
- Over regulation often hampers development and stifles design when used in a rigid and inflexible way. Regulations should ensure enough flexibility so as to not overwhelm developers.

- Many regulations contain conflicting goals. Provisions ensuring pedestrian access often conflict with other requirements such as minimum lot sizes, minimum parking requirements, and setback requirements that are geared to motor vehicle use and hamper the development of pedestrian-friendly areas. Clear policy in regulations helps developers determine a local jurisdiction's needs.

The dilemma facing cities CSRA local governments is one of providing flexibility for development while ensuring basic elements of bicycle and pedestrian systems are built.

3.7 RECOMMENDATIONS

Facilities projects will not be successful if there is no long-range planning attempt to deal with impediments bicyclists and pedestrians face. A sustained effort to plan ahead is vital to ensure efficient use of transportation funding and encouragement of alternative transportation modes.

Goal: Develop a continuous and regional bikeway system and local pedestrian networks consisting of facilities that connect and provide convenient access to key destinations.

Strategies

- Designate roadways contained in this Plan as bicycle routes.
- Support projects that improve non-motorized travel to regional population centers, historic and recreational areas, and other frequented destinations.
- Avoid rumble strips or provide sufficient space for bicyclists to ride comfortably.
- Maintain the aesthetic value and character of the existing roadway and the scenic quality of the landscape.
- Encourage development of ancillary facilities for pedestrians such as seating, and informational and directional signs at community destinations.
- Provide bicycle support facilities such as lockers.
- Provide adequate signage and lighting facilities in appropriate areas.
- Employ traffic calming techniques along intersections and roadway improvement projects where bicycle and pedestrian access is located.
- Use RDC and GDOT technical assistance to conduct local bicycle and pedestrian-specific circulation studies.
- Capitalize on future GDOT projects by requesting paved shoulder and sidewalks along corridors included in this Plan.

Goal: Support adequate design and maintenance conditions that are consistent with the goals and objectives of this Plan.

Strategies

- Include maintenance strategies in the preliminary planning stages of new construction and alterations.
- Develop a plan that clearly specifies the frequency of maintenance activities and how reported maintenance concerns will be addressed.
- Address surface condition needs and problems such as drainage grates, manholes, curb cuts, fog lines, lighting, etc. and consider the location and design of surface conditions in conjunction with all transportation related projects.
- Ensure design compliance with federal guidelines, including ADA provisions.

Goal: Link bicycle and pedestrian transportation to economic development efforts.

Strategies

- Use TE funds strategically to accomplish goals set in this Plan and revitalization plans that are bicycle and pedestrian-centered.
- Support efforts by local business districts to provide streetscape improvements.

Goal: Expand efforts to educate motorists, bicyclists and pedestrians on rules of the road and safe operational practices.

Strategies

- Create and distribute bicycle and pedestrian safety brochures.
- Identify and improve high accident locations.
- Develop programs to encourage more bicycle and pedestrian transportation.
- Work with local government, school officials, law enforcement agencies and special interest groups to create comprehensive education programs.
- Examine participating in National Walk to School, National Walk to Work, National Bike to Work and related programs.
- Identify potential funding to develop programs on the health benefits of bicycling and walking.
- Develop a more interactive web site for bicycle and pedestrian activities that highlights local, regional and statewide events.
- Provide training for law enforcement officials in the conduct of safety education and enforcement program for bicyclists and pedestrians.
- Encourage consistent and regular enforcement of traffic laws by citing both motorists and bicyclist/pedestrian violations for those infractions that account for most accidents.

Goal: Ensure bicycle and pedestrian planning coordination among various local, regional and state agencies.

Strategies

- Monitor conditions and usage along existing bicycle and pedestrian networks.
- Request that local governments include bicycle and pedestrian projects within their Short Term Work Program during the local comprehensive plan update process.
- Promote the coordination of information, processes, and policies for the design and development of bicycle and pedestrian facilities at the local, regional, and state level.
- Identify and maintain a contact database of local, regional and state planners responsible for bicycle and pedestrian planning.
- Create and maintain a web-accessible resource center for dissemination of bicycle and pedestrian planning.

Goal: Adopt local regulations to ensure convenient bicycle and pedestrian access to existing and new developments.

Strategies

- Recommend the inclusion of bicycle and pedestrian facilities in zoning and subdivision regulations.
- Encourage developers to incorporate other bicycle and pedestrian support facilities.

Goal: Encourage development patterns that are compatible with bicycle and pedestrian transportation through compact and mixed land-uses and encourage development policies that discourage sprawl.

Strategies

- Encourage smaller lot sizes, clustered development, and interconnected roadways to encourage centralization, facilitate access, and underscore traditional neighborhood patterns with the use of local by-laws and subdivision regulations.
- Encourage residents and visitors to park and walk rather than drive, by installing adequate signs designating locations and distances.
- Recommend that local governments consider revisions to land development codes to require a review of bicycle and pedestrian access for all development.

The CSRA Bicycle and Pedestrian Plan outlines a comprehensive framework for approaching bicycle and pedestrian transportation. Achieving a bicycle and pedestrian-friendly environment takes more than adopting a plan and obtaining funding for Transportation Enhancement (TE) projects. It involves sustained effort over many years by individuals and communities. It means looking out for and promoting the needs of bicyclists and pedestrians not only in public works and planning departments but also in schools, civic organizations, law enforcement agencies, and political arenas.

5.1 Institutionalization

Institutionalization refers to the sustained routinization of bicycle and pedestrian issues. If procedures and policies are formalized so the needs of bicyclists and pedestrians are routinely considered when roads are resurfaced or plans are reviewed, then projects and programs stand a far better chance of success. A number of key elements are central to institutionalization:

- A bicycle or pedestrian advocate in a public works and/or recreation department.
- Plans and policy documents.
- Regulations and ordinances for bicycle and pedestrian requirements.
- Organized citizen involvement in the planning and development of bicycle and pedestrian projects.

With limited budgets, none of the rural CSRA's local governments are capable of staffing a full-time bicycle or pedestrian coordinator, producing planning documents and design guides, or extensively reviewing development projects. A range of local agencies will need to participate and coordinate to make the process successful. The CSRA RDC should lead coordination efforts and be responsible for developing, encouraging and tracking the success of the Plan. These CSRA RDC should:

- Meet with local governments as needed to discuss proposed projects planned for the area.
- Gather and analyze information concerning technical and safety issues.
- Ensure all agencies with jurisdiction and influence over bicycle and pedestrian facilities have a copy of this plan
- Maintain communication with state agencies with regard to new developments in bicycle and pedestrian planning.
- Ensure bicycle and pedestrian planning efforts are included in related documents, such as comprehensive and regional plans.

5.1.1 Public Participation

Public participation in bicycle and pedestrian planning is essential and should begin early in the process. Efforts should be made to incorporate a broad segment of the population into

the development of plans and projects by conducting workshops to gather public input on issues.

5.1.2 Plan Evaluation and Update

A periodic plan evaluation will allow local government officials and residents to measure the effectiveness of the plan and look for opportunities to improve it. The evaluation should identify the relevance of the vision statement, goals and objectives, and the progress in reaching the goals and objectives. Individual projects should be evaluated to determine which have been implemented and which remain. Successes and failures should be evaluated to gain a better understanding of what is or is not working so that the plan can be made more effective.

The update will amend any goals and objectives, policies, and implementation processes determined not to appropriately realize the vision of the plan. The update should also identify current bicycle and pedestrian problems and opportunities and incorporate new projects and programs. The project list should be updated to reflect current needs. The plan should be evaluated and updated at least every five years.

5.1.3 Coordination with Related Planning Efforts

Elements of the plan should be incorporated in the comprehensive plan and the planning process of all city and county planning departments to ensure its development. The comprehensive plan's short-term work program should include specific recommendations on bicycle and pedestrian facilities. Policy statements should also be included in regional plans. Although policy statements and recommendations in related plans do not automatically guarantee the provision of bicycle and pedestrian facilities, they indicate that recognition exists of the need to plan and encourages specific thought be given to how bicyclists and pedestrians can be accommodated.

5.2 State and Federal Support

Several state and federal agencies are involved in bicycle and pedestrian transportation. Funding, promotion, planning and design, construction and management, land use development, and enforcement all involve regulatory controls and statutes set forth in state and federal legislation. Implementing a bicycle and pedestrian plan requires the coordination of all levels of government.

All of the major funding programs created under ISTEA, and continued under TEA-21 and SAFETEA include bicycle and pedestrian programs as eligible activities. In order to receive federal transportation funds, the legislation requires that each state develop a comprehensive statewide transportation plan. In addition states are required to develop a plan for trails and walkways for appropriate parts of the state. Such bicycle and pedestrian elements must be

incorporated into the long-range transportation plan. To use any of the following federal funds (summarized and adapted from various U.S. DOT programs) the state must first identify the project in the State Transportation Improvement Plan:

5.2.1 Surface Transportation Program

The Surface Transportation Program (STP) provides States with flexible funds which may be used for a wide variety of projects on any Federal-aid Highway including the NHS, bridges on any public road, and transit facilities.

Eligibility - Bicycle and pedestrian improvements are eligible activities under the STP. This covers a wide variety of projects such as on-road facilities, off-road trails, sidewalks, crosswalks, pedestrian signals, parking, and other ancillary facilities. TEA-21 also specifically clarifies that the modification of sidewalks to comply with the requirements of the Americans with Disabilities Act is an eligible activity.

As an exception to the general rule described above, STP-funded bicycle and pedestrian facilities may be located on local and collector roads which are not part of the Federal-aid Highway System. In addition, non-construction projects, such as maps, coordinator positions, and encouragement programs, are eligible for STP funds.

Matching funds - 80 percent Federal, 20 percent State.

5.2.2 Transportation Enhancements

Ten percent of a State's STP apportionment must be set-aside to fund activities that enhance the transportation system in ways that have not traditionally been included in the design and construction of the transportation system.

Eligibility - The list of 12 eligible activities includes three which relate specifically to bicycle and pedestrian transportation:

- Provision of facilities for bicyclists and pedestrians.
- Provision of safety and educational activities for bicyclists and pedestrians.
- Preservation of abandoned railroad corridors (including the conversion and use thereof for bicycle and pedestrian trails).

Matching funds - States have the flexibility to allow Federal funds to be used for all or any part of a project under the Transportation Enhancement program provided that the State program as a whole achieves an 80 percent Federal/20 percent State funding balance (subject to the sliding scale for States with significant Federal lands holdings).

States may also, with FHWA approval, allow in-kind contributions such as volunteer labor, land donations and in-kind services to count towards State matching funds, provided that a cash-value can be attributed to the donated time, resource, or product.

5.2.3 Safety Set-Aside

Ten percent of each State's STP apportionment is set aside for infrastructure safety activities. Funding is channeled into two programs: the Hazard Elimination Program (HEP) and the Railway-Highway Crossing Program.

Eligibility - Under the HEP, States must "conduct and systematically maintain an engineering survey of all public roads to identify hazardous locations... which may constitute a danger to motorists, bicyclists, and pedestrians", and implement a prioritized program of improvements to those hazardous locations. Funds may be used for improvements on any public highway, public transportation facility, and any public pedestrian pathway or trail. Traffic calming projects are also specifically mentioned as eligible activities.

TEA-21 does not change the ISTEA requirement that States, at a minimum, fund both the HEP and Railway-Highway Crossing program at FY 1991 levels. Funding above this minimum may be allocated to either program at the discretion of the State. In addition, States must still reserve half of their Railway-Highway Crossing funds for protective devices at railway-highway crossings.

Matching funds - The Federal share for HEP projects is 90 percent. The Federal share for Railway-Highway Crossing Program projects is 90 percent, except that the Federal share may be 100 percent for signing, pavement markings, active warning devices, and crossing closures.

5.2.4 National Scenic Byways Program

The National Scenic Byways Program recognizes roads having outstanding scenic, historic, cultural, natural, recreational and archaeological qualities by designating them as National Scenic Byways or All-American Roads.

Eligibility - Funds may be spent on a variety of activities including "construction along a scenic byway of a facility for pedestrians and bicyclists, rest area, turnout, highway shoulder improvement passing lane, overlook, or interpretive facility." Projects must be either associated with a National Scenic Byway, All-American Road, or a State Scenic Byway.

Matching funds - The Federal share is 80 percent.

5.2.5 Minimum Guarantee

TEA-21 guarantees that each State receives at least a 90.5 percent return on its contributions to the Highway Account of the Highway Trust Fund in each of the major funding categories including IM, NHS, Bridge, STP, CMAQ, and Recreational Trails. Therefore, each State receives a Minimum Guarantee apportionment in addition to funds for these other programs.

Eligibility - Approximately half of the funds received by a State are administered as STP funds, except that the funds are not subject to the 10 percent set asides for Safety and Enhancement programs. The remaining funds are divided among the IM, NHS, Bridge, CMAQ, and STP programs based on the share each State received for each program.

Matching funds - Matching requirements are the same as for the programs into which the funds are placed.

5.2.6 State and Community Highway Safety Grant Program

The State and Community Highway Safety Grant Program supports State highway safety programs designed to reduce traffic crashes and resulting deaths, injuries, and property damage.

Eligibility - States are eligible for these funds (known as "Section 402 funds") by submitting a Performance Plan, with goals and performance measures, and a Highway Safety Plan describing actions to achieve the Performance Plan. Grant funds are provided to States, the Indian Nations, and Territories each year according to a statutory formula based on population and road mileage.

Funds may be used for a wide variety of highway safety activities and programs including those that improve bicycle and pedestrian safety. States are to consider highly effective programs (previously known as National Priority Program Areas), including bicycle and pedestrian safety, when developing their programs, but are not limited to this list of activities.

Matching funds - Federal share is 80 percent.

5.2.7 Other Federal Grants

Federal grants and funding outside the U.S. Department of Transportation are available. Most of these funding sources relate to conservation or public health, of which bicycle and pedestrian activities could potentially be included. Examples include U.S. Forestry Service and Natural Resource Conservation and Service grants within the U.S. Department of Agriculture. While more difficult to obtain than TE grants, funding opportunities are available as long as bicycle and pedestrian facilities are linked to conservation efforts.

Community Development Block Grants, provided by the U.S. Department of Housing and Urban Development, are another source of potential funds. Grants are awarded to communities for various types of projects, and may be used for accessibility purposes, such as installation of ramps, curb cuts, wider doorways, wider parking spaces, and elevators. Local governments should consider applying for grants to meet accessibility objectives or to capitalize on other projects (such as having sidewalks reconstructed while undertaking water or sewer improvements).

5.2.8 State/Local Match

Most federal programs require that states put up a portion of the total cost of the project. For state projects this match must be appropriated by the legislature, usually out of a state's general fund revenues. With the exception of states where federal ownership and control of lands is high, the state match is 20%. For local projects, local jurisdictions are expected to provide the match.

Cities have jurisdiction over most sidewalks and initiate projects that serve bicyclists and pedestrians. The state funds capital projects and local jurisdictions can use these funds to provide trails, upgrade existing sidewalks, and complete maintenance. It is up to local governments to tap into this funding source.

Future state route widening projects and construction projects are one means of providing bicycle and pedestrian infrastructure at relatively low cost. Bicycle and pedestrian facilities may be included as part of existing GDOT transportation improvement projects at little to no cost to local communities when those facilities can be justified and included in adopted planning documents. Each project is evaluated on an individual basis to determine its eligibility.

5.2.9 Local Sources

One of the most important issues related to bicycle and pedestrian facilities in the rural CSRA is adequate funding. Local governments are faced with many transportation needs and there is limited local funding for bicycle and pedestrian facilities. Nevertheless, local governments cannot continue to neglect bicycle and pedestrian facilities projects. At a minimum, local governments should establish a funding system that balances the need to improve and expand bicycle and pedestrian facilities with the need to most effectively use available funds.

A potential local source of funding is developer impact fees. In large urban areas such fees are typically tied up to trip generation rates and traffic impacts produced by proposed projects. In smaller cities, fees could be based on the assessed value of property or a flat rate.

The RDC will assist local governments in identifying state and federal funding and providing technical assistance to establish bicycle and pedestrian projects and programs.

5.3 Private and Non-Profit Sources

Corporations and not-for-profit groups promote bicycle and pedestrian transportation in a number of ways. Right-of-way donations for trails and pedestrian walkways often open up new access routes to businesses, particularly those located in downtown districts. Biking and walking clubs sponsor education and safety programs, as well as provide funds for specific projects.

A range of private funding sources are available for bicycle and pedestrian facilities, and educational programs, most related to multi-use pathways. Some supplement TE project funding, while others are stand-alone grants. Smaller in sum than federal and state funds, they require no local match and in many cases can serve as the local match for a TE grant. The following are examples:

5.3.1 Kodak American Greenways Awards

The Eastman Kodak American Greenways Awards, a partnership project of Kodak, The Conservation Fund, and the National Geographic Society, provide small grants to stimulate the planning and design of greenways in communities throughout America.

Eligibility - Grants may be used for activities such as: mapping, ecological assessments, surveying, conferences, and design activities; developing brochures, interpretative displays, audio-visual productions or public opinion surveys; hiring consultants, incorporating land trusts, building a foot bridge, planning a bike path, or other creative projects. In general, grants can be used for all appropriate expenses needed to complete a greenway project including planning, technical assistance, legal and other costs.

Matching funds - The grant share is 100% and range from \$500 to \$2500.

5.3.2 National Trail Fund Grants

In 1998, American Hiking Society created the National Trails Fund, the only privately funded national grants program providing funding to grassroots organizations working toward establishing, protecting and maintaining foot trails in America. National Trails Fund grants have been used for land acquisition, constituency building campaigns, and traditional trail work projects. Over the last four years, AHS granted nearly \$200,000 to 42 different organizations across the U.S.

Eligibility - AHS will consider projects such as securing trail lands, including acquisition of trails and trail corridors, and the costs associated with acquiring conservation easements; building and maintaining trails which will result in visible and substantial ease of access, improved hiker safety, and/or avoidance of environmental damage; and constituency building surrounding specific trail projects - including volunteer recruitment and support.

Matching funds - The grant share is 100% and range from \$2,000 to \$10,000.

5.4 Requirements for Success

In an era of limited transportation funds, an application has to stand out in order to be successful. What ISTEA and TEA-21 have demonstrated more than any other transportation legislation is that bicycle and pedestrian transportation success requires both

technical considerations (proper design, rational link between population base and the cost of infrastructure projects etc.) and community support expressed through public partnerships. To this end, it is recommended that local officials and others interested in bicycle and pedestrian infrastructure projects, when submitting grant applications:

- Show public involvement and support for the application (including letters of endorsement from elected officials, organizations, and individuals within the community).
- Document the decision-making process (provide dates, time, and summary of meetings and hearings).
- Demonstrate planning efforts (provide bicycle and pedestrian plan and emphasize its consistency with the comprehensive plan, and activities of citizen's advisory committee involvement).
- Coordinate activities with regional and state agencies.
- Emphasize the link between the size of the population that can benefit from the proposed project and cost (demonstrate how residents are underserved by existing bicycle and pedestrian facilities).
- Propose projects that qualify under multiple activities (i.e. multi-path recreation trail that serves transportation or recreation purposes).
- Ensure the local match is committed and available within the project's time frame.

5.5 Work Program

Element-Project/Program	Timeframe*	Responsible Agency	Funding Source
Add paved shoulders included on regional bike map	Long-Range	GDOT	GDOT
Add share-the-road signs along corridors identified in the regional bike map	Long-Range	GDOT	GDOT
Add street furniture and bicycle support facilities, particularly bike lockers, in urban areas	Long-Range	GDOT, Local	TE, Local
Continue Greenway efforts in Burke County	Short-Range	GDOT, Local	TE, Local
Resurface poor condition sidewalks, with priority given to downtown areas	Long-Range	GDOT, Local	GDOT, TE, Local



IMPLEMENTATION

Add new sidewalks in residential and commercial areas, with priority given to downtown areas	Long-Range	GDOT, Local	GDOT, TE, Local
Add curb ramps to all intersections during new construction / resurfacing	Long-Range	GDOT, Local	GDOT, TE, Local
Streetscape projects for Lincolnton, Crawfordville, Washington, Thomson, Sparta, Sandersville, Warrenton, Gibson, Louisville, Wrens, Waynesboro, Millen	Long-Range	GDOT, Local	TE, Local
Use traffic calming in appropriate areas	Long-Range	GDOT, Local	GDOT, Local
Add directional signage along key bicycle and pedestrian areas	Long-Range	Local	Local
Add lighting along key bicycle and pedestrian areas	Long-Range	GDOT, Local	TE, Local
Incorporate plan recommendations into local redevelopment plans	Long-Range	Local	Local
Prepare bicycle and pedestrian plans for the cities of Lincolnton, Crawfordville, Washington, Thomson, Sparta, Warrenton, Gibson, Louisville, Wrens, Waynesboro, Millen.	Long-Range	CSRA RDC, Local	GDOT, Local
Conduct bicycle and pedestrian safety, education and training through partnerships with schools and law enforcement agencies.	Long-Range	CSRA RDC, Local	GDOT, Local
Develop safety and promotion brochures.	Short-Range	CSRA RDC	GDOT, Local
Develop safety and promotion website	Short-Range	CSRA RDC	GDOT, Local
Explore safe routes to school opportunities with interested schools, including pilot projects.	Long-Range	CSRA RDC, BOE, Local	GDOT, Local
Develop consistent maintenance standards	Short-Range	Local	Local
Incorporate bicycle and pedestrian-friendly provisions in zoning and subdivisions ordinances.	Long-Range	Local	Local

* Short-term (2005-2010) and long-term (2005-2020)

BOE: Boards of Education



IMPLEMENTATION

CSRA RDC: Central Savannah River Area Regional Development Center

GDOT: Georgia Department of Transportation

Local: Local Governments

TE: Transportation Enhancement Aid Projects



Appendix A

Advisory Committee Members

Lil Agel
 Jefferson County Chamber of Commerce
 P.O. Box 630
 Louisville, GA 30434

Harry Johnson
 Thomson Streets Department
 337 Main Street
 Thomson, GA 30824

Alana Burke
 Executive Director, Lincoln County
 Development Authority
 P.O. Box 490
 Lincolnton, GA 30817

Mauriel Joslyn
 Sparta-Hancock County Historic
 Preservation Commission
 837 Jones Street
 Sparta, GA 31087

Jerry Coalson
 City of Waynesboro Administrator
 628 Myrick Street
 Waynesboro, GA 30830

Donna Hardy
 Wilkes County Commissioner
 23 Court Street
 Washington, GA 30673

Brad Day
 Jefferson County Chamber of Commerce
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Paula Herrington
 Millen-Jenkins County Chamber of
 Commerce
 548 Cotton Avenue
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Robert Eubanks
 Sandersville Public Works Director
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Jim Hite
 Resident
 793 Hiltonia Road
 Millen, GA 30442

Bob Flanders
 City of Thomson Administrator
 337 Main Street
 Thomson, GA 30824

Al Knight
 Millen City Administrator
 P.O. Box 797
 Millen, GA 30442

Fred Guerrant
 McDuffie County Planning Director
 337 Main Street
 Thomson, GA 30824

O.B. McCorkle
 Warren County Chamber of Commerce
 P.O. Box 27
 Warrenton, GA 30828

Art Johnson
 Millen Better Hometown
 548 Cotton Avenue
 Millen, GA 30442



A P P E N D I C E S

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Thomson, GA 30824

Elizabeth Savant
Sandersville Main Street Director
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Sandersville, GA 31082

Ann Simpson
Glascocock County Chamber of Commerce
62 East Main Street
Gibson, GA 30810

Nancy Stevens
Piedmont Scenic Byway Commission
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Jewell GA, 31045

Merv Waldrop
Burke County Administrator
P.O. Box 89
Waynesboro, GA 30830

Sandy White
Washington-Wilkes Chamber of
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Washington, GA 30673



Appendix B

Advisory Committee and Public Meeting Minutes

CSRA Bicycle and Pedestrian Plan

Advisory Committee Meeting Minutes

March 2, 2004 (1:30pm)

Millen Depot

1. Welcome and Introduction

Committee member self-introduction

2. Presentation: CSRA Bicycle & Pedestrian Plan

Costa Pappis, CSRA RDC Planning Department

3. Map Review and Analysis

- Mapping of traffic generators, existing and potential bike and pedestrian travel corridors, and committee-member suggestions on how to improve planning and coordination.

4. Questions and Discussion

- Paula Herrington noted that Millen undertook a pedestrian planning process for its downtown area, and that the ideas generated from the involvement process formed the basis of the current TE application.
- Art Johnson asked whether the Plan was duplicating work already completed. Costa Pappis responded that the Millen Historic Downtown Pedestrian Plan covered only Millen's downtown area. The CSRA Bicycle & Pedestrian Plan is broader in scope and covers the entire region.
- Jim Hite noted that Jenkins County does not, from a business perspective, capture any of the significant bike traffic heading to larger areas such as Statesboro and Savannah.
- Jim Hite suggested a dedicated bike lane along Winthrope Avenue to connect state roads currently used by bicyclists in and around Jenkins County.
- Paula Herrington noted that Jenkins County will eventually serve as a bedroom community to larger neighboring areas facing development pressures and that



the county needed to provide bicycle & pedestrian facilities to appeal to new residents.

- Art Johnson asked whether this planning effort would result in facilities. Costa Pappis responded that realistic infrastructure recommendations based on the planning process undertaken is the best way to achieve facility development.
- Jim Hite noted the many bicyclists have safety concerns; some motorists believe that bicyclists do not belong on the road.
- Art Johnson asked whether recreation facilities would be included as part of the Plan. Costa Pappis responded that they could be but will mostly highlight transportation issues such as access, safety etc.
- Goals highlighted by committee members include safety for users and appeal for potential users. Possible objectives for achieving goals include: education and media campaigns, coordination among groups with an interest in bicycling and walking, and improving facilities.

5. Summary and Closing Comments

- Review and summary of discussion – Costa Pappis

CSRA Bicycle and Pedestrian Plan

Advisory Committee Meeting Minutes

March 4, 2004 (2:30pm)

McDuffie County Courthouse

1. Welcome and Introduction

Committee member self-introduction

2. Presentation: CSRA Bicycle & Pedestrian Plan

Costa Pappis, CSRA RDC Planning Department

3. Map Review and Analysis

- Mapping of traffic generators, existing and potential bike and pedestrian travel corridors, and committee-member suggestions on how to improve planning and coordination.

4. Questions and Discussion

- Chris Pelly noted that several local jurisdictions in Florida have been subject to lawsuits due to accidents along bike lanes and asked whether that could happen in Georgia. Costa Pappis replied that while that is always possible, the lack of adequate facilities can result in lawsuits. Adequate maintenance of facilities, according to state and federal guidelines, can mitigate lawsuits against local governments.
- Fred Guarrant asked if the Plan was related to Transportation Enhancement federal aid projects. Costa Pappis replied that the TE program is a separate GDOT program but that communities have submitted TE applications based on recommended projects contained in bicycle and pedestrian plans.
- Don Powers stated that a plan is needed because both the city and county apply for grants without any guidance. Don Norton agreed.
- Fred Guarrant asked if trails fall under the scope of the Plan. Costa Pappis explained that trails can be included but emphasized the transportation / mobility aspects of the Plan.
- Steve Dwyer stated that he believes a lot more people bicycle than is reflected in the census data. Costa Pappis explained that the census includes only statistics on transportation mode to work, excluding both recreation and all other non-work trips. However, he notes few dispute that between 1990 and 2000, there has been an across-the-board decline of both pedestrian and bicycle trips to work at the local, state, and national levels.
- Steve Dwyer noted that motorists' negative attitudes towards bicyclists is one of the major issues affecting why people chose not to bicycle to work. Costa Pappis noted that motorists' lack of understanding of state law seems to be a problems



region wide and suggested the theme be more fully developed discussed in the Plan.

- Don Powers stated that bicycle and pedestrian facilities are a major quality of life issues and that the state needs to offer more assistance to local governments. Costa Pappis explained GDOT wants these plans to ensure that such ideas and recommendations guide future projects and programs.
- Fred Guerrant noted that sidewalks in Thomson are in poor condition and require resurfacing.
- Don Norton noted that the state does construct/resurface sidewalks as part of highway projects but that the future maintenance requirements rest with the cities. For smaller cities, there are substantial costs associated with maintenance.
- Fred Guerrant stated that given high traffic levels between neighboring counties it would be a good idea to sit as a group and formulate regional policies and recommendations.

5. Summary and Closing Comments

- Review and summary of discussion – Costa Pappis

CSRA Bicycle and Pedestrian Plan

Public Meeting Minutes

March 4, 2004 (7:00pm)

Warren County Courthouse

1. Welcome and Introduction

Attendee self-introduction

2. Presentation: CSRA Bicycle & Pedestrian Plan

Costa Pappis, CSRA RDC Planning Department

3. Map Review and Analysis

- Mapping of traffic generators, existing and potential bike and pedestrian travel corridors, and committee-member suggestions on how to improve planning and coordination.

4. Questions and Discussion

- Larry Rachels stated that Warren County has the luxury of having very low traffic along its roadways. Residents bicycle for both recreation and transportation, and surface conditions are in overall good condition.
- Tony Reese noted that most residents bicycle for recreation because distances between residential areas and employment centers are too great.
- Larry Rachels stated that the main issue confronting bicyclists is the lack of respect motorists' accord bicyclists. He suggested an education and media campaign to make residents aware of the state law related to bicycle transportation.
- Tony Reese added that trucks, in particular, make conditions very hazardous for bicyclists.
- Bill Loper noted that rumble strips continue to be a problem. Costa Pappis replied that he attended a state bicycle committee meeting in Atlanta where an engineering manager pointed to a study that proved rumble strips save lives.
- Larry Rachels suggested that share the road signs could be an effective way of reaching out to motorists.
- Mart Pinion asked whether there was an existing plan that he could review. Costa Pappis explained that this is the first plan of its kind for the region. Some jurisdictions, most notably Richmond and Columbia Counties, have local plans but this is the first attempt to draft a region wide plan.
- Tony Reese indicated that low-income areas of Warrenton would benefit from sidewalks and asked whether these areas were being considered. Costa Pappis replied that the RDC would attempt to map all low-income, minority, senior citizen, and school areas. The information will be used to evaluate goals & objectives, and recommendations.



5. Summary and Closing Comments

- Review and summary of discussion – Costa Pappis



CSRA Bicycle and Pedestrian Plan

Public Meeting Minutes

March 10, 2004 (7:00pm)

Hancock County Courthouse

1. Welcome and Introduction

Attendee self-introduction

2. Presentation: CSRA Bicycle & Pedestrian Plan

Costa Pappis, CSRA RDC Planning Department

3. Map Review and Analysis

- Mapping of traffic generators, existing and potential bike and pedestrian travel corridors, and committee-member suggestions on how to improve planning and coordination.

4. Questions and Discussion

- Amy Goodwin elaborated on Costa Pappis' presentation by explaining GDOT's policy concerning facilities recommendations in adopted plans. GDOT will consider adding bicycle and pedestrian facilities if their contained in adopted local, regional, or state plans.
- Amy Goodwin explained how such planning efforts are related to safety, economic development and tourism projects.
- Costa Pappis noted that there was a recent pedestrian fatality along State Route 15. Felton Bohannon explained that the tragic event occurred beside the local high school where there are no pedestrian facilities. Joanne Smith sated that something needs to be done in general to ensure pedestrian and bicyclist safety.
- Costa Pappis noted that quality of life issues will become more important as development pressures from Putnam County spill over into Hancock. Felton Bohannon explained that developers recently purchased lots with plans for various subdivision projects.
- Nancy Stevens noted that facilities are desperately needed, especially in light of recent scenic byway designation status. Costa Pappis suggested examining whether infrastructure or programs where needed. In Warren County, for example, residents indicated that funds are better spent on media campaigns related to education and safety.
- Joanne Smith stated that the Sparta downtown area needs new pedestrian facilities. Sidewalks are crumbling and in terrible shape. Nancy Stevens suggested that such facilities would encourage tourism and economic development in the downtown area, and good health habits as people will walk more.
- Nancy Stephens suggested examining other parts of the county in need of bicycle and pedestrian facilities, such as the school and business district in Jewell.

- Joanne Smith noted that Sparta and Hancock County are not capitalizing on bicycle tours and groups that enter the county each year.
- Nancy Stephens explained that there are hundreds of miles of dirt roads in Hancock County that are ideal for mountain biking. Amy Goodwin suggested that DNR and HPD grants could potentially be used to develop some of those trails. Costa Pappis noted that the RDC maintains a database of all roads in the county and that it could be used to assist in setting goals and objectives.
- Felton Bohannon noted that motorists do not respect laws related to bicycling, thereby threatening their safety.

5. Summary and Closing Comments

- Review and summary of discussion – Costa Pappis



CSRA Bicycle and Pedestrian Plan

Public Meeting Minutes

March 11, 2004 (7:00pm)

Lincoln County Library

1. Welcome and Introduction

Attendee self-introduction

2. Presentation: CSRA Bicycle & Pedestrian Plan

Costa Pappis, CSRA RDC Planning Department

3. Map Review and Analysis

- Mapping of traffic generators, existing and potential bike and pedestrian travel corridors, and committee-member suggestions on how to improve planning and coordination.

4. Questions and Discussion

- Alana Burke noted that city and county budgets are really tight and asked whether the state was prepared to assist in project development. Costa Pappis replied that state agencies are always willing to help, but that communities must take the initiative to get things started. This planning exercise is a great way to start.
- Sue Bensavage indicated that many residents are apathetic; despite a well-advertised public meeting, only three residents attended. Costa Pappis replied that there will be more meetings and more opportunities for people to attend.
- Dawn Bensavage noted that there isn't much to do for teenagers in Lincoln County; the development of bicycle facilities will allow those who aren't old enough to drive a way of getting around.
- Alana Burke noted that a regional link to Columbia County is difficult because the bridge separating the two counties is inaccessible to bicyclists.
- Alana Burke stated that growth from Columbia County will impact the southern portion of Lincoln County first and that it would be a good idea for elected officials to incorporate facilities as development occurs.

5. Summary and Closing Comments

- Review and summary of discussion – Costa Pappis



CSRA Bicycle and Pedestrian Plan

Advisory Committee Meeting Minutes

March 23, 2004 (3:00pm)

Sandersville City Hall

1. Welcome and Introduction

Committee member self-introduction

2. Presentation: CSRA Bicycle & Pedestrian Plan

Costa Pappis, CSRA RDC Planning Department

3. Map Review and Analysis

- Mapping of traffic generators, existing and potential bike and pedestrian travel corridors, and committee-member suggestions on how to improve planning and coordination.

4. Questions and Discussion

- Mayor Andrews apologized for the lower than expected turnout. A public works problem kept the public works and streets departments working round the clock to resolve the issue.
- Mayor Andrews noted his experiences traveling to Nevada and Oregon where bicycle and pedestrian facilities are the norm.
- Elizabeth Savant stated that county residents walk and bike for multiple purposes, including exercise, walking pets, and trips to the downtown area.
- Elizabeth Savant noted that downtown Sandersville contains most of the city and county's government buildings and the concentration of business and nearby residential areas make for idea bicycle and pedestrian corridors.
- Elizabeth Savant noted that downtown facilities are the cornerstone of Sandersville's tourism strategy. The need to improve such facilities is a central part of city policy.
- Mayor Andrews noted maintenance problems the city was having with sidewalk buffers and asked for suggestions. Costa Pappis replied that during the course of his field work for the city's pedestrian plan, he noticed that some of the buffers were located along low traffic, low speed residential streets. He suggested that such buffers only be put in place along higher speed and higher traffic roads.
- Elizabeth Savant stated that trucks have always been a problem for pedestrians and bicyclists, and that strategies to reduce such conflicts are needed.
- Mayor Andrews asked what the state's funding mechanisms for bicycle and pedestrian facilities were. Costa Pappis provided a summary of various state programs (i.e. DOT, DNR available funding).

5. Summary and Closing Comments

- Review and summary of discussion – Costa Pappis



CSRA Bicycle and Pedestrian Plan

Advisory Committee Meeting Minutes

March 25, 2004 (10:00am)

Burke County Courthouse

1. Welcome and Introduction

Committee member self-introduction

2. Presentation: CSRA Bicycle & Pedestrian Plan

Costa Pappis, CSRA RDC Planning Department

3. Map Review and Analysis

- Mapping of traffic generators, existing and potential bike and pedestrian travel corridors, and committee-member suggestions on how to improve planning and coordination.

4. Questions and Discussion

- Jerry Coalson stated that Mayor Stone was running behind schedule and asked the committee to delay the meeting until he arrived. Committee members agreed.
- Merv Waldrop wanted to know more about the rails-to-trails program. Costa Pappis provided a summary of the program aimed at converting abandoned rail lines into trails. Merv Waldrop noted that the county had some abandoned rail line that would make idea trails.
- Jerry Coalson asked if this Plan would affect the city's TE grant application. Costa Pappis replied that applications have already been sent to GDOT and a decision would be taken before the Plan was complete, pending authorization of the transportation bill by Congress.
- Valerie Kirkland indicated where people walk and bicycle around the county and noted that safety is always an issue.
- Merv Waldrop asked whether the bicycle and pedestrian plan could include broader redevelopment of certain recreation facilities. Costa Pappis replied that it could, and that planning for redevelopment should always incorporate bicycle and pedestrian needs.
- Jerry Coalson stated that he's been told that GDOT does not like to fund recreation facilities and asked whether facilities around recreation areas would qualify for state funding. Costa Pappis replied that depended on the type of facilities (i.e. certain types of trails for example fall under DNR's jurisdiction).
- Mayor Stone noted that he was not mayor when the TE application was submitted to GDOT and wondered why it did not contain more references to bicyclists and pedestrians. Costa Pappis acknowledged signing the application two or three days before the due date, and suggested the consultant alter the



project description and benefits section to better highlight those issues. He encouraged city/county administrators to contact the RDC before submitting grants because engineering firms often neglect to include functional transportation issues in grant proposals.

- Mayor Stone noted that the city is in desperate need of pedestrian facilities in certain areas and that something needs to be done.

5. Summary and Closing Comments

- Review and summary of discussion – Costa Pappis

CSRA Bicycle and Pedestrian Plan

Advisory Committee Meeting Minutes

March 25, 2004 (3:00pm)

Jefferson County Chamber of Commerce Office

1. Welcome and Introduction

Committee member self-introduction

2. Presentation: CSRA Bicycle & Pedestrian Plan

Costa Pappis, CSRA RDC Planning Department

3. Map Review and Analysis

- Mapping of traffic generators, existing and potential bike and pedestrian travel corridors, and committee-member suggestions on how to improve planning and coordination.

4. Questions and Discussion

- Brad Day stated that the City of Louisville has been very active in encouraging pedestrian transportation in its downtown area. The city recently submitted a TE application to fund major pedestrian improvements.
- Lil Agel noted that this type of planning might lead Jefferson County's various jurisdictions to be more proactive in quality of life and transportation issues.
- Lil Agel asked what funding sources apart from TE funds were available for bicycle and pedestrian facilities. Costa Pappis reviewed several funding sources.
- Brad Day noted that Louisville is planning to invest future in pedestrian facilities. He noted that such projects advances both bicycle and pedestrian transportation, and attract tourists.
- Lil Agel noted that safety for bicyclists and pedestrians along major thoroughfares is an issue.
- Brad Day stated he would like to see more residents walking or bicycling to work. Given the relative proximity of residential areas to major employment centers, one goal may be to increase the share of residents walking or bicycling to work.

5. Summary and Closing Comments

- Review and summary of discussion – Costa Pappis

CSRA Bicycle and Pedestrian Plan

Public Meeting Minutes

March 25, 2004 (7:00pm)

Wilkes County Courthouse

1. Welcome and Introduction

Attendee self-introduction

2. Presentation: CSRA Bicycle & Pedestrian Plan

Costa Pappis, CSRA RDC Planning Department

3. Map Review and Analysis

- Mapping of traffic generators, existing and potential bike and pedestrian travel corridors, and committee-member suggestions on how to improve planning and coordination.

4. Questions and Discussion

- Skip Padgett thanked Costa Pappis for the opportunity to provide input in the Plan, noting that many of governments in the area plan without taking the needs of interested parties into account. Costa Pappis replied that there is no value in planning without stakeholders and that the planning effort is intended to represent the interests of all constituencies.
- Joe Thomson stated that Wilkes County's proximity to Athens and other areas with active bicycle groups provides good opportunities for regional bicycle routes.
- Skip Padgett noted that one of the main issues affecting bicyclists in the area was rumble strips along state highways that make it almost impossible to bicycle. He asked why the state places rumble strips in rural areas. Costa Pappis replied that GDOT has evidence from studies around the country that rumble strips reduce accident rates among motorists.
- Dennis Echols asked what determines roadway width, indicating that is often a criteria on whether to add a shoulder. Costa Pappis replied that GDOT engineers determine that, probably based on variables such as highway design speed, road alignment, etc.
- Skip Padgett noted that the county's use of a particular type of gravel in road paving projects is also an issue as it often makes for a bumpy ride.
- Joe Thompson stated that many bicycle groups come through Wilkes County along predetermines routes. It may be a good idea to find out the routes and develop a formal network.
- Skip Padgett asked if the RDC was coordinating the effort with other groups and agencies. Costa Pappis explained that he was working with his counterpart in



Athens to ensure cross county and other regional issues were incorporated into the Plan, and maintains contact with GDOT.

- Skip Padgett explained that he would like to be kept informed of developments and would be willing to assist in planning efforts.

5. Summary and Closing Comments

- Review and summary of discussion – Costa Pappis



Appendix C

Georgia ADA Access Requirements

*** CODE SECTION *** [12/03/01]

30-3-2.

As used in this chapter, the term:

(1) "ADAAG" means the Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities issued by the United States Architectural and Transportation Barriers Compliance Board as set forth in the Federal Register.

(2) "Adaptable" is further explained as follows:

(A) Adaptable refers to features provided for but not actually installed. Such adaptability makes it possible for the feature required by ADAAG to be added for the occupant without major structural alteration;

(B) Items not installed at the time of construction under the adaptable provisions of ADAAG, and items installed which might need to be removed to provide access, must be installed or removed by the owner at the owner's expense when the dwelling is rented to a person with disabilities, within 30 days after his or her application for occupancy is approved by the owner.

(3) "American National Standards Institute specifications (ANSI standards)" means sections 3 and 4 of the American National Standards Institute specifications A117.1-1986 for making buildings and facilities accessible to and usable by individuals with disabilities.

(4) "Commissioner" means the Safety Fire Commissioner provided for in Chapter 2 of Title 25.

(5) "Covered multifamily dwelling" means a building which had first occupancy after March 31, 1993, and consists of four or more units and has an elevator or the ground floor units of a building which consists of four or more units and does not have an elevator.

(6) "Facilities" shall include, but is not limited to, walkways,



sidewalks, curbing, parking lots, parks, stadiums, coliseums, and any other manmade or developed area used by the public.

(7) "Government buildings" means all buildings, structures, streets, sidewalks, walkways, and access thereto, which are used by the public or in which persons with disabilities or elderly persons may be employed, that are constructed, leased, or renovated in whole or in part by use of state, county, or municipal funds or the funds of any political subdivisions of the state, and, to the extent not required otherwise by federal law or regulations and not beyond the power of the state to regulate, all buildings and structures used by the public which are constructed or renovated in whole or in part by use of federal funds.

(8) "Public buildings" means all buildings, structures, streets, sidewalks, walkways, and access thereto, which are used by the public or in which persons with disabilities or elderly persons may be employed, that are constructed or renovated by the use of private funds, including rental apartment complexes of 20 units or more and temporary lodging facilities of 20 units or more, but excluding covered multifamily dwellings; provided, however, that this chapter shall require fully accessible or adaptable units in only 2 percent of the total rental apartments, or a minimum of one, whichever is greater, and this chapter shall apply to only 5 percent of the total temporary lodging units, or a minimum of one, whichever is greater; provided, further, that this chapter shall not apply to a private single-family residence or to duplexes or any complex containing fewer than 20 units, or to residential condominiums. Fifty percent of the fully accessible or adaptable rental apartment units required by this paragraph shall be adaptable for a roll-in shower stall.

(9) "Reasonable number" for all government buildings, public buildings, and facilities receiving permits for construction or renovation after July 1, 1995, as used in Code Section 30-3-4, shall mean the minimum number as established by ADAAG.

(10) "Reasonable number" for all government buildings, public buildings, and facilities receiving permits for construction or renovation after July 1, 1987, but before July 1, 1995, as used in Code Section 30-3-4 shall be defined for each of the following standards to mean:

(A) "Accessible parking spaces for persons with disabilities (ANSI 4.6.1) in a reasonable number" shall be determined as follows:

<u>Total number of parking spaces</u>	<u>Number of designated accessible parking spaces</u>
1-400	A minimum number of 1 space or 2 percent of the total provided, whichever is greater
401 and greater	8 spaces plus 1 percent of the total provided above 401

(B) "Accessible entrances (ANSI 4.14) in a reasonable number" means that all primary entrances usually considered as major points of **pedestrian** flow must be accessible to and usable by persons with disabilities;

(C) "Accessible toilet rooms, bathrooms, bathing facilities, and shower rooms (ANSI 4.22) in a reasonable number" means that for every floor which is to be made accessible to and usable by persons with disabilities at least one toilet room, bathroom, bathing facility, and shower room at a reasonable location shall conform to ANSI 4.22; and

(D) "Accessible seating, tables, and work surfaces (ANSI 4.30) in a reasonable number" means the following:

<u>Total number</u>	<u>Number of accessible spaces required</u>
Up to 50	2 spaces for wheelchair users adjacent to each other
51-400	4 spaces including 2 adjacent to each other
401 +	An even number of spaces not less than 1 percent of the total number located throughout all price ranges or locations, or both

(11) "Renovation" means:

(A) If any specific component of an elevator is replaced or moved from its existing location to a different location, then



the specific component shall be required to meet the ANSI A117.1 Standard, as specified in this Code section, as it applies to that specific component, including an accessible route as defined in the ANSI A117.1 Standard;

(B) Any component of a building, structure, or facility, which is replaced, except for the purpose of repair, or moved, shall be required to meet the ANSI A117.1 Standard as specified in this Code section, including an accessible route as defined in the ANSI A117.1 Standard; or

(C) The resurfacing, restriping, or repainting of any parking facility, whether or not such resurfacing, restriping, or repainting is required to have a permit from the appropriate political subdivision.

Source: Georgia States Statutes

Appendix D

Model Pedestrian Laws and Ordinances

This chapter is devoted to laws and ordinances which are specifically applicable to pedestrians. Model regulations are presented in two distinct categories, with a third section being reserved for a general discussion of related issues. The use of the term “model” should in no way construe that the wording of each regulation is legally correct. Where possible, the laws and ordinances are repeated directly from, or adapted from, jurisdictional codes, which do have legal connotations. However, many were developed without the input of a legal expert. The primary intent of this chapter is to present a set of regulations which is comprehensive, but without overly restrictive wording which may render some impractical under certain circumstances. A jurisdiction desiring to pass a pedestrian ordinance may use this chapter as a general guide, but legal counsel is required to ensure that the exact phrasing is appropriate for that area.

WORDS AND PHRASES DEFINED

Crosswalk - *That part of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the high way measured from the curbs or, in the absence of curbs, from the edges of the traversable roadway; and in the absence of a sidewalk on one side of the roadway, that part of a roadway included within the extension of the lateral lines of the existing sidewalk at right angles to the centerline. Any portion of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines or other markings on the surface is also considered a crosswalk.*

Motorized Wheelchair - *Any self-propelled vehicle designed for, and used by, a handicapped person that is incapable of a speed in excess of eight miles per hour. Any person using a motorized wheelchair on any public street, highway, or bicycle way shall be considered a pedestrian.*

The basic definition of a motorized wheelchair is taken directly from the UVO, but the inclusion of the clause defining an operator of such a vehicle as a pedestrian was the result of practical considerations 1101. Although a motorized wheelchair is defined as a vehicle, one cannot expect it to be operated in the same manner and for the operator to have the same rights and responsibilities as a motor vehicle or a bicycle. A person in a wheelchair will behave much more like a pedestrian than a driver.

This definition is adapted from the UVC 110]. Perhaps the only omission is the location of a crosswalk at an intersection where there are no sidewalks on either side of the roadway. For legal purposes, a crosswalk at a location like this could be defined with reference to the distance from the curb or edge of the intersecting roadway, but practical considerations prevent this. Where there are no sidewalks, pedestrians will make their own footpaths, and the crosswalk centerline should follow the endpoints of these paths. Also, there may be

physical obstructions such as fences, bushes, holes, and the like which would make such a definition unwise. It is probably concerns like these which led to this omission.

Pedestrian - *Any person on a public street, highway or bicycle way who is traveling without benefit of a vehicle, with the exception that any person in a wheelchair or similar device, is considered a pedestrian.*

The Uniform Vehicle Code's definition of a pedestrian as "any person afoot" is inadequate when it is considered that many handicapped people use manually operated wheelchairs or their motorized counterparts, which are legally defined as vehicles [10]. The legal definition should be structured so that persons in wheelchairs or a similar device are classified as pedestrians in accord with the definition for motorized wheelchairs.

Safety Zone - *The area or space officially set apart within a roadway for the exclusive use of pedestrians and which is protected or is so marked or indicated by official traffic control devices as to be plainly visible at all times while set apart as a safety zone.*

The use of safety zones is gaining in popularity as the concerns of elderly and handicapped pedestrians, who may not travel as fast as other pedestrians, become more of an issue. These persons often find themselves stranded in the middle of the roadway when pedestrian crossing signals change, resulting either in unnecessary delay for drivers or the need for the crosser to wait in the roadway until there is a sufficient gap or until the next protected signal. On roadways with high volumes and/or high speeds, this is an extremely dangerous situation which can be averted by the installation of a protected refuge area in the median of the roadway. A pedestrian may easily cross one direction of the roadway while under the protection of a signal, then wait in the safety zone until the next crossing opportunity. Not only does the provision of a safety zone reduce pedestrian exposure to hazard, but it may considerably reduce the delay to vehicular traffic. If the roadway is exceptionally wide and there is a high volume of traffic, the volume of the cross street may not be high enough to warrant a green signal which is sufficiently long to allow pedestrians to cross the entire width of the primary road.

Individual agencies should set standards for the installation of safety zones and make every effort to construct them where warranted. Numerous publications exist to aid agencies in drafting such policies. This definition is from the UVC 1101.

Sidewalk - *That portion of a street between the curb lines, or the lateral lines of a roadway, and the adjacent property lines, intended for use by pedestrians and by bicyclists and other users where permitted.*

In the UVC, the definition of a sidewalk notes that such facilities are intended for use by pedestrians, with no mention of bicyclists [10]. Though sidewalks are built primarily with pedestrians in mind, their use by bicyclists in jurisdictions where such activity is legal requires the inclusion of the clause at the end of this definition.

PEDESTRIAN RIGHTS AND RESPONSIBILITIES

Paragraph 1 - *Obedience to Traffic Control Devices and Traffic Regulations*

(a) *A pedestrian shall obey the instructions of any official traffic control device specifically applicable to him or her, unless otherwise directed by a police officer.*

(b) *Pedestrians shall be subject to traffic and pedestrian control signals as provided in Sections 2 and 3 of this article.*

(c) *At all other locations, pedestrians shall be accorded the privileges and shall be subject to the restrictions stated in this article.*

Adapted from the UVC, this section establishes that pedestrians are bound to follow any official signals or the instructions of any police officer 1101. Agencies will need to add subparagraphs to this provision detailing the penalties for violating any of the laws and ordinances in this article.

Paragraph 2 - *Drivers to Exercise Due Care*

Notwithstanding other provisions of this article or provisions of any local ordinance, every driver of a vehicle shall exercise due care to avoid colliding with any pedestrian and shall give an audible warning when necessary and shall exercise proper precaution upon observing any child or any obviously confused, incapacitated, or intoxicated person.

This rather non-specific section is taken from the UVC 1101. It is intended to ensure that a driver make every effort reasonable to avoid an accident, even if the pedestrian is clearly in violation of one or more traffic laws.

Paragraph 3 - *Traffic Control Signal Legend*

Whenever traffic is controlled by traffic control signals exhibiting different colored lights successively, or with arrows, the following colors shall be used and shall indicate and apply to operators of vehicles and pedestrians as follows below. In the event an official traffic signal is erected and maintained at a place other than an intersection, the provisions of this section are applicable except as to those provisions which by their nature can have no application.

(a) *Green Go Light - Vehicular traffic facing a green signal may proceed straight through or turn right or left unless at such place prohibits either such turn, but vehicular traffic shall yield the right of way to other vehicles and to pedestrians lawfully within the intersection or an adjacent crosswalk at the time such signal is exhibited. Pedestrians, and persons who are riding bicycles in a manner which is consistent with the safe use of the crosswalk by pedestrians, facing the signal may proceed across the roadway within any marked or unmarked crosswalk.*

(b) *Yellow - When shown with or following the green, traffic facing a yellow signal shall stop before entering the intersection unless so close to it that a stop may not be made in safety.*



(c) Red - Vehicular traffic facing a red signal shall stop before entering the crosswalk on the near side of an intersection, or if none, then before entering the intersection or at such point as may be indicated by a clearly visible sign or marking and shall remain standing until green or other signal permitting movement is shown. No pedestrian or bicyclist facing such signal shall enter the roadway unless he or she can do so safely and without interfering with any vehicular traffic. Vehicular traffic facing a red signal at an intersection may, after stopping as required, cautiously enter the intersection to make a right turn into the nearest lawfully available lane for traffic moving to the right or to turn left from a one-way highway into the nearest lawfully available lane of a one-way highway on which vehicular traffic travels to the left. No turn may be made on a red signal if lanes of moving traffic are crossed or if a sign at the intersection prohibits a turn. In making a turn on a red signal, vehicular traffic shall yield the right-of-way to pedestrians and bicyclists lawfully within a crosswalk and to other traffic lawfully using the intersection.

(d) Green Arrow - Vehicular traffic facing a green arrow signal may enter the intersection only to make the movement indicated by the arrow but shall yield the right-of-way to pedestrians and bicyclists lawfully within a crosswalk and to other traffic lawfully using the intersection. When the green arrow signal indicates a right or left turn traffic shall cautiously enter the intersection. No pedestrian or bicyclist facing such signal shall enter the roadway unless he or she can do so safely and without interfering with any vehicular traffic.

This section is adapted from the Wisconsin Statutes and details the requirements of motorists and pedestrians at intersections and other locations controlled by traffic signals, but where no pedestrian signals are provided 1361. Basically, a pedestrian is required to emulate the actions of vehicles on the road which parallels the direction in which the pedestrian is traveling. Pedestrians may cross the intersecting roadway when facing a green signal intended for the parallel roadway, and motorists are required to yield to them. When facing a signal with a red indication, meaning that vehicular traffic is moving on the cross street, the pedestrian may cross only after making sure that it is safe to do so. In jurisdictions where a right turn on red is lawful, motorists must yield to pedestrians in a crosswalk. The portion of subparagraph (c) concerned with such a maneuver is enclosed in parentheses so that it may be deleted by agencies where right turn on red is not permitted. When facing a green arrow, the pedestrian must act in the same way as when facing a red signal, since it is assumed that vehicles approaching from the other direction will also have a green arrow and will be turning onto the cross street which the pedestrian is crossing.

Paragraph 4 - Pedestrian Control Signals

Whenever special pedestrian control signals are in place, such signals indicate as follows:

(a) Steady Walk or Steady White or Green Symbol - A pedestrian, or a person riding a bicycle in a manner which is consistent with the safe use of the crossing by pedestrians, facing such a signal may proceed across the roadway or other vehicular crossing in the direction of the signal and the operators of all vehicles shall yield the right-of-way to the pedestrian or bicyclist.

(b) Flashing Walk or Flashing White or Green Symbol - A pedestrian, or a person riding a bicycle in a manner which is consistent with the safe use of the crossing by pedestrians, facing such a



signal may proceed across the roadway or other vehicular crossing in the direction of the signal, exercising caution due to vehicles potentially turning across their path, and the operators of all vehicles shall yield the right-of-way to the pedestrian or bicyclist.

(c) Flashing Don't Walk or Flashing Red Symbol - No pedestrian or bicyclist may start to cross the roadway or other vehicular crossing in the direction of such a signal, but any pedestrian or bicyclist who has partially completed crossing on the "Walk or similar signal may continue ahead to the far side of the crossing or to a safety zone. Operators of all vehicles shall yield the right-of-way to the pedestrian or bicyclist who is in the process of crossing.

(d) Steady Don't Walk or Steady Red Symbol - No pedestrian or bicyclist may start to cross the roadway or other vehicular crossing in the direction of such a signal, and any pedestrian or bicyclist who has partially completed crossing on the "Walk" and flashing "Don't Walk," signals, or on other similar signals, must immediately leave the roadway by proceeding to the nearest curb, edge, or safety zone, regardless of direction. Nothing in this provision relieves operators of motor vehicles from the requirement to exercise due caution.

One frequently cited problem with regard to pedestrian signals is the lack of uniformity and understanding of the pedestrian signal phases. Some agencies use the current standard of white walk and orange don't walk illumination, while other agencies have not upgraded the old green and red signals. In many cases, a flashing walk phase is not used and, when used, pedestrians are confused as to the meaning. For this reason, this regulation was adopted from the UVC, and includes a description of the meaning of the flashing walk phase, since it is still in fairly common usage and often creates confusion [10]

Many countermeasures have been proposed to alleviate this problem, including the development of new signs and pavement markings. Perhaps one of the better alternatives is a sign which depicts each of the pedestrian signal phases, accompanied by an explanation of what each signal means. The sign is mounted at eye level on poles at intersections and has become popular, with several agencies currently using this device or others similar to it [60]. Another alternative is to adopt a provision such as the one above which is much more explicit than the UVO and details the four major phases used in pedestrian signals. No effort was made to develop regulations for innovative signals due to the wide variety of designs and the lack of available information on exactly how they operate. Jurisdictions which use such devices should conform their signals and regulations to accepted standards.

The installation of a pedestrian signal should reduce the number of conflicts and accidents occurring at an intersection. This may not be the case, however, if the experiences of Lowell, Massachusetts are indicative [61]. Ten pedestrians were injured in two years at a location with a pedestrian signal. Because the overwhelming majority of crossers disobeyed the signal due to the lengthy time required to receive a permissive phase, the signal was removed. In the 16 months following removal, no accidents were reported. Although no statistically valid conclusions can be drawn from this example, other studies have shown that the installation of pedestrian signals may not yield the desired or anticipated safety benefits. A study of 5,100 accidents in 20 different urban areas by Robertson and Carter concluded that "... pedestrian indications appear to contribute to the reduction of accidents or accident



potential at some intersections, have little or no effect at others, and even increase accidents at still others” [621. Zegeer, Opiela and Cynecki drew a similar conclusion, indicating the effectiveness of pedestrian signals depended significantly on the different strategies for timing 1631. The two primary reasons for this apparent lack of consistent effectiveness is that pedestrian signals either give people a false sense of security or are used with such a long cycle that pedestrians get frustrated and cross illegally.

Paragraph 5 - Right of Way in Crosswalks

(a) At an intersection or crosswalk where traffic is not controlled by traffic control signals or by a police officer, the operator of a vehicle shall yield the right-of-way, slowing down or stopping if need be to so yield, to a pedestrian, or person riding a bicycle in a manner which is consistent with the safe use of the crosswalk by pedestrians, who is crossing the roadway within a crosswalk when the pedestrian or bicyclist is upon the half of the roadway upon which the vehicle is traveling, or when the pedestrian or bicyclist is approaching so closely from the opposite half of the roadway as to be in danger.

(b) No pedestrian or bicyclist shall suddenly leave a curb or other place of safety and walk, run or ride into the path of a vehicle which is so close that it is difficult for the operator of the vehicle to yield.

(c) Whenever any vehicle is stopped at an intersection or crosswalk to permit a pedestrian or bicyclist to cross the roadway, the operator of any vehicle approaching from the rear shall not overtake and pass the stopped vehicle.

This article is a combination of provisions stipulated in the UVC and the Wisconsin Statutes [10, 361. Basically, the wording is the only difference, with the exception that Wisconsin includes bicyclists. This provision establishes that a pedestrian always has the right-of-way over motor vehicles, providing the pedestrian is legally crossing the roadway and is exercising due caution while doing so.

Paragraph 6 - Crossing at a Location Other Than a Crosswalk

(a) Every pedestrian crossing a roadway at any point other than within a marked crosswalk or within an unmarked crosswalk at an intersection shall yield the right of way to all vehicles upon the roadway.

(b) Any pedestrian crossing a roadway at a point where a pedestrian tunnel or overhead pedestrian crossing has been provided shall yield the right-of-way to all vehicles upon the roadway.

(c) Between adjacent intersections at which traffic control signals are in operation, pedestrians shall not cross at any place except in a marked crosswalk.

(d) No pedestrian shall cross a roadway intersection diagonally unless authorized by official traffic control devices; and when authorized to cross diagonally, pedestrians shall cross only in accordance with the official traffic control devices pertaining to such crossing movements.



This section, adapted from the UVC, sets guidelines for how and when a pedestrian may cross a roadway outside of a crosswalk 1101. Violating subparagraphs (c) or (d) constitutes jaywalking, as does violating a pedestrian crossing signal provision as established in Paragraph 4 of this section. In some jurisdictions, a pedestrian who crosses at street level when a tunnel or overhead crossing has been provided for his or her use would also be considered a jaywalker, but many such facilities are not accessible to handicapped people and requiring their use by everyone cannot be enforced effectively in such cases.

Paragraph 7 - Pedestrians to Use the Right Half of Crosswalks

Pedestrians and bicyclists shall move, whenever practicable, upon the right half of crosswalks.

Paragraph 8 - Use of Sidewalks

(a) Where a sidewalk is provided and its use is practicable, it shall be unlawful for any pedestrian to walk along and upon an adjacent roadway.

(b) Where a sidewalk is not available, any pedestrian walking along and upon a high way shall walk only on a shoulder, as far as practicable from the edge of the roadway.

(c) Where neither a sidewalk nor a shoulder is available, any pedestrian walking along and upon a highway shall walk as near as practicable to an outside edge of the roadway, and, if on a two-way roadway, shall walk only on the left side of the roadway.

(d) Except as otherwise provided in this article, any pedestrian upon a roadway shall yield the right-of-way to all vehicles upon the roadway.

Paragraph 9 - Driving Through a Safety Zone Prohibited

No vehicle shall at any time be driven through or within a safety zone.

Paragraph 10 - Right-of-Way on Sidewalks

The driver of a vehicle crossing a sidewalk shall yield the right-of-way to any pedestrian and all other traffic on the sidewalk.

Paragraph 11 - Yielding to Authorized Emergency Vehicles

(a) Upon the immediate approach of an authorized emergency vehicle making use of audible and visual signals meeting the requirements set forth in other articles, or of a police vehicle properly and lawfully making use of an audible signal only, every pedestrian shall yield the right-of-way to the authorized emergency vehicle.



(b) This section shall not relieve the driver of an authorized emergency vehicle from the duty to drive with due caution for the safety of all persons using the highway nor from the duty to exercise due caution to avoid colliding with any pedestrian.

Paragraph 12 - *Blind Pedestrian Right-of-Way*

The driver of a vehicle shall yield the right-of-way to any blind pedestrian carrying a clearly visible white cane or accompanied by a guide dog.

Paragraph 13 - *Bridge and Railroad Signals*

(a) No pedestrian shall enter or remain upon any bridge or approach thereto beyond the bridge signal, gate, or barrier after a bridge operation signal indication has been given.

(b) No pedestrian shall pass through, around, over, or under any crossing gate or barrier at a railroad crossing or bridge while such gate or barrier is closed or is being opened or closed.

Sections 7 through 13 were adapted from the UVC, with only minor revisions which did not affect the intended meaning and possible interpretations [10].

Paragraph 14 - *Soliciting Rides or Business*

(a) No person shall stand in a roadway for the purpose of soliciting a ride.

(b) No person shall stand on a highway for the purpose of soliciting employment or business, or contributions from the occupants of any vehicle.

(c) No person shall stand on or in proximity to a street or highway for the purpose of soliciting the watching or guarding of any vehicle while parked or about to be parked on a street or highway.

This section is repeated directly from the UVC, but merits some discussion [101]. The provisions of subparagraph (b) are often disobeyed, with the knowledge and consent of police departments, in jurisdictions which have a similar law on the books. One group of people, panhandlers and people offering their services for food or money, are almost impossible to regulate. When caught, these people are most often simply told to move along, but the offender will only wait until the policeman is out of sight or will move to a different corner. A second group includes people who are legitimately selling items such as newspapers or flowers, usually with no pressure being used on the motorists to purchase these items. A third category of solicitors are those who are collecting donations for any number of causes.

Prohibiting the activities of the latter two groups may cause bad publicity for an agency and would hurt those who depend on such methods for their livelihood, as well as many



charitable organizations. The potential hazard to persons engaging in such acts cannot be disputed, though. Any agency which wishes to allow the continuance of soliciting in this manner should strictly regulate the persons involved. Applications should be made to the police department and permits issued by the same with the requirement that the solicitors use safety vests to increase their conspicuity. Any person soliciting at an intersection, when asked to do so by a police officer, should produce a permit with his or her name on it, as well as some form of identification. In addition, the highway agency should be freed of any liability in instances where people engaged in these activities are injured in an accident.

Paragraph 15 - Pedestrians Under the Influence of Alcohol or Drugs

A person who is under the influence of alcohol or any drug to a degree which renders himself or herself a hazard shall not walk or be upon a highway except on a sidewalk or in a legal crosswalk.

This section was taken from the UVC 110]. Drunk pedestrians are usually dealt with under the regulations against public intoxication or drunk and disorderly conduct. No agencies were identified which have specific laws or ordinances concerning drunk pedestrians, and to have such laws may not be necessary since the existing provisions under which they are penalized may be adequate. Bicycling and walking have become popular alternatives for people who lose their driver’s license for conviction of driving while under the influence. Of the 7,000 pedestrian fatalities which occur each year in the United States, approximately one-third of them are intoxicated, with an average blood alcohol level nearly double that of drunk drivers who are killed in automobile accidents. In about 12% of these accidents, the victim was laying in the road prior to impact due to stumbling, passing out, or trying to absorb heat from the roadway [64]. The solution to this problem lies in enforcement, not legislation.

Paragraph 16 - Use of Reflective Material

Any pedestrian walking or running on or upon a roadway between the period of one-half hour after sunset to one-half hour before sunrise, or in other conditions of limited visibility, should wear reflective material which is clearly visible from 300 feet under the lawful lower beams of motor vehicles.

This section is provided in response to the growing number of people who jog or walk early in the morning or during the evening along roadways. Usually such activity takes place in residential areas where speeds and volumes are low, but some safety standard is necessary. Many people engaging in these activities take it upon themselves to wear reflective material out of concern for their personal safety, but the adoption of a provision similar to this one would give some legal authority for police officers to enforce it against those who do not.



PEDESTRIAN-RELATED ORDINANCES

Paragraph 17 - *Stopping Before Passing an Ice Cream Truck*

Any operator of a vehicle approaching a standing ice cream truck must come to a complete stop before proceeding cautiously around or past the truck. The ice cream truck must be equipped with a stop signal arm and flashing lights in the front and rear which must be used when in the process of stopping with the intent to vend, or while standing and in the process of vending.

Paragraph 18 - *Disabled Vehicle on a Freeway*

When any vehicle becomes disabled on a limited-access roadway, the driver of said vehicle must move the vehicle as far off the traveled roadway as reasonably possible and place approved warning devices behind the vehicle in position to suitably warn approaching drivers of the hazard. Any person who leaves a disabled vehicle between the period of one-half hour after sunset to one-half hour before sunrise, or in other conditions of limited visibility, in order to obtain help must wear reflective material which makes him or her clearly discernible under direct lawful lower beams of an approaching motor vehicle at a distance of 300 feet. This is the only situation where it shall be legal to walk upon a limited-access highway, except for the execution of official duties.

Both of these provisions are adapted from a 1980 report of the Transportation Task Force of the Urban Consortium for Technology Initiatives 1651. The intent of the first ordinance is to make motorists more aware of the dangers of children crossing the street in the vicinity of an ice cream truck. It requires the truck to be equipped with a signal arm and flashing lights, similar to a school bus. Similarly, it stipulates that any vehicle approaching the ice cream truck while the warning devices are in operation, must come to a complete stop. The difference lies in the fact that after stopping, the driver may proceed cautiously about his or her way. This is warranted since ice cream trucks may stay in one position for lengthy periods of time. In Detroit, Michigan, a field test of a similar ordinance produced a 77% decrease in the number of accidents involving ice cream trucks [66]. The ordinance was first used by Indianapolis, Indiana, in 1971, and that city considered its experience a success.

The second provision requires that drivers of disabled vehicles on a limited-access highway ensure that their vehicles are moved as far out of the way of other vehicles as possible. When walking along the highway at night to summon help, reflective material visible from 300 feet is required. It is felt that this distance is sufficient to provide motorists with adequate warning of the presence of a pedestrian and allow them to take any necessary countermeasures. Such countermeasures should not be needed since the pedestrian would be required by Paragraph 8 to walk on the shoulder, as far to the right as practicable. No information was available on whether this provision has been implemented anywhere or what its success has been.

OTHER CONSIDERATIONS

Linking Bicycling and Walking With Mass Transit

To encourage use of transit in a community, highway agencies and transit authorities should cooperate to ensure that modal transitions can be easily accomplished. The installation of paths linking rail stations and transit centers to nearby residential areas, aside from facilitating bicycle use, encourages people to bicycle or walk to and from home, rather than making the trip by automobile. When considering bus stop modal transitions, pedestrian facilities should be of more concern than bicycle facilities. Since bus stops are more numerous and the network more comprehensive, walking is a practical way to reach them. In addition it is often unwise to leave a bicycle chained up at a bus stop for any substantial length of time. Agencies should make every effort to ensure that sidewalks are provided which connect bus stops to nearby apartment complexes, shopping centers, and office buildings. Transit authorities should adopt policies which make using a bus system a more attractive alternative. Many people refuse to use a public bus because the popular perception holds that buses are only for the very young or for the poor. Anyone seeing another person standing alongside the roadway in a cold, driving rain with their shoes buried two inches in mud certainly would not consider a bus ride as preferable to the use of a private automobile. Providing a paved area on which to stand, as well as benches and protective shelters, will help erode this perception and may increase bus usage in a community.

Another bus stop standard which should be adopted involves the location of stops at intersections. Where a bus stop is to be provided at an intersection, it should be placed just beyond the intersection and space, when possible, should be provided for buses to pull off the roadway so that other traffic may pass. People exiting from the bus should be prohibited from crossing in front of the bus, rather they should walk back to the intersection and cross there.

Removing Sidewalk Obstacles

Cities with congested sidewalks should consider ordinances which remove some of the clutter and thereby increase pedestrian flows. In New York City, street vendors present a major obstacle on some sidewalks, and efforts have been made to remove unlicensed vendors thereby providing additional space for pedestrians [67]. Other objects which can be regulated or prohibited altogether include benches, newsstands, telephone booths and bus shelters. Street entertainers often generate large crowds, but attempting to remove them from their positions may prove to be extremely unpopular.

Often, it is not such semi-permanent obstacles which present the major hazard to bicyclists and pedestrians, but rather those which are transitory or correctable. Garbage and trash collection is a particular problem, since many homeowners will take advantage of clean, level surfaces such as the sidewalk to pile rubbish. Snow and ice removal presents another dilemma, particularly since many people are wary of being sued by someone who may slip and fall on the sidewalk in front of their home. In their view, it may be more advantageous

not to clear the sidewalk at all, rather than to risk missing a small ice path and becoming a defendant in a civil suit. Many cities have attempted to correct this by passing ordinances which prohibit the temporary blocking of any sidewalk or the failure to remove snow within a certain time period. Enforcing a ban on placing garbage and trash on the sidewalk is considerably easier than ensuring that snow is removed in a timely and correct manner. In northern climates, attempting to keep sidewalks open and free of ice in residential areas would be a monumental effort on the part of the city. For this reason, individual homeowners should be responsible for clearing walks in front of their home. A reasonable time period for compliance may be within 24 hours of when the snowfall ended. In commercial areas, because of the large sidewalk areas and the prevalence of street furniture, the city should assume at least partial responsibility. Individual agencies must develop ordinances which are reasonable and enforceable for their particular areas.

A model ordinance for the removal of visual obstructions has been developed. This ordinance holds individual property owners responsible for removing any tree, plant, shrub or other moveable object which unreasonably obstructs the line of sight of any driver, bicyclist or pedestrian. After notification by the State highway commission or the local authority, the owner is given 10 days to remove the hazard or be fined [68]. The ordinance also details that public agencies are required to inspect highways, sidewalks, bicycle paths and the like on a periodic basis for visual obstructions, and to remove any found.

Maintaining Pedestrian Facilities Through Construction Zones

The poor maintenance of pedestrian facilities in and around construction zones represents a high degree of risk for a transportation agency. Though there are standards for rerouting pedestrian traffic around such areas, these guides are often not followed, leaving the pedestrian "... to fight through construction areas full of debris, mud and other obstructions" [69]. Chadda and Brisbin studied pedestrian movement through construction zones and recommended that further guidelines be developed at the Federal level and incorporated into the Manual of Uniform Traffic Control Devices (MUTCD) 169]. Such provisions, by their nature, would also apply to bicyclists in areas where their use on sidewalks is permitted.

Source: FHWA (1993). *FHWA Case Study No. 13: A Synthesis of Existing Bicyclist and Pedestrian Related Laws and Enforcement Programs*. [FHWA-PD-93-018].

Appendix E

Selected Safety Resources

TITLE: Pedestrian Safety Road Show

AUTHOR: Federal Highway Administration

YEAR: 1996

FORMAT: Workshop

LENGTH: 4 Hours

INTENDED AUDIENCE: Pedestrian Program Coordinators, Safety Specialists, Citizen Activists, Traffic Engineers, Planners, Law Enforcement Officials

DESCRIPTION: The Pedestrian Safety Road Show is a four-hour highly interactive workshop designed to assist local communities to mobilize support for the pedestrian safety issue and begin the process of organizing and implementing a community pedestrian safety program. Topics covered include the nature of the pedestrian safety problem, other walkability issues, and strategies for organizing a community safety program. The Pedestrian Safety Road Show is not a training course. Rather it is a motivational seminar whose focus is on identifying local problems and securing a commitment to solve those problems. The Federal Highway Administration provides all workshop materials and an instructor. Local sponsors are responsible for inviting community participants and providing the facility for the workshop. Recommended participation is 25. Local Sponsors are provided a Local Sponsors Guide to assist in the planning of the Pedestrian Safety Road Show.

HOW TO GET: *Order from:*
 The National Bicycle and Pedestrian Clearinghouse
 1506 21st Street, NW
 Suite 210
 Washington, DC 20036
 Phone: 800 760-NBPC, or 202 463-8405
 Fax: 202 463-6625

TITLE: WALK!

AUTHOR: Federal Highway Administration and National Highway Traffic Safety Administration



NUMBER:

YEAR: 1996 (in development)

FORMAT: VHS Video

LENGTH: 12 minutes

FEE:

INTENDED

AUDIENCE: Community Groups, Local Decision-makers, Activists

DESCRIPTION: WALK! is a short motivational video designed to encourage individuals to become involved and ion the pedestrian safety area. The video describes the benefit of walking to the individual and to the community and describes the problems that pedestrians face every day. Examples of effective solutions are provided and the viewer is encouraged to Take Action.

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TITLE: Stop! Look! Listen!: Walking in Traffic Safely

AUTHOR: National Association for the Education of Young Children

NUMBER:

YEAR:

FORMAT: Two age-matched, full-color children's books, teacher's guide with family handouts, parent's brochure and poster

LENGTH:

FEE:



INTENDED

AUDIENCE: School Officials, Parents

DESCRIPTION: Created to help teachers teach young children to be safe pedestrians, the Walking in Traffic Safely materials contain activities to be incorporated into everyday routines.

HOW TO GET: *Order from:*
National Association of Education for Young Children
1509 16th Street, N.W.
Washington, D.C. 20036
202 232-8777 or 800 424-2460
FAX: 202 328-1846

TITLE: Stop! Look! Listen!: The Children Riding on Sidewalks Safely

AUTHOR: National Association for the Education of Young Children

FORMAT: Full-color children's storybook, teacher's guide, parent's brochure and a poster

INTENDED

AUDIENCE: School Officials, Parents

DESCRIPTION: Created to provide teachers assistance in teaching young children to be safe pedestrians, the Children Riding on Sidewalks Safely materials are designed to teach skills to young riders of big-wheel type play vehicles.

HOW TO GET: *Order from:*
National Association of Education for Young Children
1509 16th Street, N.W.
Washington, D.C. 20036
202 232-8777 or 800 424-2460
FAX: 202 328-1846

TITLE: Stop! Look! Listen!: Walking in Traffic Safely

AUTHOR: National Safety Council

FORMAT: Teacher materials (guides for grades K-6, three animated videos, model bus and poster for showing danger zones); Parent materials (video, brochure); Bus driver materials (video, brochure)



LENGTH: Teacher's guide: 3 « hours

FEE: \$55

INTENDED

AUDIENCE: School Officials, Parents of elementary school children, Bus Drivers

DESCRIPTION: This package provides a curriculum for elementary school children who walk and ride a bus. Course lessons include: the danger zones, walking near and evacuating the bus, crossing the street, walking to the bus stop, arrival of the bus, riding the bus, and crossing to and from the bus.

HOW TO GET:

Order from:
National Safety Council
800 621-7619
FAX 708 285-0797

TITLE: Stop & Look With Willy Whistle

AUTHOR: National Highway Traffic Safety Administration

FORMAT: Video

LENGTH: 8:17

INTENDED

AUDIENCE: Young Children

DESCRIPTION: In this video, Officer Miller and Willy Whistle, an animated whistle, teach a group of children how to cross the street. Lessons included are stopping at the curb, looking left, right, left, and crossing streets lined with parked cars.

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Phone: 800 760-NBPC, or 202 463-8405
Fax: 202 463-6625

TITLE: Walking With Your Eyes

AUTHOR: National Highway Traffic Safety Administration

FORMAT: Video



LENGTH: 14:15

**INTENDED
AUDIENCE:** Older Children

DESCRIPTION: This video builds on information given in "Stop & Look With Willy Whistle." Here, Officer Miller teaches three children that green lights, walk signals, and crosswalks do not guarantee safety, how to deal with turning cars at intersections, the meaning of flashing "don't walk" signals, coping with visual screens, and crossing parking lots.

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TITLE: Mission Impossible: Operation Safe Walk

AUTHOR: New York City Department of Transportation and the National Highway Traffic Safety Administration

FORMAT: Video

LENGTH: 16 minutes

**INTENDED
AUDIENCE:** Adult Pedestrians, Older Adults

DESCRIPTION: Tim Thorpe's mission is to teach Mr. and Mrs. Johnson proper pedestrian safety. Lessons include stopping at the curb, looking left, right, left, making eye contact with drivers, the meaning of flashing "don't walk" signals, watching for turning vehicles, using traffic islands, crossing driveways, the danger of crossing between parked cars, wearing bright, conspicuous clothing during the day and retro reflective clothing at night, and problems with either prescription medicine or alcohol impairing judgment.

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TITLE: Walking Through The Years
AUTHOR: National Highway Traffic Safety Administration
FORMAT: Video
LENGTH: 17 minutes
INTENDED AUDIENCE: Older Adults

DESCRIPTION: Officer Miller and Willy Whistle, an animated whistle, teach pedestrian safety to older pedestrians. Lessons include wearing bright, conspicuous clothing, stopping at the curb and looking left, right, left, making eye contact with turning drivers, coping with cars turning right on red, the meaning of flashing "don't walk" signals, waiting for a fresh green light, and dealing with visual screens, backing cars, and crossing parking lots.

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 Fax: 202 463-6625

TITLE: Walking Through The Years
AUTHOR: National Highway Traffic Safety Administration
FORMAT: Video
LENGTH: 5 PSAs. 30 seconds each
INTENDED AUDIENCE: Older Adults

DESCRIPTION: A series of thirty-second public service announcements highlight lessons learned in the seventeen minute "Walking Through the Years" in which Officer Miller and Willy Whistle, an animated whistle, teach pedestrian safety to older pedestrians, including "Waiting For A Fresh Signal," "Conspicuity," "Parking Lots," "Turning Vehicles," and "Right Turn on Red."

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 1506 21st Street, NW



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TITLE: Prevent Pedestrian Accidents: Preschool and Elementary School Children

AUTHOR: National Highway Traffic Safety Administration

NUMBER: DOT HS 807 606

YEAR: 1990

FORMAT: Flyer

LENGTH: two-sided

INTENDED

AUDIENCE: Parents of elementary and preschool children

DESCRIPTION: One side of this flyer lists common myths children believe about being a pedestrian versus the facts. Pictures demonstrate dangerous situations. The flip side gives facts for parents of preschool children and advice for avoiding tragedy.

HOW TO GET: *Order from:*
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 Fax: 202 463-6625

TITLE: Keep 'em Safe: Little League Traffic Safety Brochure

AUTHOR: National Highway Traffic Safety Administration

FORMAT: Brochure

LENGTH: 4 pages

INTENDED

AUDIENCE: Parents and Children

DESCRIPTION: This colorful, short brochure puts forth guidelines for



parents and safety tips for children. Suggestions are broken into three sections: automobile safety, pedestrian safety, and bicycle safety.

HOW TO GET:

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Fax: 202 463-6625

