

Mauldin's development has been closely tied to transportation from the city's founding. The town's early development was focused around the small passenger and freight depot on the Charleston and Western Carolina Railroad, located on the west side of the railroad between Jenkins Street and Miller Road. The original city boundary was a one-mile radius centered on the depot.

This transportation chapter of Mauldin's comprehensive plan will address all modes of surface transportation, and will identify needs and priorities for street and highway improvements, pedestrian and bicycle facilities, and public transportation services and facilities. The focus of this element is the city limits of Mauldin, but issues and priorities within the surrounding Mauldin Planning Area also are addressed.

Early in the comprehensive planning process, several groups participated in a strategic planning exercise to identify strengths, weaknesses, opportunities and threats, or a "SWOT analysis" for Mauldin. The sidebar at right lists strategic planning issues related to transportation.



Mauldin's railroad depot was located on Jenkins Street between Miller Road and Hyde Circle; this view is from Miller Road at Murray Drive. The depot was dismantled in 1953.

Streets and Highways

Regional highway access is one of Mauldin's key strategic advantages. US Highway 276 (Main Street) and the regional water line that was built alongside the highway created the population boom that transformed a rural crossroads into a suburban city. The city's proximity and access to I-385 and I-85 promoted industrial growth and make the area a convenient residential area, with relatively easy access to employment centers anywhere in the Upstate.

Funding Sources for Road Improvements

Most federal and state funding for road improvements flows through Greenville-Pickens Area Transportation Study (GPATS), a regional transportation planning organization made up of state and local elected officials from the region. Greenville County Planning Department provides primary staff support from federal, state, and local planners and engineers participate in technical evaluation of projects.

GPATS produces a 20-year long range plan, and from this plan selects projects for funding in a five-year Transportation Improvement Program (TIP). The long range plan and TIP must be approved by GPATS in cooperation with SCDOT; no project can be funded with federal transportation dollars unless it is included in the plan and TIP. The most recent GPATS project in the Mauldin planning area was the widening of Verdin Road between Butler Road and Woodruff Road.

Funding for minor road improvements, sidewalks, and resurfacing is available through the Greenville County Legislative Delegation Transportation Committee (commonly called "C-funds"). Applications for funding are accepted

Strategic Planning Issues Related to Transportation

Strengths

- Good regional highway access, good location

Weaknesses

- Appearance of Commercial Areas
- Fragmented, inadequate bicycle and pedestrian facilities
- Bottlenecks on major roads
- Weak community identity ("where is Mauldin?")
- No mass transit service

Opportunities

- Create a city-wide greenway trail system, connect to surrounding trail facilities
- CU-ICAR and St. Francis Hospital campus, potential customers and residents
- Create local and regional mass transit services
- Coordinate development of US 276 corridor with City of Greenville
- High gas prices make Mauldin's central location more important

Threats

- Flooding and stormwater runoff problems
- Freight train traffic detracts from city center image
- Lack of "smart growth," poor connectivity as development progresses
- Traffic congestion: Ashmore Bridge Road, Butler Road, schools, commuter routes
- Repeating planning mistakes of Woodruff Road and Fairview Road



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quarterly, and generally require 20 to 50 percent matching funds from the applicant. Recent C-funds projects in Mauldin include widening of Holland Road (in the late 1990s from Butler Road to Centerpointe Business Park, and recently from Centerpointe to Bridges Road), intersection improvements at Bridges/Holland and at Miller/Corn intersections, and several resurfacing projects.

City of Mauldin general funds support routine maintenance, repairs, and resurfacing of streets, and are used to match C-funds grants.

Inventory of Streets and Highways

Table 6-1, summarizes the inventory of streets and highways serving Mauldin, and is derived from Greenville County GIS data. The City assumes responsibility for new subdivision streets, and for County-maintained roads when those roads are annexed into the City. Where the city limits run along a public roadway, such as northern Knollwood Drive, the City and County share maintenance responsibility.

Road Type	Centerline Miles	Percent of Miles
Interstates (I-385 and I-185)	4.33	3%
US Primary Highways (US 276)	5.25	4%
Frontage Roads (US 276)	0.40	0%
State Primary Highways (SC 417)	1.39	1%
State Secondary Roads	23.89	19%
City and County Maintained Roads	83.38	66%
Private Roads and Drives	7.88	6%
Total	126.53	100%

The Interstate routes, North Main Street (US 276), South Main Street (SC 417), and Butler Road (State Secondary Road 107 or "S-107") serve the

largest share of traffic in the area. Recent traffic counts show over 30,000 vehicles per day on North Main Street, and 34,000 vehicles per day on West Butler Road. I-385 carries over 57,000 vehicles per day between Butler Road and Bridges Road, while the Southern Connector (I-185) toll road carries fewer than 8,000 vehicles per day.

Route	2008
North Main Street (US 276)	29,200
South Main Street (SC 417)	12,700
East Butler Road	20,500
West Butler Road	24,800
Ashmore Bridge Road	13,000
Miller Road	6,400
Bethel Road	3,200
Southern Connector	7,600
Golden Strip Freeway	71,500

Source: SCDOT data provided by Greenville County

Table 6-3 lists the state-maintained secondary roads within the City. Most of these roads are minor thoroughfares or collector streets. Prior to 1973, the state highway department routinely accepted maintenance responsibility for new local streets. As a result, a few residential subdivision streets (Shaver Drive, Evening Way, Moore St., and Pinecrest Drive) are state-maintained roads.

Most roads with significant traffic volumes are included in the Federal-

**Table 6-3
State Maintained Roads**

Road Name
ASHMORE BRIDGE RD
BALCOMBE BLVD
BETHEL DR
BETHEL RD
BETHEL SCHOOL RD
BON AIR ST
BRIDGES RD (Part)
CORN RD
E BUTLER RD
EVENING WAY
FORRESTER DR (Part)
GREER DR
HAMBY DR
HOLLAND RD (Part)
HYDE CIR
LOG SHOALS RD
MILLER RD
MOORE ST
MURRAY DR
N GOLDEN STRIP DR
NEELY FERRY RD
NEW NEELY FERRY RD
OLD MILL RD
OLD STAGE RD
OWENS LN
PINECREST DR
SHAVER DR
TANNER RD
VERDIN RD
W BUTLER RD

Source: Greenville County GIS data



Aid highway system. On these routes, SCDOT can use Federal gas tax funds for improvements and major repairs, and these routes are eligible for widening or other improvements using funds administered through GPATS. Map 6-1 illustrates the federal-aid eligible network of streets and highways serving Mauldin. An obvious missing link in the network shown in this map is Bridges Road, which recently was added to the system by SCDOT following a request submitted by City of Mauldin staff through GPATS.

Existing Traffic Congestion

Traffic congestion issues in Mauldin are focused on commuter routes, commercial areas, and schools.

- Congestion is most severe along Main Street (US 276) and Butler Road, the principal thoroughfares serving the City, but also has become a significant issue on Ashmore Bridge Road, Miller Road, and Bridges Road.
- Traffic delays up to 10 minutes are common on Butler Road in front of Mauldin High School; the Butler Road corridor is significantly congested through the entire city;
- Main Street operates reasonably well except at its' intersection with Butler Road; Ashmore Bridge Road is overwhelmed at peak periods by commuter traffic;
- Miller Road has become an alternate route for traffic bound for commercial areas on Woodruff Road;
- Bridges Road has become an alternate route for commuters accessing I-385, and also is a major route for Mauldin High, Mauldin Middle, and Mauldin Elementary school traffic.

Congestion becomes most severe when local commercial traffic, commuter traffic, and school traffic overlap on the same road. In many cases, these overlaps occur because the local street network is poorly developed and poorly connected.

Map 6-2 illustrates existing traffic congestion as of 2005 in Mauldin. The "Level of Service" ratings presented in the map indicate the degree of traffic congestion, with "A" being uncongested and "F" being extremely congested. The map is derived from the GPATS regional travel

forecasting model, which uses an inventory of existing residential, industrial, commercial, and school locations to replicate existing traffic patterns. Level of Service is based on average conditions during the day, and may not precisely capture peak hour congestion. The regional travel model uses forecasts of residential, commercial, industrial, and school growth to predict future traffic patterns.

As the Upstate continues to grow, traffic congestion is predicted to worsen dramatically. The most severe congestion in the region is predicted to focus in the area between City of Mauldin and City of Greenville, around I-85 and I-385. All of the arterial highways serving the Mauldin area – US 276, I-385, Butler Road, and Woodruff Road -- are predicted to become extremely congested even after all cost-feasible improvements are made to the highway system, according to the GPATS long range plan.

Map 6-3 illustrates the predicted traffic conditions in 2030, based on forecast population growth, employment growth, and financially feasible road improvements.

Intersections

At least ten intersections in or near the city currently experience peak hour congestion, and are listed in the sidebar at right. The overlap of school traffic with commuter traffic at these locations is the fundamental cause of most traffic congestion. In a few cases, developing alternate routes is preferable to improving existing intersections, due to the cost and impacts of adding more lanes at existing intersections. Generally, connected networks that help separate local traffic from regional traffic provide the most balanced and efficient transportation system.

Three intersections (listed at sidebar right) have alignment problems in addition to traffic congestion delays. Relocation of one approach to the intersection or the addition of a new minor street connection will improve these intersections.

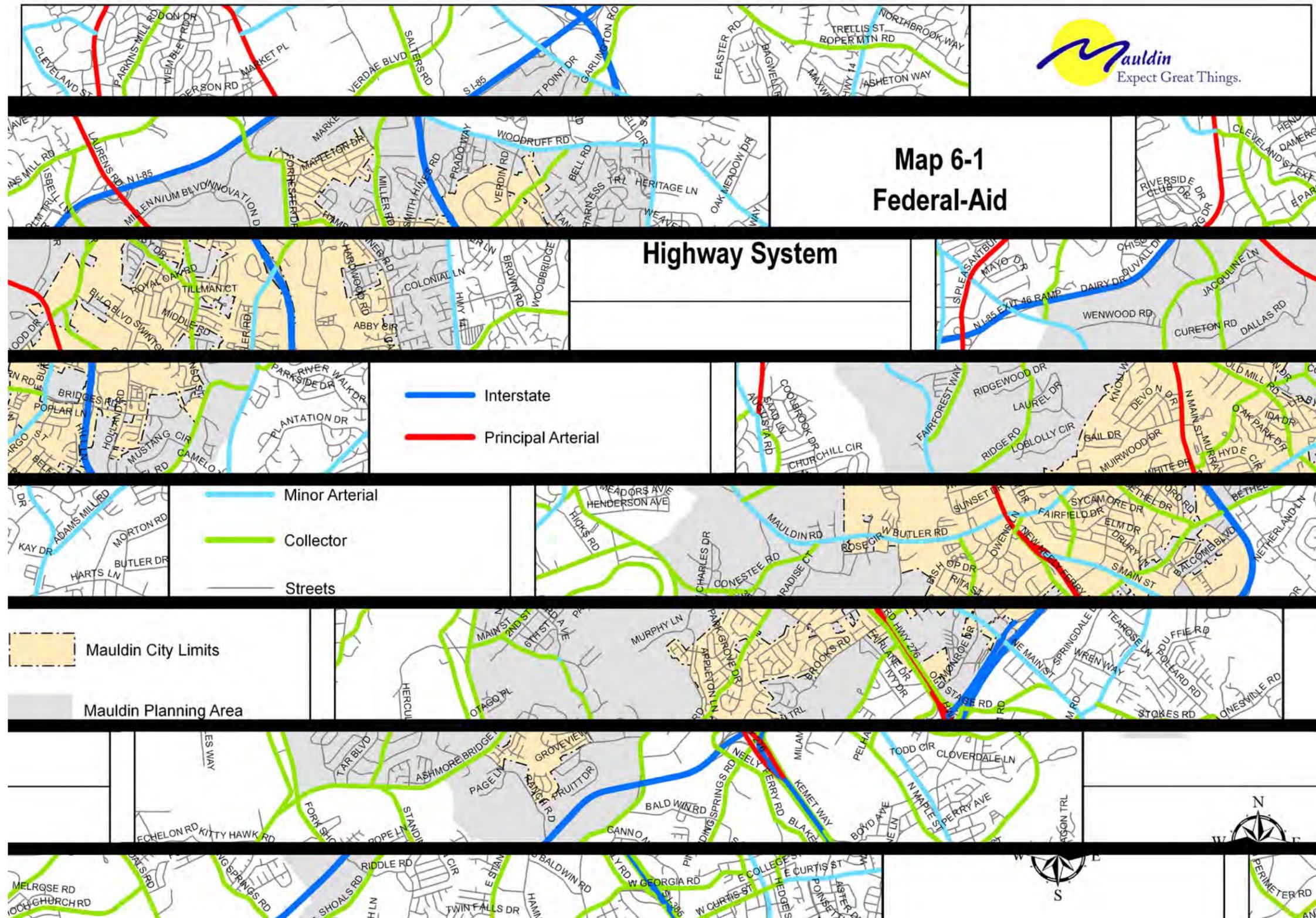
Improving these intersections is an important objective of this plan. City staff will continue working through multiple federal, state and local sources

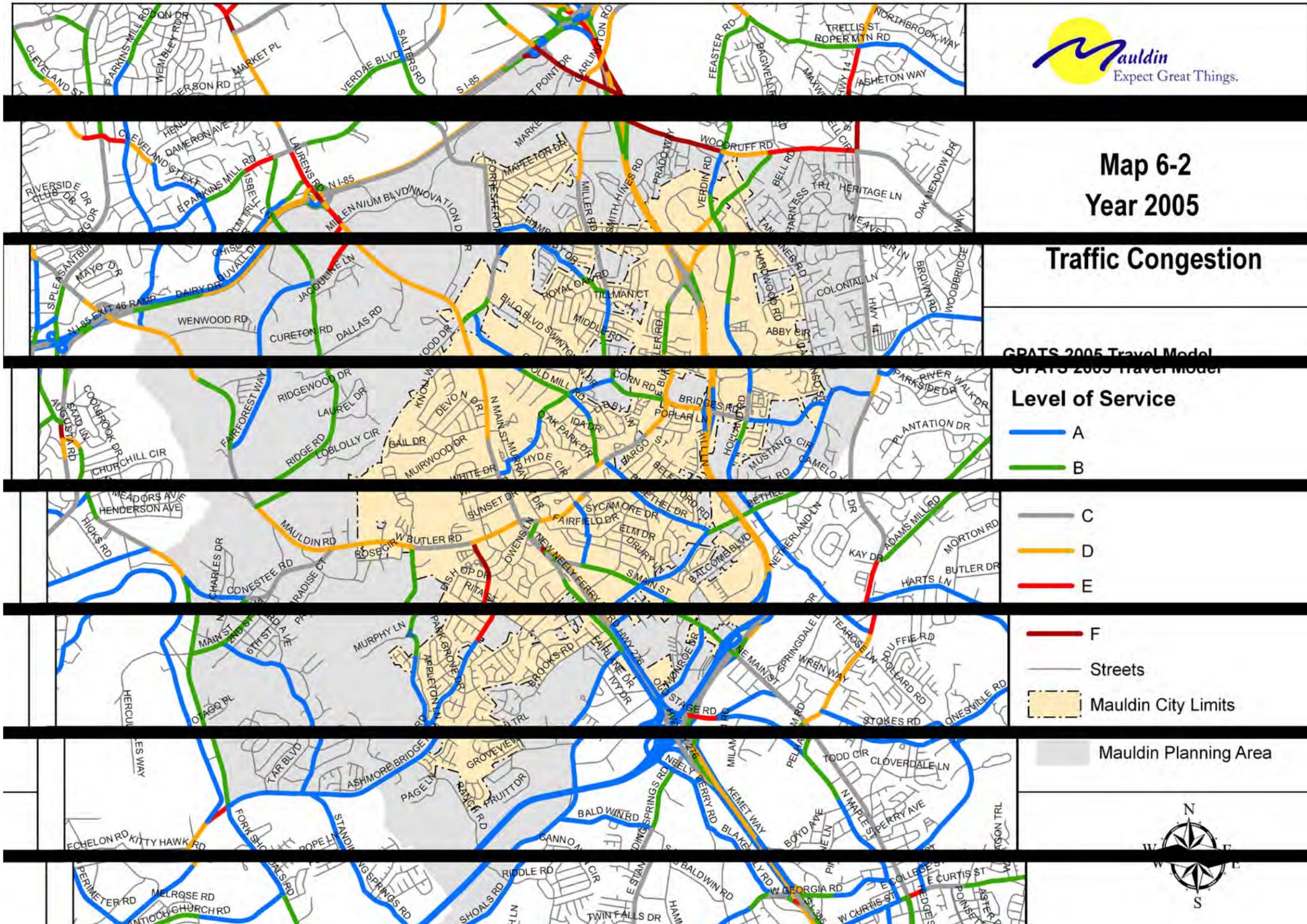
Ten Most Congested Intersections

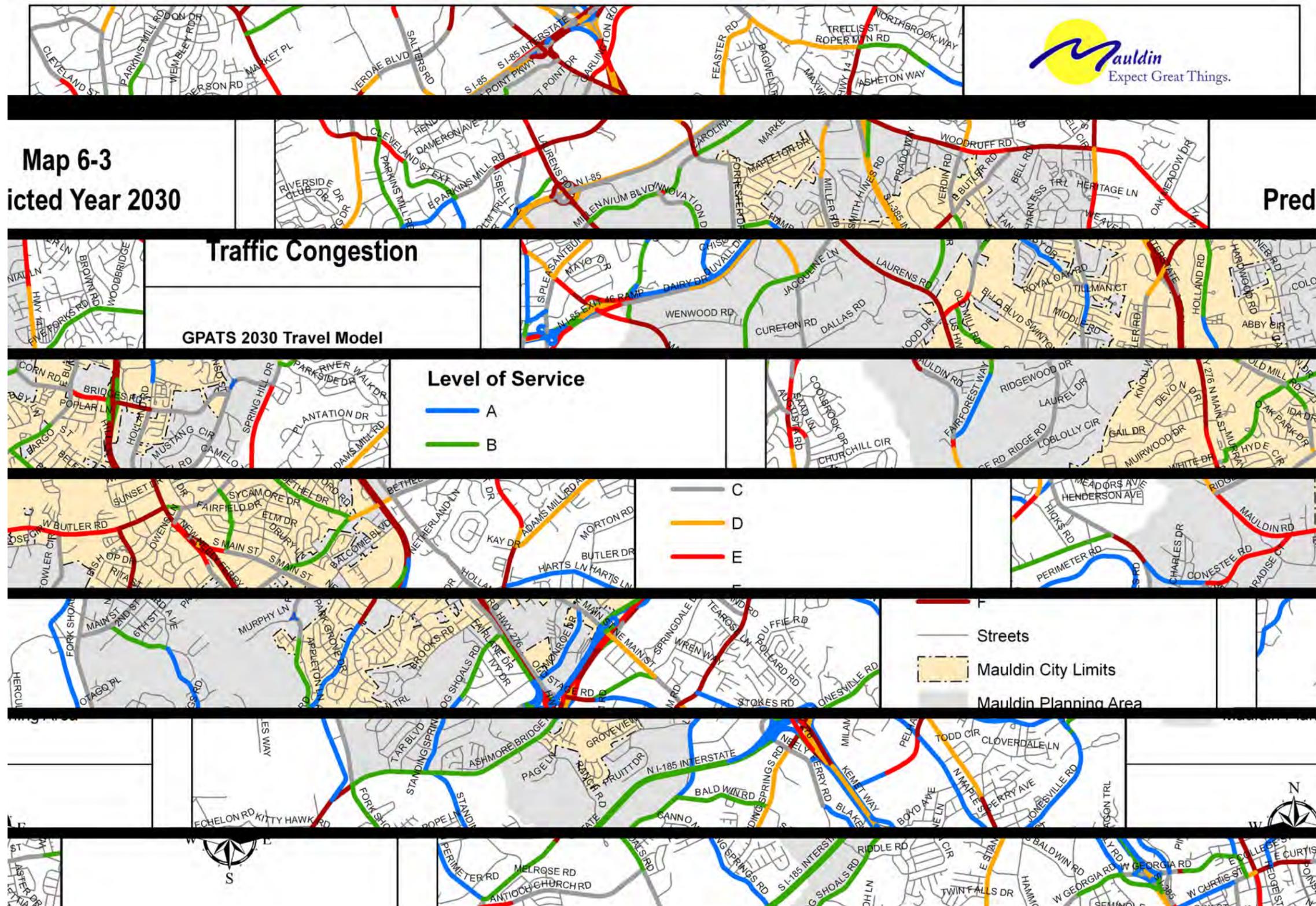
- Main Street (US 276) at Butler Rd
- West Butler Road at Ashmore Bridge Road
- East Butler Road at Bridges Road
- Holland Road at Bridges Road
- Tanner Road at Bridges Road
- Bridges Road at Bethel Road
- Miller Road at Woodruff Road
- Miller Road at Old Mill Road
- Bethel Road at Holland Road
- Butler Road at Holland Road
- Butler Road at Tanner Road

Three Intersections With Additional Problems

- Butler Road at Bethel Drive and Old Mill Road (offset intersections)
- Butler Road at Owens Lane and Murray Drive (offset intersections)
- Miller Road at Murray Drive and Jenkins Street (confusing traffic patterns and railroad crossing)







to obtain funds; City of Mauldin funding will be needed to match these sources of funding.

Sidewalks and Greenway Trails

Mauldin is served by a relatively limited sidewalk network, illustrated in Map 6-6, which also includes sidewalks and greenway trails proposed by this plan. Existing sidewalks focus on the old Mauldin Elementary School site and the current school locations. Significant gaps in the sidewalk network exist; two key gaps in the network are:

- Miller Road between Old Mill Road and Corn Road; and
- Bridges Road between Butler Road and Holland Road.

These gaps in the street network should be among the highest priority routes for sidewalk construction.

One greenway trail exists along the main branch of Gilder Creek, between the Forrester Woods subdivision and the C&S Wholesale (formerly Bi-Lo) distribution center; two city parks also have walking trails.

Bicycle Facilities

Several bicycle lanes exist or soon will be in place in the Mauldin planning area, illustrated in Map 6-7, which also includes proposed bike lanes. The streets in Clemson University's International Center for Automotive Research (CU-ICAR) are excellent examples of "Complete Streets", with bike lanes, sidewalks, and landscaping. The City's current road improvement project to widen Holland Road between Bridges Road and Centerpointe Drive will include four-foot paved shoulders to improve safety and accommodate bicyclists.

The recent SCDOT-funded widening of Verdin Road between East Butler and Woodruff Road included bike lanes and a sidewalk. Verdin Road was not built wider than normal to accommodate bike lanes; instead, the travel lanes and median lane were narrowed slightly to accommodate the bike lanes. Most "five-lane" roads are wide enough to accommodate bicycle lanes by re-striping the existing pavement with narrow traffic lanes; this is normally done only where speed limits are 40 mph or less. On 45 mph

roads, a 14' wide outside lane and "share the road" signs are typically used.

Mass Transit

No public transportation services are provided in the City of Mauldin currently. Greenville Transit Authority (GTA), funded by City of Greenville and Greenville County, provides city bus service to Woodruff Road near I-85.

The Mauldin-Simpsonville Urbanized Area is eligible for Federal Transit Administration funding and SCDOT State Mass Transit funds that could be used to purchase transit vehicles and fund part of the net operating expenses of mass transit service within the Mauldin-Simpsonville-Fountain Inn area. A feasibility study was completed in 2005, which recommended an initial service connecting Simpsonville and Mauldin to the Haywood Mall area. Local matching funds were never budgeted to begin implementation of that plan.



Mauldin High students face a dangerous walk home along Miller Road south of Corn Road; the Miller Road bridge over Gilder Creek has narrow shoulders and no sidewalk.

Guiding Principles for Transportation Improvements

Based on public input received and good planning practice, transportation improvements identified in this plan adhere to the following principles:

- Minimize impacts of transportation projects on residences and businesses
- Build complete streets, with facilities for pedestrians and cyclists
- Provide connections between and among compatible land uses
- Provide local street networks to support commercial development and to provide local street access between neighborhoods and destinations
- Avoid developing neighborhoods that have only one point of access
- Discourage through traffic on neighborhood streets by providing an efficient and connected network of collector streets.
- Develop and maintain an appropriate hierarchy of streets
- Limit the number of driveways along commercial streets and highways by requiring better connectivity among development
- Require local streets to be built into commercial development

Key Issues and Problems

Streets and Highways

Traffic congestion in the Mauldin Planning Area is predicted to be severe on Main Street (US 276), West Butler Road, Ashmore Bridge Road, Bridges Road, I-85, I-385, Woodruff Road, and SC 14 in 2030, as illustrated in Map 6-3. A critical issue for Mauldin is that Main Street and West Butler Road realistically cannot be widened further without major impacts on adjacent businesses and huge costs.

State and federal funding for road improvements is insufficient to address predicted traffic growth. As a result, only a few of the most congested roads in the GPATS region can be improved with available funds. Unmet needs in the GPATS plan include widening Ashmore Bridge Road between Butler Road and Fowler Circle, and widening East Butler Road between Holland Road and Woodruff Road. No SCDOT funding is expected on these roads before 2030.

As a cautionary note, the regional travel model that forecasts future traffic congestion is built around some assumptions that may not hold true into the future, including:

- Rising fuel costs will not significantly reduce automobile travel per person; and
- Higher travel costs will not significantly curtail “urban sprawl” into rural areas.

If these factors begin to change travel and development patterns, congestion may be more severe in already-developed areas than is predicted by the current travel models, less congestion will develop in currently-rural areas, and congestion on major regional highways may be less severe, as long commutes may become less common.

Through Traffic in Neighborhoods

Through traffic has been a problem on the following residential streets, primarily due to drivers diverting from congested major roads.

- Hyde Circle
- Sunset Drive (speed humps exist)
- Pinecrest Drive (speed humps exist)
- White Drive (speed humps exist)
- Maple Drive (speed humps exist)
- Mapleton Drive (speed humps exist)
- Lanewood Drive (speed humps exist)
- Brookbend Road and Old Bridges Road
- Fieldgate Court

Most of these roads connect busy thoroughfares, and are used by some through traffic, but the streets were built like any other subdivision street. It is important to require connecting streets to be built to an appropriate standard to avoid creating neighborhood traffic problems.

Collector Streets – low speed minor roads that tie neighborhoods to the thoroughfare network – must be designed properly and should be required in new developments. To be effective, Collector Streets should have few or no residential driveways; houses should all front on side streets, loops or culs-de-sac that are served by the collector street. Schools should have direct access to collector streets, which makes walking more feasible for students and allows many school car trips to avoid congested thoroughfares.

An effective collector street network would have prevented virtually every neighborhood through-traffic problem the City has grappled with as congestion increases on major roads. A collector street between Tanner Road and Holland Road, near or between Mauldin Elementary School and Mauldin Middle School, would relieve much of the traffic problem that has been caused by the school traffic using major commuter thoroughfares. Here, because no connections exist between the subdivisions on Tanner Road and the schools on parallel Holland Road, all school traffic must use Butler Road or Bridges Road, which already are congested with commuters. This “superblock” design produces three-mile car trips for people who live 1/4 mile from their “neighborhood” schools, and makes regional traffic congestion significantly worse. One properly-designed



If collector streets are not planned and included in new development, local car trips are often 10 times longer than necessary. The red line shows the three-mile route to Mauldin Middle School from a house in a new subdivision on Tanner Road; the house is ¼ mile from the school.



collector street in this location likely would pay for itself in fuel savings alone, but subdivision development has left no opportunity available to create the connection.

An objective of this plan will be to implement collector street design and spacing standards to be applied to new subdivisions in the city, to avoid creating additional arterial traffic congestion problems (like that surrounding the Tanner Road-Holland Road “superblock”) and to ensure that neighborhood collector streets are included in new development and properly designed so that local, short-distance through traffic is served without harming neighborhoods.

Sidewalks and Greenway Trails

Mauldin is geographically small enough that, for many residents, walking is a viable option for many trips. However, the existing network of sidewalks has many gaps and does not reach many important destinations in the City.

The City’s two highest-traffic thoroughfares, North Main Street and West Butler Road, create significant barriers for pedestrians. The Mauldin Main Street Plan proposes several improvements to safety and comfort of pedestrians walking along and crossing North Main. Similar improvements can be applied on West Butler road and elsewhere in the City.

Sidewalks are relatively inexpensive to build when roads are widened. However, adding sidewalks to existing streets generally costs about \$200,000 per mile if curbs and storm drainage lines are in place, and between 500,000 and \$800,000 per mile if storm drainage and curbs must be built in order to install the sidewalk.

Installed concrete storm water pipes cost roughly \$50 per linear foot, curb and gutter costs \$15 per linear foot, and sidewalk costs about \$35 per linear foot (\$5 per square foot) – for a total of about \$100 per linear foot. Where SCDOT construction specifications must be followed, storm drainage lines alone cost up to \$85 per foot.

Bicycle Facilities

On several roads in Mauldin, bicycle lanes can be created by simply re-striping the existing pavement with narrower traffic lanes. However, most bicycle routes will require road widening. Adding three to four feet of pavement to both shoulders of an existing roadway when that road is resurfaced can be relatively inexpensive, roughly \$100,000 per mile. Where significant grading or moving ditches is required, \$225,000 per mile is a rough cost estimate. If curb and gutter and storm drainage facilities must be added, this will roughly triple the cost of a bike lane project to about \$750,000 per mile or more.

Widening a two-lane road to a three lane road with bike lanes, curb, storm drainage pipes and sidewalks typically costs about \$3 million per mile, depending on right of way costs, creek crossings, and topography. Similar costs will be incurred for construction of a new two-lane road.

Greenway trails typically can be built for about \$350,000 per mile if easements or rights-of-way can be obtained at no cost from adjacent property owners.

The most cost-effective way to provide facilities for cyclists is to “re-stripe” existing roads to accommodate a bicycle lane or a wide outside lane. If re-striping is done when roads are repaved, bike lanes can be added at a cost of about \$5,000 per mile – the cost of two extra painted lines, bike lane symbols, and signs. Most typical “five-lane” SCDOT roadways can be painted or “striped” to include bicycle lanes with no negative affect on vehicle traffic; Verdin Road – which includes 4’ bike lanes -- is exactly the same width as the five-lane sections of Butler Road.

An important benefit of narrowing traffic lanes slightly in order to accommodate bicycle lanes: motorists generally slow down where lanes are narrower and roads clearly are designed to accommodate bicycle and pedestrian traffic. Wider outside lanes or a four-foot bicycle lane will also make right turns easier for large trucks, and may reduce damage to curbs and drainage inlets from right-turning trucks.

Mass Transit

Traffic congestion, energy costs and supplies, and shifting population and lifestyle choices all tend to support an expanded role for mass transit. The GPATS long range transportation plan identifies a bus rapid transit (BRT) corridor connecting Greenville, ICAR, Mauldin and Simpsonville. BRT is essentially a rubber-tire version of light rail transit, with only one or two stops per mile and some “exclusive guideway,” in this case two-lane streets reserved for buses only (“busways”) or exclusive bus lanes on major roads.

Given highway funding constraints and limited ability to widen US 276, a high-quality transit service should be one part of the long-range plan to manage traffic congestion through Mauldin. Good transit connections also will help make Mauldin a convenient and desirable residential and commercial destination for employees at CU-ICAR, St. Francis Hospital campus, and other new employment centers immediately north of the city.

Mass transit has historically received very little funding in the Greenville area, and Mauldin has never provided funding for mass transit. Identifying a politically-acceptable and fiscally-stable funding source for mass transit will be a significant challenge for the development of mass transit in the region.



Mauldin staff will work with Greenlink transit planners to determine the feasibility of express bus service connecting Mauldin with Simpsonville and Greenville

Proposed Transportation Improvements

The projects identified here will exceed the current financial resources available. These proposed improvements represent a “Needs Plan” rather than a “Financially Feasible” plan. This approach will do three things:

- 1) ensure the City leaders and staff are aware of desired transportation improvements as development proposals are reviewed, and work to protect or secure needed rights-of-way where possible;
- 2) engage citizens and decision makers in discussion about the desirability of finding additional funding for some of these proposed improvements; and
- 3) provide Mauldin officials with a ready list of projects to propose for funding if opportunities for grants or new revenue sources become available.

Streets and Highways

Table 6-4 provides details of the road improvements proposed for the Mauldin area, with more detailed discussion below. This is a 20-year list of projects, which will require funding from several different sources; some improvements may be required of adjacent development.

GPATS Funded Road Improvements

All federal and nearly all state transportation improvements funding flows through GPATS. Map 6-4 shows the road improvement projects in the Mauldin Planning Area funded in the GPATS TIP, and the projects that can reasonably be built with GPATS funding through 2030. Ashmore Bridge Road and the northernmost sections of East Butler Road are shown as unfunded needs; both projects were considered in the GPATS long range plan but funding was not sufficient to include them in the long range plan.



Forrester Drive is included in the GPATS 20-year plan as a four-lane road with landscaped median, Miller Road is included as an improved two-lane (with bike lanes, a sidewalk, and some left turn lanes), Butler Road is proposed as a four-lane (no median left turn lanes).

Widening East Butler Road as a standard SCDOT five-lane roadway would have unacceptable impacts on the community and adjacent residences. The proposed four-lane road will function well only if further commercial development is very limited and a 35 mph speed limit is strictly enforced. Left turn lanes will be provided at the Bridges Road intersection (which is currently being designed by SCDOT), and should be provided at Bethel Drive and at Hyde Circle intersections if feasible.

Road Improvements to be Funded by City or Other Sources

Map 6-4 shows proposed improvements to existing roads, beyond those listed in the GPATS plan, as solid blue lines. Most of these proposed improvements are designed to improve traffic safety and to provide sidewalks and bicycle lanes where needed to create complete network. Table 6-4 lists these roads with preliminary cost estimates and funding sources.

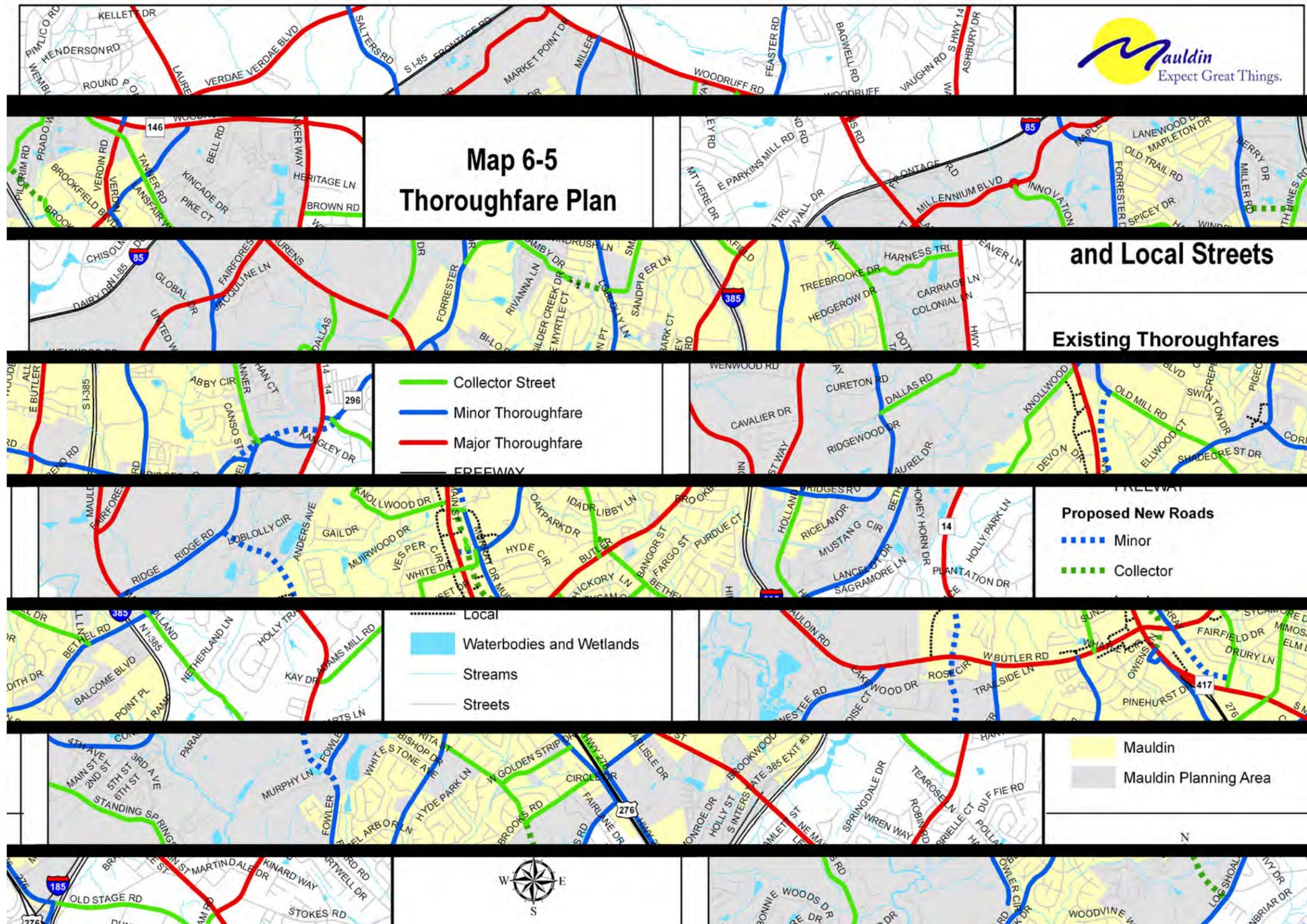
Major widening is proposed on Bridges Road from Butler Road to Holland Road, to address existing traffic congestion and to support additional development in the area. Widening of Holland Road will be completed in 2009, as a four-lane road with bike lanes. This section of Holland road is an example of the widening proposed for East Butler Road. Proposed street cross sections are illustrated in Table 6-6.

Thoroughfare Plan and Proposed New Streets

Map 6-5 classifies the thoroughfares to create a rational, connected network of major roads and collector roads. In key locations, local street connectivity is also shown in illustrative form. New streets are proposed in several locations to improve traffic circulation and connectivity for local traffic, or to provide alternate routes to relieve congestion on major

Table 6-4
Proposed Improvements to Existing Roads

Name	Cross Section	Roadway Class	Length (mi)	Preliminary Cost Estimate	Potential Funding Sources
Old Mill Road, north of Miller	Type A	Collector	1.00	1,750,000	City, SCDOT Resurfacing
Old Mill Road, south of Miller	Type A	Collector	0.64	1,120,000	City, SCDOT Resurfacing
Miller Road, west of Old Mill	Type A	Minor Thoroughfare	0.76	950,000	City, SCDOT Resurfacing
Hamby Road	Type B	Collector	1.12	1,400,000	City, SCDOT Resurfacing
Corn Road	Type B	Minor Thoroughfare	0.51	637,500	City, Developers, SCDOT Resurf.
Bridges Road, Butler to I-385	Type C	Minor Thoroughfare	0.36	1,440,000	City, CTC, Developers, GPATS
Bridges Road, I-385 to Holland	Type C	Minor Thoroughfare	0.34	1,360,000	City, CTC, Developers, GPATS
Bridges Road, east of Holland	Type B	Minor Thoroughfare	0.76	1,330,000	City, GPATS Enhancement Pgm
Bethel Road, SC 417 to Holland	Type B	Minor Thoroughfare	1.21	2,117,500	City, GPATS Enhancement Program
Fowler Circle, Butler to Murphy	Type B	Minor Thoroughfare	0.63	787,500	City, Developers
Fowler Circle, to Ashmore Bridge	Type B	Minor Thoroughfare	0.87	652,500	City, Developers
Adams Mill Road	Type A	Collector	0.72	1,260,000	City, CTC
White Drive	Type A	Collector	0.28	490,000	City
Pinecrest Drive	Type A	Collector	0.38	665,000	City
Holland Road, south of Bridges	Type B	Collector	0.74	1,295,000	City, CTC, Developers
Alexander Drive	Type A	Collector	0.19	332,500	City
Murray Drive	Type A	Minor Thoroughfare	0.21	367,500	City, CTC
Sunset Drive	Type A	Local Street	0.30	225,000	City
Total			11.02	\$18,180,000	





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thoroughfares. In most cases, new streets will not be built until property is developed or redeveloped. To that extent, the Thoroughfare Plan is a guide for land developers and citizens, to know the type and character of the roads adjacent to their property.

Collector streets are two-lane, low-speed streets designed to provide good access to the arterial road network and to allow for more direct routing of local traffic. The problems that arise when collector streets are not planned appropriately are well illustrated (as discussed above) by the traffic congestion associated with Mauldin Middle and Mauldin Elementary School. An incomplete network of collector streets will produce more “cut-through” traffic in subdivisions, or cause more congestion on arterial streets by forcing local traffic to use regional highways for short trips.

New collector street connections are proposed in the following locations, as illustrated in Maps 6-4 and 6-5, and are listed in Table 6-5:

- Realign Hamby Drive to connect with Smith Hines Road at Miller Road
 - reduces congestion and improves safety on Miller Road;
 - requires a new traffic signal;
 - alternative is to add left turn lanes on Miller;
- Connection between Miller Road and Smith Hines Road north of Pine Gate Drive;
 - reduce through traffic in Pine Gate subdivision;
 - encourage a future developer to build the street to appropriate standards ;
- Extension of Adams Mill Road to Log Shoals Road ;
 - improves access to Greenbrier Elementary;
 - reduces through traffic in Planters Row subdivision
 - encourage future developer to build the street
- Connection from Brookfield Drive to Smith Hines Road;
 - improves connectivity and access to Brookfield;
 - only if affected property owners are in favor;
- Realign and connect Owens Lane, Jenkins Court, and Alexander Drive;
 - improves local traffic access;
 - provides an opportunity to create a “downtown” street.

Table 6-5
Proposed New Roads and Extensions

Name	Cross Section	Roadway Class	Length (ft)	Length (mi)	Potential Funding Sources
Miller Road Ext	Two lane with left turn lanes	Minor Arterial	800	0.15	CTC, GPATS
N. Murray Drive Ext	Two lane	Minor Arterial	3,500	0.66	GPATS, Developers
S. Murray Drive Ext	Two lane	Minor Arterial	2,500	0.47	GPATS, Developers
Sunset Drive Ext	Two lane with left turn lanes	Local	300	0.06	City, Developers
Adams Mill Ext	Two lane	Collector	2,500	0.47	CTC, Developers
N Holly Ridge Ext	Two lane with left turn lanes	Minor Arterial	4,700	0.89	GPATS, Developers
S Holly Ridge Ext	Two lane with left turn lanes	Minor Arterial	3,800	0.72	GPATS, Developers
Bridges Road	Three lane	Minor Arterial	1,500	0.28	GPATS
Five Forks Road	Three lane	Minor Arterial	2,500	0.47	GPATS
Bethel Road	Three lane	Minor Arterial	400	0.08	GPATS
Total Miles			22,500	4.25	
Preliminary Cost Estimate (\$3 million/mile)					\$ 12,750,000

Table 6-6
Proposed Greenway Trails

Name	Type of Improvement	Length (ft)	Preliminary Cost Estimate
Old Mill Greenway	Paved 10 foot trail	4,100	271,780
David Bates Extension	Natural surface trail	900	1,800
Gilder Creek Greenway	Paved 10 foot trail	8,400	556,818
Tanner's Greenway North	Paved 10 foot trail	3,700	245,265
Tanner's Greenway South	Paved 10 foot trail	3,500	232,008
Bethel Springs Greenway	Paved 10 foot trail	4,800	318,182
Poplar Springs Greenway	Paved 10 foot trail	1,250	82,860
Springfield Park Connectors	Paved 10 foot trail	1,300	86,174
Laurel Creek Nature Trail North	Natural surface/Mtn Bike Trail	9,800	119,600
Laurel Creek Nature Trail Middle	Natural surface/Mtn Bike Trail	900	1,800
Lake Conestee Connector	Paved 10 foot trail	3,800	251,894
Total		42,450	\$2,168,181

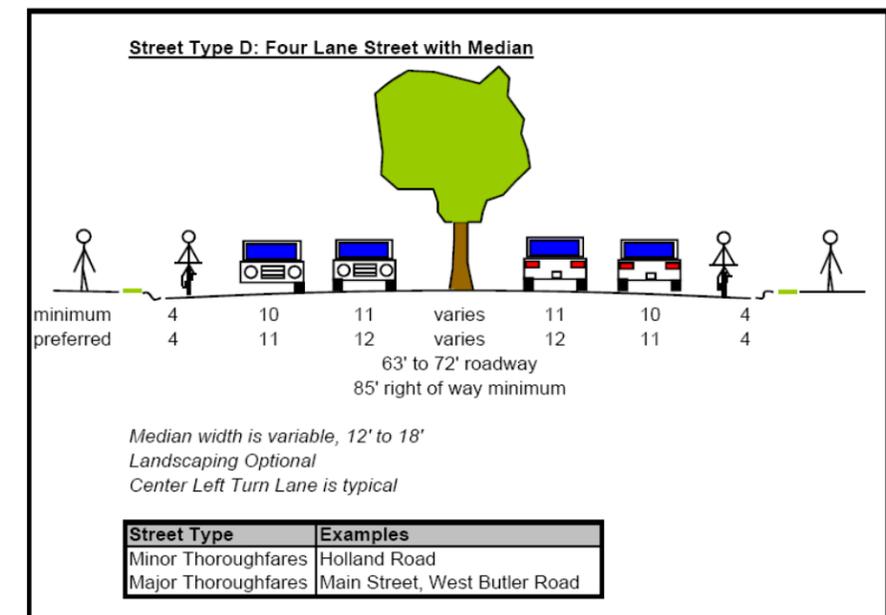
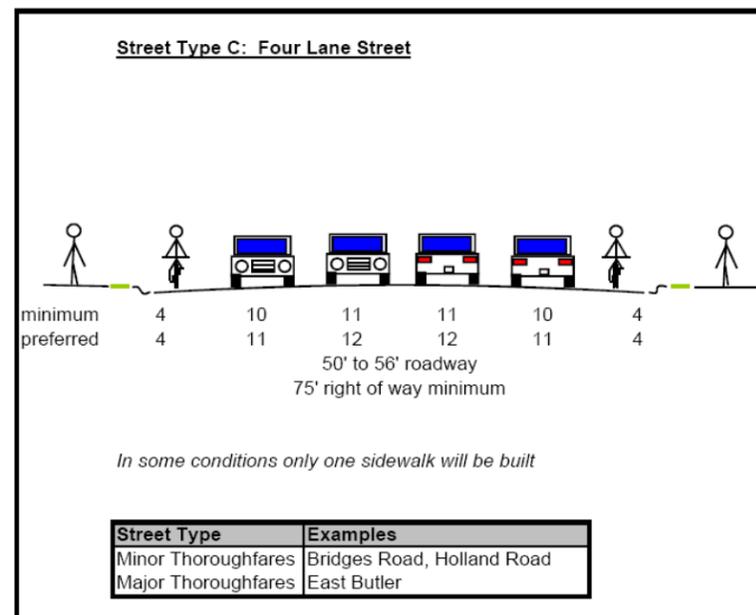
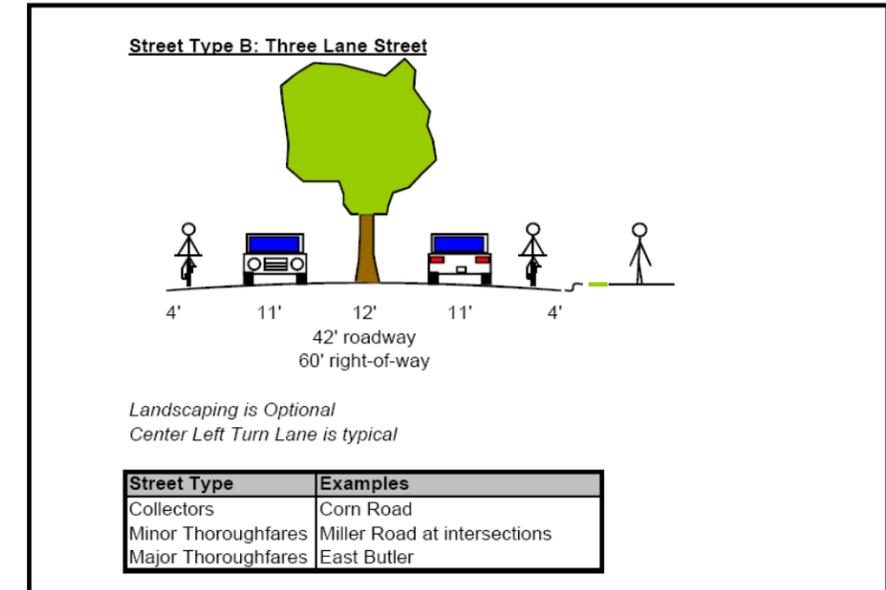
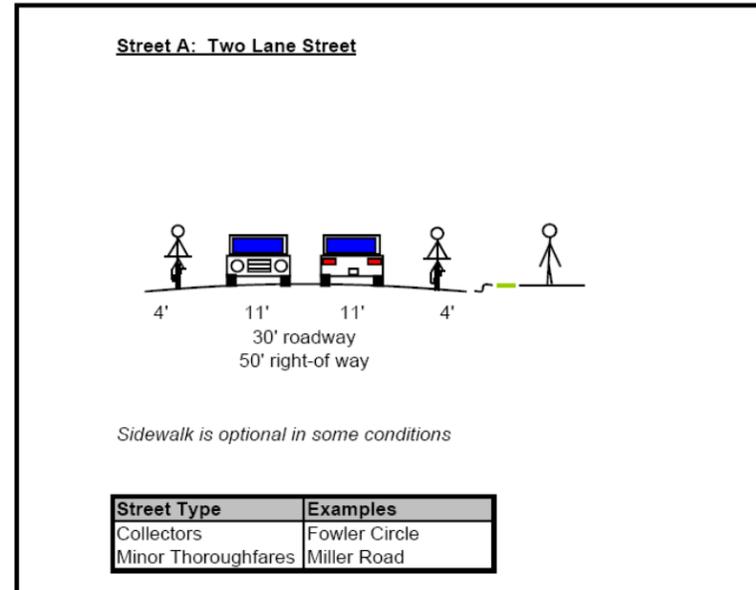
Where possible, collector streets should be required when properties are developed.

Minor arterials serve sub-regional traffic, with trips between one and five miles in length. Three new minor arterial routes should be considered:

- Connect Ridge Road to Fowler Circle;
 - Alternate route to US 276;
 - Alternate route to Ashmore Bridge Road;
 - Improves development potential of large tracts of land on the north side of West Butler Road;
 - Should be a two lane “parkway”, with planned access points, landscaping, sensitive to the terrain and environment of the Laurel Creek valley, comparable to Innovation Drive at CU-ICAR;
 - Section south of Butler Road is not essential;
 - Developers should be required to construct the road as part of future development;
- Extend Murray Drive north to Old Mill Road, south to Bon Air Street;
 - Alternate route to US 276;
 - Reduce through traffic in Glendale subdivision;
 - Facilitate redevelopment of adjacent industrial sites as mixed office/retail.
- Extend Miller Road from Murray Drive to US 276;
 - Cleans up a confusing traffic pattern at Miller Road/Murray Drive/Alexander Drive/Railroad;
 - Correct drainage problems at this location.

Funding for each of these improvements should be proposed for consideration by GPATS in the 2012 update of the long range transportation plan. Other funding sources should be pursued as well. The Miller Road extension is an appropriate size project for funding through Greenville County’s “C-Funds”.

**Table 6-7
Typical Improved Street Cross Sections**



Local Street Connectivity

Local streets shown by dark gray dashed lines on Map 6-5 should be built by developers as public streets, when development or redevelopment occurs. In some cases connections may be suitable as private streets. In the City Center area, local street functions often are provided within shopping center parking lots.

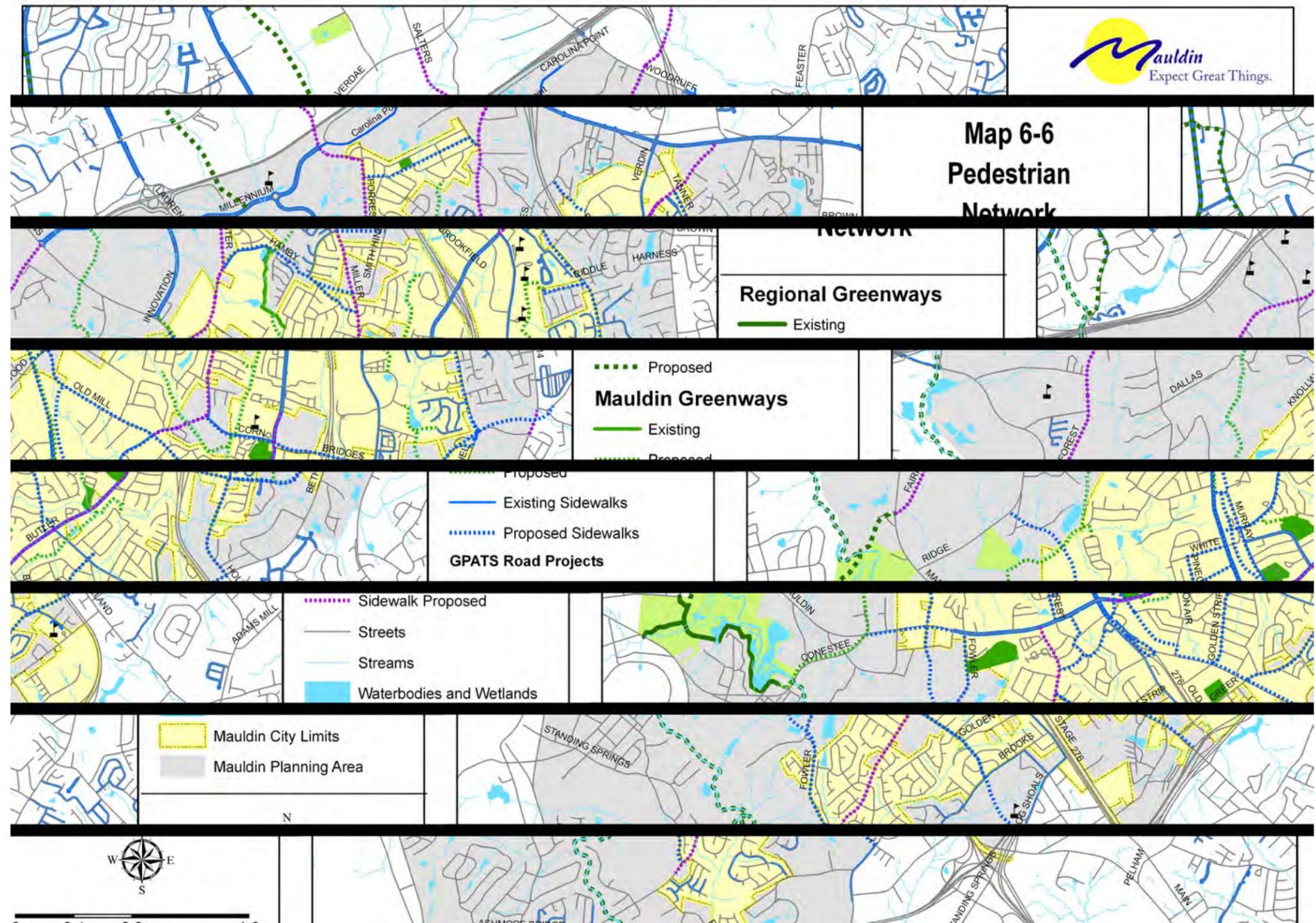
Public street construction standards should be applied to these “local streets” regardless of ownership. The deteriorated condition of private drives in the Ingles shopping center, adjacent to McDonalds and Wendy’s restaurants, illustrates the need to enforce good construction standards on private drives. Deteriorated conditions in commercial areas create a negative image and can make business recruitment more difficult.

Sidewalks and Greenway Trails

Sidewalks proposed in Map 6-6 would be built, where possible, as part of other road improvements by SCDOT, by developers, and by the City with grant funds and other local funds. Unless developers are required to build sidewalks identified in this plan along their property frontage, it is unlikely that the City will be able fully to implement the sidewalk network proposed.

Several sections of sidewalk will require new or widened bridges over creeks. Two of the highest-priority projects are on Miller Road between Corn Road and Old Mill Road, and on Bridges Road between Butler Road and Holland Road. Both projects require expensive creek crossings.

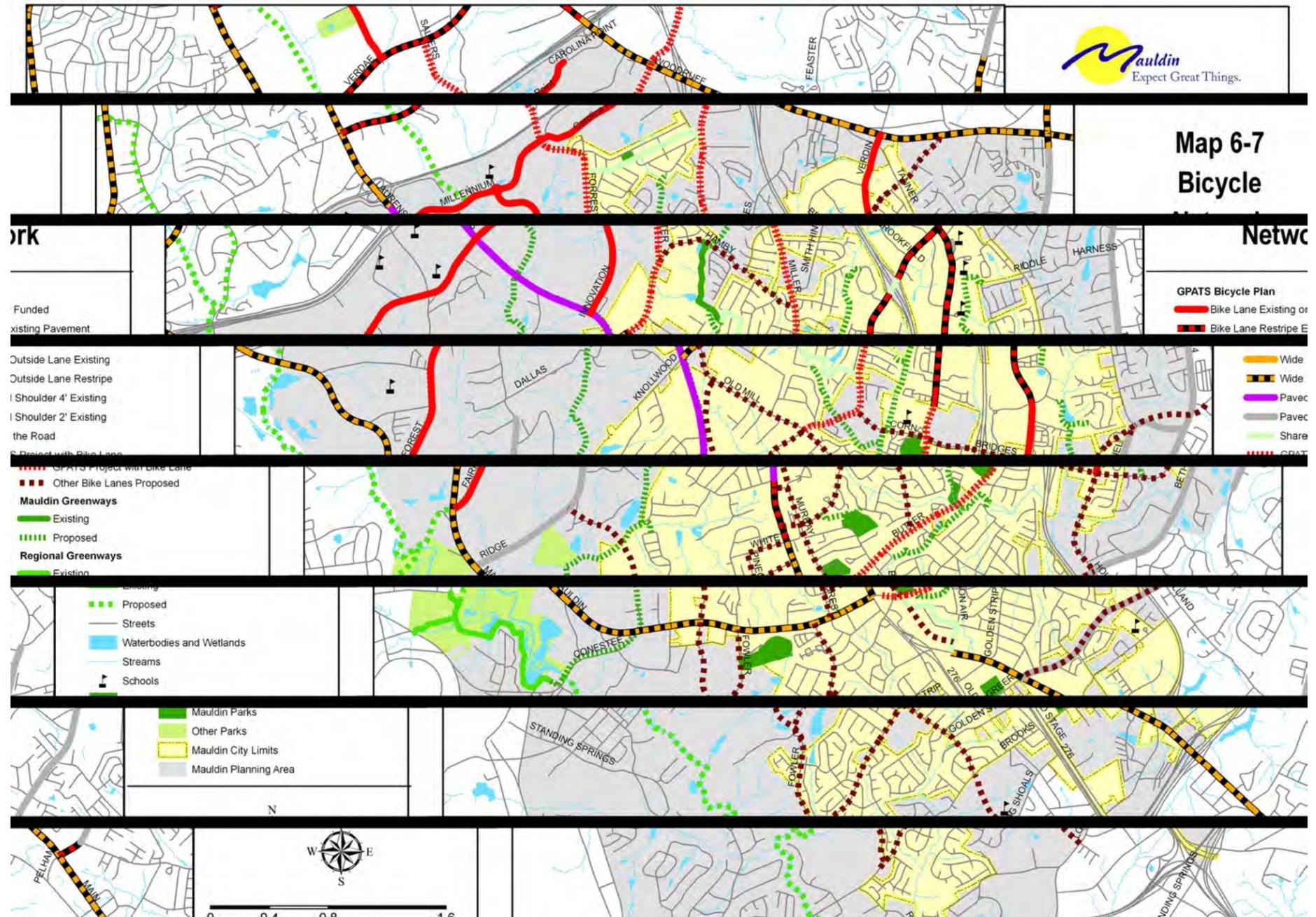
Greenway trails are an important component of the proposed network of pedestrian and bicycle paths. Table 6-6 lists eight miles of proposed greenway trails, with cost estimates. Total cost of the greenway trails is estimated at \$2.17 million.



Bicycle Facilities

Map 6-7 presents the bicycle network that should be developed as street improvements and greenway trails are built. Many of these facilities, as the map illustrates, can be provided by re-striping the roadway with slightly narrower traffic lanes. On-street bicycle facilities can be provided very cost-effectively when roads are resurfaced or widened.

Bicycle lanes produce a significant safety benefit for motorists as well, by reducing run-off-the-road crashes. Highway safety research shows that run-off-the-road crashes, which are especially dangerous for inexperienced drivers, are reduced by up to 40 percent when a four-foot paved shoulder or bike lane is present. Pedestrians and joggers also benefit from bicycle lanes where other paths are not available, but should face traffic when walking or jogging along roadways.



Mass Transit

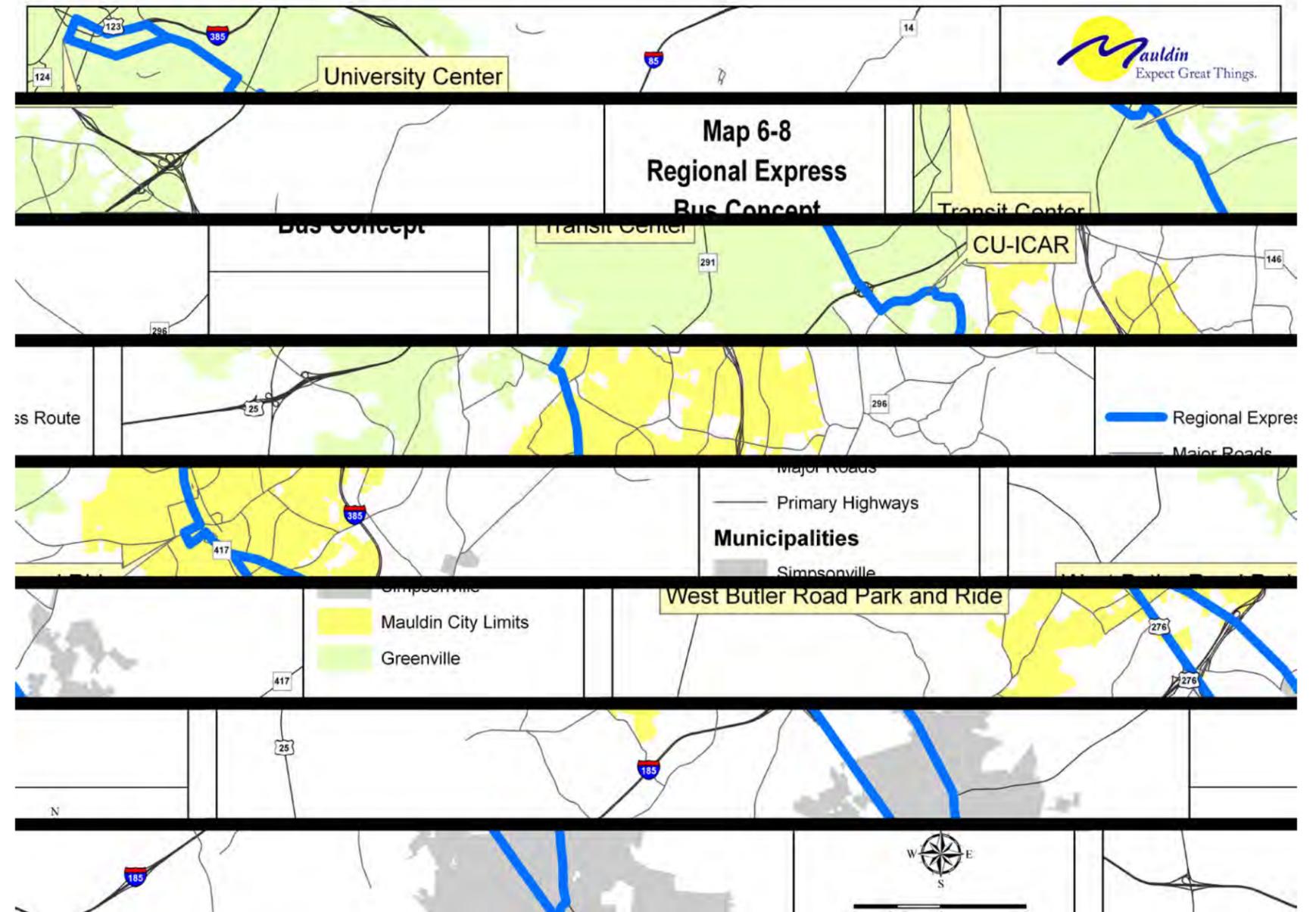
Funding made available through the American Recovery and Reinvestment Act of 2009 (ARRA) may create the opportunity to begin a limited-stop commuter transit route connecting Mauldin with Greenville and Simpsonville. Over \$1.3 million has been reserved for purchase of three transit buses and associated equipment. Combined with Mauldin's allocation of State Mass Transit funds from SCDOT, available federal funds may be sufficient to provide all of the capital and operating expenses associated with a limited mass transit operation, with no local funding necessary.

Map 6-8 is a concept map for a regional transit route in the Golden Strip area. Table 6-8 presents the funding sources that could be used to operate a limited-stop commuter bus route.

The City has agreed to participate with Greenville County, City of Simpsonville and City of Greenville in a regional transit study to evaluate feasible, cost-effective transit services that can be implemented. If service cannot be demonstrated to be feasible with minimal on-going City funds, Mauldin may choose to let available federal funds be redistributed to other cities and counties in the state.

Table 6-8
Regional Express Route Operating Cost

	High Ridership Estimate	Low Ridership Estimate
Operating cost per year	\$312,320	\$312,320
Farebox recovery ratio	19%	9%
Net Operating Cost	\$253,906	\$283,113
Federal Share of Operating Cost	\$126,953	\$141,557
State Share of Operating Cost	\$126,953	\$138,690
Local Share of Operating Cost	\$0	\$2,867





Goals and Objectives

Goal 1: Manage traffic congestion and support economic development

Objective 1.1: Preserve rights of way for future road widening and new road connections to improve traffic flow and capacity.

Implementation Strategy:

Adopt a right-of-way preservation ordinance based on the street cross sections and road network improvement identified in this plan.

Objective 1.2: Improve local street network connectivity in the City Center Area where traffic congestion is most severe and widening arterial roads is expensive and destructive.

Implementation Strategies:

a: Construct a new two-lane, pedestrian-friendly “main street” one block east of US 276 between City Hall and Miller Road, through public-private partnerships with adjacent land owners and by leveraging other public funding sources with city matching funds.

b: Require new development and redevelopment plans to include the local street connectivity identified in this plan in their development plans.

Objective 1.3: Adopt design standards and spacing requirements for Collector Streets in subdivisions to avoid future through-traffic issues.

Implementation Strategy:

Amend the city’s land development regulations.

Objective 1.4: Pursue all sources of funding available to improve the congested roads and intersections identified in this plan.

Implementation Strategies:

a: Request funding through the County Transportation Committee and through GPATS for intersection improvements.

b: Continue to work with GPATS to fund improvements to roads on the federal-aid eligible highway network.

c: Monitor other opportunities to request federal and state funding for road improvements.

Objective 1.5: Require adjacent developers to implement road improvements identified in this plan along the frontage of their developments, where the road improvement need is reasonably related to the proposed development.

Implementation Strategy:

Amend the city’s land development regulations.

Objective 1.6: Adopt land use policies (zoning classifications and/or overlay districts) that encourage walkable communities.

Implementation Strategy:

Amend the city’s zoning ordinance and land development regulations.

Goal 2: Develop a multimodal transportation system that provides viable alternatives to automobile travel.

Objective 2.1: Develop a safe and effective network of bicycle and pedestrian facilities.

Implementation Strategies

a. Work with SCDOT to ensure pedestrian and bicycle accommodations are included in SCDOT road improvement projects within the City.

b: Amend the city’s land development regulations to require all new developments to construct sidewalks on adjacent public streets where identified in this Comprehensive Plan.

c: Develop good bicycle and pedestrian connections within Mauldin and between Mauldin and CU-ICAR; the bicycle-pedestrian path in the Main Street Plan should be a priority.

d: Develop greenway trails as transportation and recreation facilities; these quality of life improvements support economic development.

Objective 2.2: Develop efficient, effective public transportation services to provide regional connections to adjacent cities and to provide a local mobility option for Mauldin residents.

Implementation Strategies

a. Work with GPATS, Green Link, and SCDOT Division of Mass Transit to implement a new commuter transit route connecting Mauldin with Simpsonville and Greenville.

b. Evaluate options for providing local transit routes within Mauldin to provide service for seniors, persons with disabilities and the general public.