

BEST PRACTICES FOR COMPLETE STREETS IN RURAL COMMUNITIES



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INTRODUCTION

The roads, streets and highways throughout Georgia effectively serve the needs of the vehicular motorists of the state. However, as public rights-of-way intended to serve the needs of all modes of transportation (including pedestrians, bicyclists, and nontraditional users), the state's road network often fails to provide safe access for all users. This is particularly true of pedestrians and bicyclists.

Nationally, there is a movement to "complete the streets" by making them safer and welcoming to all users. This movement, simply called "Complete Streets", focuses on:

*"planning, designing and constructing streets such that communities are able to provide quality access to jobs, health care, shops and schools their residents deserve, while also achieving greater economic, environmental, and public health benefits."*¹

In Georgia, the Department of Transportation has established a policy for Complete Streets, to:

*"routinely incorporate bicycle, pedestrian, and transit (user and transit vehicle) accommodations into transportation infrastructure projects as a means for improving mobility, access, and safety for the traveling public."*²

¹ Complete Streets Work in Rural Communities, Fact Sheet of the National Complete Streets Coalition

USERS

In order to determine the most appropriate type of complete streets approach for any particular community, it is essential to identify and understand the characteristics and concerns of each potential user group. These groups fall into four main categories: bicyclists, pedestrians, transit riders and other non-motorists.



Figure 1 Typical Rural Highway, US 84 In Valdosta, GA

BICYCLISTS

Bicyclists and bicycles vary greatly in age, ability, purpose, size and characteristics.

Bike riders can be grouped into three major categories.

Functional Riders: These are bike riders that are utilizing a bicycle for their primary mode of transportation between points A and B. Common concerns for these riders include the convenience, safety and amenities a particular bicycle path or facility provides.

Recreational Riders: These are bike riders that are solely utilizing their bike for recreational purposes. The challenge,

² Complete Streets Design Policy, Georgia Department of Transportation, v. 2.0, 03/29/2013

adventure and/or scenic beauty of a particular trail or location are typically the primary concern for these riders.

Competitive Riders: Competitive riders are those that ride their bicycles as a means of physical exercise and competition between riders. Therefore, their focus is upon the distance of a particular path or facility, and the surface materials they will encounter.



Figure 2 Functional Cyclists in Designated Bike Lane

PEDESTRIANS

Pedestrians are those people utilizing the public rights-of-way under their own power. This may be in the form of walking, jogging or running. Whatever the form, though, pedestrians are an integral part of all motorized trips, which typically begin and end with walking. Pedestrian concerns are typically the same: safety and convenience.

The destinations may require pedestrian infrastructure, depending upon the area's characteristics.

TRANSIT RIDERS

Persons utilizing the available public or private mass transit options in an area are another category of non-motorists that do not always have their needs and concerns addressed through traditional roadway design. While people may utilize mass transit options for a variety of reasons, the needs and concerns of these users are typically the same: safe and convenient access to and from mass transit vehicles. While in more urban settings mass transit stops may be formal stations with protection from the weather, route information and amenities for local users such as benches and trash receptacles, in rural settings, these "stops" may only consist of a bus or transit stop sign. In the transit systems in Southern Georgia, riders are typically transported door-to-door.

RURAL COMMUNITIES

While many of the current applications of the complete streets approach have been in urban settings, rural areas are most often the least pedestrian and bicycle friendly. In 2010, 28% of all pedestrians and bicyclists killed in a traffic accident in the United States were in a rural area.³ Additionally, persons living in rural areas are less likely to have access to reliable, affordable and accessible transportation, yet must travel long distances to reach critical services and destinations such as jobs, healthcare and educational facilities.⁴ There are also health benefits to increased pedestrian access, particularly in rural areas where there is an increased risk of obesity and related diseases in both adults and children. In 2011, 28% of adults and 15% of children aged 2 and under in the state of Georgia considered themselves obese.⁵ Additionally, increased accessibility to

³ U.S. Department of Transportation, National Highway Traffic Safety Administration, Traffic Safety Facts, 2010 Data

⁴ Complete Streets Work in Rural Communities, Fact Sheet of the National Complete Streets Coalition

⁵ Centers for Disease Control and Prevention, <http://www.cdc.gov/obesity/data/childhood.html>

pedestrians and bicyclists can often lead to reinvestment and economic development within small rural towns.

Rural communities are by definition very different from urban areas. The smaller populations, dispersed land uses and limited services do not require extensive pedestrian and bicyclist facilities and accommodations. Oftentimes, a rural road only needs a small sidewalk and/or just a wide shoulder to accommodate the needs of the local pedestrian and bicycling users.⁶ What facilities will best “complete” a rural street are largely dependent upon the character of the area (downtown, commercial corridor, residential neighborhood, suburban area or rural area), and the facility options that are available and feasible.



Figure 3 Typical Rural CBD, Quitman, GA

COMMUNITY CHARACTERISTICS

Most all rural communities have distinct areas where the pattern of land development has created a specific characteristic. These characteristics reflect the predominant types of uses in the area, and the nature of their development. When considering the rural communities of Southern Georgia, it is clear the initial point of development was the central business district and downtown area where transportation and commercial uses concentrated. Gathering around the commercial and transportation hubs of the small towns and villages, residential neighborhoods formed where local residents lived within walking distance of the commercial core. When automobiles came on the scene, the roads and paths between communities became wider, and more commercial and industrial uses grew up along these high traffic corridors. In addition to commercial and industrial corridors, the introduction of the automobile led to the development of the suburbs, where people relocated further outside of town into large lot subdivisions. Where development did not occur, the land remained in a rural and agricultural state.

Given this common pattern of development in the communities of Southern Georgia, we have developed the following land use characteristics to guide where particular complete street approaches are appropriate.

Central Business District/Downtowns: These are areas that, due to their location along the major transportation corridors and at major intersections, are where development centrally concentrated. As the original site of city development, this area contains the predominance of all cultural and historic

⁶ Complete Streets Work in Rural Communities, Fact Sheet of the National Complete Streets Coalition

buildings and sites. Buildings typically front the street, with parking and vehicular access provided to the rear, and pedestrian access along the front. Primary land uses within these



Figure 8 CBD in Hahira, GA

areas typically include city services, entertainment and commercial recreation, mixed use businesses, business support services, urban neighborhoods, and traditional, older, but stable neighborhoods.

Commercial/Industrial Corridor: These areas include both older and newer commercial and industrial uses and nodes. Typically, these areas are located along major highways and corridors with significant vehicular traffic counts. Uses



Figure 4 Typical Commercial Corridor, Lakeland, GA

include a wide variety of both established and newer commercial uses, as well as light and heavy manufacturing, wholesale and warehousing activities

Residential: These areas are predominantly small to medium lot size residential neighborhoods located on local roads with minimum right-of-way widths and low traffic volumes. They include single family residential uses with density ranges from low to medium, and very few commercial uses.



Figure 5 Typical Residential Neighborhood, Hahira, GA

Suburban: These areas are predominantly smaller lot, residential areas, and are typically located on the fringe of more urban areas. The



Figure 6 Typical Suburban Neighborhood, Lowndes County, GA

road network within the subdivision may be narrow, local roadways, but the access road is typically a larger highway or arterial with significant traffic volumes which serve as a primary access road into the nearby urban or downtown area. These areas are typically automotive oriented, limiting pedestrian activity.

Rural Area: Rural areas are areas which are associated with agricultural and farm operations, forestry, natural resource conservation, groundwater recharge areas, etc.



Figure 7 Typical Rural Highway, Highway 76 in Brooks County

These areas have very low-density residential development accessory to agricultural or farm operations of varying sizes. Due to the low densities and large separations between land uses within these areas, pedestrian and bicycling accommodations are minimal or non-existent.

BEST PRACTICES

As referenced, best practices for a complete streets approach depends largely upon the characteristics of the community. While the Georgia Department of Transportation has categorized communities into either urban (5,000 population or greater) or rural (4,999 population and less) for the purposes of Complete Streets design guidelines, this report describes best practices in relation to the land use characteristics of the area. Focusing on rural areas, the community characteristics described above have been utilized for the purposes of this report, namely to categorize recommendations for complete streets best practices within rural communities.

- Central Business Districts
- Commercial and Industrial Corridors
- Residential Neighborhoods
- Suburban Areas
- Rural Areas

Table 1: Appropriate Complete Street Amenities for Specific Land Use Characteristics

| Area Land Use Characteristics | Bike Lanes | Shared Lane | Shared Use Path | Sidewalks and Pedestrian Paths | Transit |
|-------------------------------|------------|-------------|-----------------|--------------------------------|---------|
| CBD | X | X | | X | X |
| Commercial | X | X | | X | X |
| Residential | X | X | | X | |
| Suburban | X | X | X | X | |
| Rural | | | X | | |

Central Business Districts

Whether in a small, rural setting or in a larger metropolitan area, all Central Business Districts (CBDs) should include a sidewalk on both sides of the roadway. The sidewalk should be of sufficient width to accommodate a pedestrian and a handicap person in a wheelchair travelling in opposite directions, and should include a separation between the sidewalk and the roadway to provide sufficient room for safe passage, landscaping and pedestrian amenities, such as trash receptacles, benches and bike racks. Each community's specific circumstances may limit or permit lesser or greater widths and amenities.

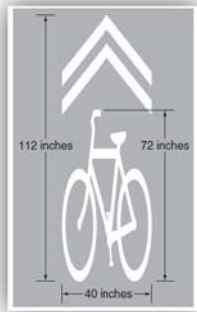


Figure 10 Sharrow Design

Bicycle lanes in the CBD serve to protect existing bike traffic, and encourage more bicyclists to get out of their vehicles. The GDOT guidelines provide specific recommendations for width and design. Bike lanes within a CBD should be indicated with roadway markings such as striping, pavement markings and symbols and/or colored pavement. In the rural communities of South Georgia, striping and a bike lane symbol on the roadway pavement within the small, local CBDs would be sufficient in most cases. While bike lanes in the CBD are important to serve the needs of residents who do not drive, oftentimes public rights-of-way within the downtown area

are narrow, crowded, and cannot accommodate separate bike lanes. In those cases, a shared lane with Sharrows can be provided to delineate areas where bicyclists can share a travel lane with motorists. The Shared Lane is not separated from the vehicular travel ways. However, Sharrows (a pavement marking showing a bike lane symbol and arrows to indicate direction) provide a visual indication of the designated use of the roadway by bicyclists.

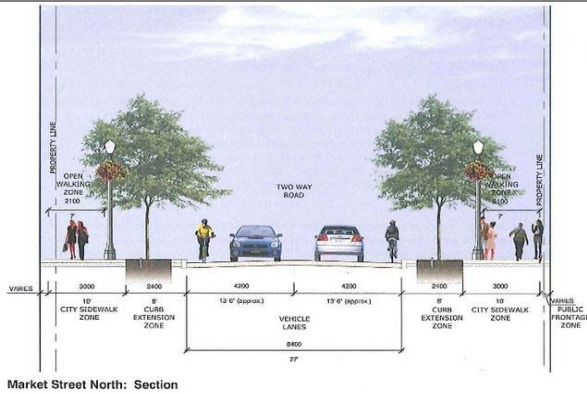
Given that most rural transit in Southern Georgia is demand driven transit, that goes from point to point, bus stops are the only transit facility appropriate in a CBD or downtown setting. Such



Figure 11 Typical Downtown Sharrow Application

stops should be located at major activity centers and destination points, and there should be pedestrian amenities at these locations as passengers switch from public transportation to walking. In this manner, the rural transit services can best serve the needs of the transportation disadvantaged in a safe and economic manner.

CENTRAL BUSINESS DISTRICTS



Bicycle Accommodations: In downtown and CBD areas, bike lanes should be provided on both sides of the street as a separate lane with pavement striping and markings. Where a separate bike lane is not possible due to ROW width limitations or other conflicts, sharrows should be utilized.



Pedestrian Accommodations: Sidewalks are an essential means of pedestrian access to the variety of shops and services within the CBD, and should be provided along both sides of the road.



Transit: The essential public services that are common in most CBDs are ideal destination points for transit services. Therefore, transit stops with signage and pedestrian amenities should be provided at major destinations in the downtown area.

Commercial and Industrial Corridors

Commercial and industrial corridors are typically developed around busy roadways with heavy volumes of higher speed traffic, and are less pedestrian and bicycle friendly than a downtown area. Consequently, pedestrians and cyclists do not typically traverse these roadways. Unfortunately, this means non-motorists are deterred from areas where the heaviest concentration of retail and service uses are located. Therefore, completing the streets which serve these areas is a significant need.



Figure 12 Commercial Corridor in Quitman, GA

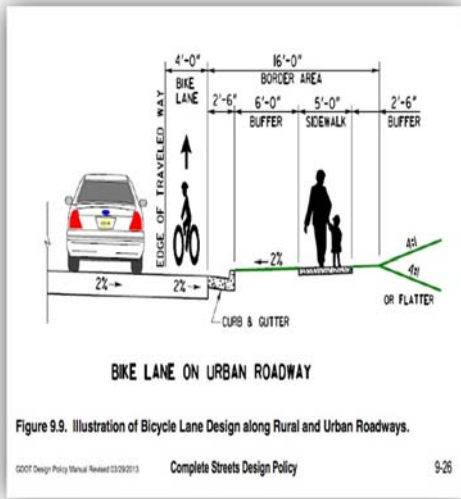
In commercial and industrial corridors, sidewalks are usually sporadically provided, as more recent regulations typically require new development to provide public sidewalks within the adjacent right-of-way. However, continuous connections are less common, and result in unusable pedestrian paths that do not go anywhere. Given the heavy traffic volumes and high rates of speed in these areas, a sidewalk with a substantial buffer between the vehicle travel lanes should be developed to ensure the safe access of the roadway by pedestrians. Such additional width can typically be accommodated, as the adjacent roadways are usually larger rights-of-way with room to add lanes and amenities.

Similar to sidewalks, commercial and industrial corridors typically discourage bicyclists because of their location on higher volume, higher speed highways. While the GDOT Design Guidelines provide specific technical recommendations regarding width and design, it is recommended that a larger separation between the bike lane and the travel way be provided along these corridors.



Figure 13 Commercial Corridor in Valdosta, GA

Within a commercial corridor and industrial area, transit routes and bus lines are excellent ways to ensure the safety of the non-driving public. Given that these areas are automotive oriented areas, with high speed and heavy traffic loads, providing transit services is the best option when feasible. Thus, in a commercial and industrial corridor, transit stops with signage are recommended as a best practice.



Given the high rate of travel and heavy traffic along commercial and industrial corridors, shared paths can be an excellent way to remove bicyclists and pedestrians from a dangerous roadway. However, additional right-of-way and construction costs make the development of these facilities in most rural communities inappropriate.

Figure 14 GDOT Design Policy - Bike Lanes on Urban Roadways

COMMERCIAL & INDUSTRIAL CORRIDORS



Bicycle Accommodations: Bicycle lanes along commercial and industrial corridors are an important means of providing access to essential services for the transportation disadvantaged. Due to the higher speeds and traffic volumes, separate bicycle lanes with pavement markings are important, and should be utilized as a best practice. Where road widths are insufficient or other issues prevent the implementation of a separate bike lane, sharrows should be utilized as an acceptable alternative best practice.



Pedestrian Accommodations: For those persons who cannot or will not utilize a bicycle, sidewalks are a critical means of safe travel to and from local businesses and services in commercial and industrial areas.



Transit: Along commercial and industrial corridors, transit stops can assist the transportation disadvantaged in traveling longer distances to essential local services. In most cases, a simple sign to indicate the location of the stop is sufficient. However, associated pedestrian amenities may be required at local destination points..

Residential Neighborhoods

Sidewalks in residential neighborhoods are a classic means of local, short distance travel which encourage people to get out of their homes for recreation, exercise and socializing. In residential neighborhoods, the low levels of



Figure 15 Typical Rural Residential Neighborhood Road, Lakeland, GA

pedestrian traffic can be effectively served by a minimum width sidewalk. However, additional right-of-way on smaller, residential roads is typically available, and can be utilized for multiple purposes. Therefore, a larger buffer between the sidewalk and the roadway is recommended to serve these additional purposes (utilities, lighting, landscaping, fire hydrants, etc.) and increase the safety of the local residents.

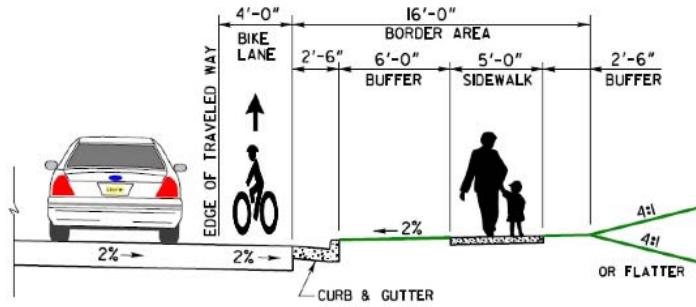
Due to lower traffic volumes and speeds, bicyclists in residential neighborhoods tend to ride within the right-of-way, and there are rarely designated bike lanes in these older communities. Along the collector and arterial roads that serve these communities, designated and marked bike lanes may be appropriate, depending upon the nature and characteristics of the roadway. Nevertheless, additional road width to accommodate bicyclists within the right-of-way would increase safety and encourage more cycling within these areas.

Residential areas are characterized by dispersed populations and few activity centers. Therefore, transit routes, bus lines and shared lanes are not appropriate within these areas.



Figure 16 Typical Rural Residential Neighborhood Road, Quitman, GA

RESIDENTIAL NEIGHBORHOODS



BIKE LANE ON URBAN ROADWAY



Figure 9.9. Illustration of Bicycle Lane Design along Rural and Urban Roadways.

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Bicycle Accommodations: In residential neighborhoods, bicycle lanes are appropriate, but need not be developed as a separate lane with marking. Wider lanes can accommodate both bicycles and motor vehicles at the low volumes and speeds present in these neighborhoods.



Pedestrian Accommodations: In residential neighborhoods, sidewalks should be applied to both sides of a street. A wide separation between the travel lanes and the sidewalk is recommended for both safety and to accommodate local utility lines and services.



Suburban Areas

Like residential neighborhoods, suburban areas are predominantly residential in nature, but are more automotive oriented than traditional residential areas with grid patterned streets. While sidewalks are commonly present on at least one side of a suburban street, fewer



Figure 17 Typical Suburban Road, Hahira, GA

Suburban Area in Hahira, GA

residents choose to utilize the sidewalks. This is at least partly due to the fact that suburban areas are usually developed on the outskirts of a community, and activity centers and destinations are located further away, along major arterial and collector roads. Consequently, minimum width sidewalks are more than adequate to serve the local needs of

the suburban areas. Like residential neighborhoods, buffer widths should be larger to adequately accommodate utilities, landscaping, fire hydrants, etc.

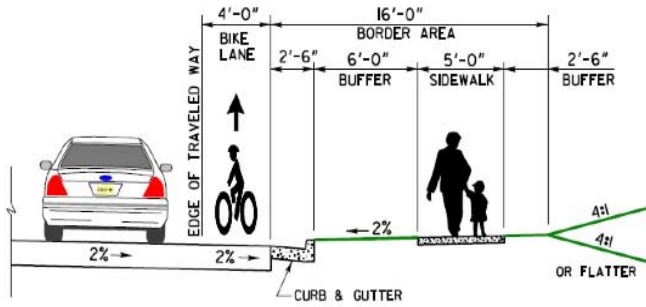
As referenced above, lower traffic volumes and speeds in residential areas mean bicyclists are generally safer in these areas. However, along the collector and arterial roads that serve these communities, designated and marked bike lanes may be appropriate, depending upon the nature and characteristics of the roadway. Nevertheless, additional road width to accommodate bicyclists within the right-of-way would increase safety and encourage more cycling within these areas.

Given that suburban areas have very similar characteristics as do residential neighborhoods (dispersed populations and few activity centers), transit routes, bus lines and shared lanes are not recommended for these locations.



Figure 18 Typical Suburban Road leading to Elementary School, Hahira, GA

SUBURBAN AREAS



BIKE LANE ON URBAN ROADWAY



Figure 9.9. Illustration of Bicycle Lane Design along Rural and Urban Roadways.

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Bicycle Accommodations: In suburban areas, bicycle lanes should be developed along arterial and collector roads where higher traffic volumes and speeds make the safe passage of bicyclist more difficult.



Pedestrian Accommodations: Sidewalks in suburban areas are important, and should be applied to both sides of a street. A wide separation between the travel lanes and the sidewalk is recommended for both safety and for the accommodation of local utility lines and services.



Rural Areas

Rural areas are predominantly agricultural in use, with residential and small commercial uses interspersed. Roads in rural areas tend to serve low volume, but high speed traffic. Pedestrian traffic is very low, and few if any facilities are typically provided along roadways in these areas. Sidewalks are not recommended for these areas due to the minimal amount of pedestrian traffic,



Figure 19 Typical Rural Highway, Highway 76 in Brooks County

the long distances between destinations and activity centers, and the safety concerns inherent with typical design speeds for the roads in these settings. When sidewalks are utilized in these settings, the sidewalks should be well separated from the travel lanes of the roadway. Placing the shoulder and drainage swale between the travel lane and the sidewalk can provide this additional separation for increased safety.

On roadways in rural areas, bike lanes should be included along major roadways to connect distant activity centers and communities. However, the expense associated with a

separate bike lane is not justifiable. Therefore, it is recommended that bike lanes be provided along the roadway in the form of an extra wide shoulder. This provides additional room for the bicyclists, thereby contributing to a safer bicycling environment and encouraging multiple users within the roadway.

The very low population density of rural areas typically make transit routes and bus lines impractical and unjustifiable. Therefore, these facilities are not recommended for rural areas.

Similarly, the low population densities in the rural areas means there are few users of the roadway, and even fewer that would utilize alternative modes of transportation given the distances between destinations. Therefore, shared paths are not recommended for rural areas.



Figure 20 Sidewalk Termination at Transition between Rural and Residential, Ray City, GA

RURAL AREAS

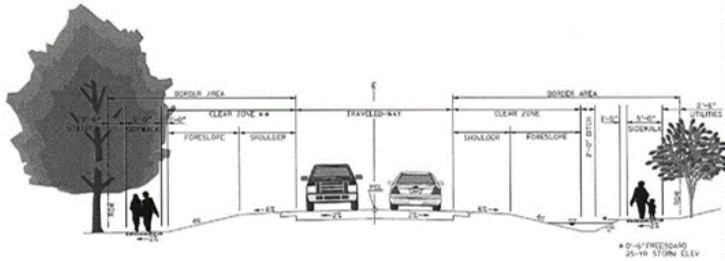


Figure 9.8. Illustrations of Pedestrian Facility Design – Rural Border Area.



Bicycle Accommodations: Bicycle lanes are appropriate in rural areas, but due to distances and costs, should be implemented as a wide shoulder with or without pavement markings and signage. Where wider shoulders are not available or possible, sharrows are an acceptable alternative for a best practice in rural areas.



PLANNING FOR IMPLEMENTATION

Where a Complete Streets approach or project is appropriate and is to be undertaken by the local community, the first step is to develop a policy and implementation plan based upon the community's needs, resources and characteristics. The primary focus of any Complete Streets approach in a rural community should be the safe use of the roadways by all users.

Good implementation begins with a good plan. Each community (rural and urban) has several plans and methods by which they guide local decision making with regard to development, infrastructure and investment. The State of Georgia requires every local jurisdiction to develop or participate in the development of a Comprehensive Plan. These plans effectively form the community's vision for the next 20 years. In addition, each Comprehensive Plan is required to include a Short Term Work Program (STWP) which provides direction on the implementation of the community's planned projects over the next five years. Like STWPs, Capital Improvement Plans (CIPs) focus on planned local capital improvements. Both STWPs and CIPs describe the community's goals over the next several years, and are an ideal place to include a complete streets project as funding opportunities often request that support for the project be based in the Comprehensive Plan.

Some communities develop master plans for specific projects or categories of projects, which typically address the addition or modification of roadway facilities and design. These are another great place to include a Complete Streets approach. Lastly, land use regulations are the nuts and bolts of any community's growth management tools, where implementation of a complete streets approach can be ensured.

Several model ordinances are available for those communities that want to develop a Complete Streets approach.